OXNARD SCHOOL DISTRICT

1051 South "A" Street ● Oxnard, California 93030 ● 805/385-1501

AGENDA #8
REGULAR BOARD MEETING
Wednesday, December 6, 2017
7:00 PM – Regular Board Meeting
Closed Session To Follow Regular Meeting

***NOTE:** In accordance with requirements of the Americans with Disabilities Act and related federal regulations, individuals who require special accommodation, including but not limited to an American Sign Language interpreter, accessible seating or documentation in accessible formats, should contact the Superintendent's office at least two days before the meeting date.

Persons wishing to address the Board of Trustees on any agenda item may do so by completing a **"Speaker Request Form" and submitting the form to the Asst. Supt. of Human Resources.** The Speaker should indicate on the card whether they wish to speak during Public Comment or when a specific agenda item is considered.

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

www.oxnardsd.org

OPIE TV – Charter Spectrum Channel 20 &
Frontier Communications – Channel 37

Vision:

Empowering All Children to Achieve Excellence

Mission:

Ensure a culturally diverse education for each student in a safe, healthy and supportive environment that prepares students for college and career opportunities.

Visión:

Capacitar a cada alumno para que logre la excelencia académica

Misión:

Asegurar una educación culturalmente diversa para todo el alumnado en un ambiente seguro, saludable y propicio que les prepare para la Universidad y el acceso a oportunidades para desarrollar una carrera profesional.

Board Adopted 10-19-16

Section A
PRELIMINARY

A.1 Call to Order and Roll Call ***7:00 PM***

The President of the Board will call the meeting to order. A roll call of the Board will be conducted.

ROLL CALL:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

A.2 Pledge of Allegiance to the Flag

Ms. Chantal Anderson-Witherspoon, Principal at Fremont Academy of Environmental Science & Innovative Design, will introduce Tatiana Lett, 8th grade student, in Mr. Samuel Reveles' class, who will lead the audience in the Pledge of Allegiance.

A.3 District's Vision and Mission Statements

The District's Vision and Mission Statements will be read in English by Hadassa Cazares, then will be read in Spanish by Alma Magana, both are 8th grade students in Mr. Samuel Reveles' class.

A.4 Presentation by Fremont School

Ms. Chantal Anderson-Witherspoon will provide a short presentation to the Board regarding Fremont Academy of Environmental Science & Innovative Design. Following the presentation President Morrison will present a token of appreciation to the students that participated in the Board Meeting.

A.5 Adoption of Agenda (Superintendent)

Moved:
Seconded:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

A.6 Organization of the Board *(Dr. Morales)*

Organization of the Board of Trustees for the 2017-2018:

Moved:
Part I Seconded:

a. Recognition of Mr. Ernest Morrison, as outgoing president of the Board of Trustees.
b. Election of President 2017-2018

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

Part II Moved:
c. Election of Clerk for 2017-2018 Seconded:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

A.7 Recess

The Board of Trustees will recess for a short reception in honor of the outgoing President and Clerk and incoming President and Clerk.

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Section A
PRELIMINARY
(continued)

A.8 New Board Assume Seats

New Board officially assumes their seats at the direction of the newly appointed President.

A.9 Schedule of Board Meetings for 2018 *(Dr. Morales)*

The Board of Trustees will discuss the options of changes to the meeting dates or time of board meetings for January through December 2018.

Moved:
Seconded:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

A.10 Appointment/Reappointment of Board Representatives to District Committees *(Dr. Morales)*

It is appropriate for the Board of Trustees to select from among its members a representative to the following committees:

Moved:
Seconded:

- Ventura County Committee on School District Organization, to vote in the election of members to this committee.
  2017 Rep: Trustee Morrison
  2018 Appointee:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

- Budget Advisory Committee
  2017 Rep: Trustee O'Leary, Alt: Trustee Morrison
  2018 Appointee:

Moved:
Seconded:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

A.11 Annual Appointment/Reappointment of Trustees for the Oxnard School District Health & Welfare Benefits Trust *(Penanhoat)*

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, that the Board review the current trustee appointments to the Oxnard School District Employee Health and Welfare Benefits Trust and:

Moved:
Seconded:

1) Re-appoint Debra Cordes as the Board Member representative, or propose a new representative; and
2) Re-appoint Pam Morrison as the Retiree Representative, or propose a new Retiree appointment.

Janet Penanhoat is automatically appointed the third trustee by virtue of her position as Assistant Superintendent, Business & Fiscal Services for Oxnard School District.

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

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Section A
PRELIMINARY
(Continued)

A.12 Introduction of New Administrator(s) *(Dr. Morales)*

Administration will introduce the following new administrator(s) to the Oxnard School District and/or employees to new positions to the Board of Trustees:

- Mrs. Mary Crandall Plasencia, Director of Finance

A.13 Presentation of the December 2017 Semi-Annual Implementation Program Update As an Adjustment to the Master Construct and Implementation Program *(Dr. Morales/ Penanhoat/CFW)*

It is the recommendation of the District Superintendent and the Assistant Superintendent, Business & Fiscal Services, in consultation with CFW, that the Board of Trustees receive the December 2017 Semi-Annual Implementation Program Update for adoption at its next regular meeting.

A.14 Public Workshop for the Draft Environmental Impact Report as Prepared for the Doris/Patterson Project *(Penanhoat/Fateh/CFW)*

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services and the Director of Facilities, in conjunction with CFW, that the Board of Trustees consider any and all comments received, whether written or oral for the Draft EIR for the Doris Avenue/Patterson Road Educational Facilities Project. Comments received will be responded to in writing in the Final EIR and agencies and individuals will be notified at least 10 days prior to certifying the EIR in compliance with State CEQA Guidelines Section 15088.

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section B
PUBLIC COMMENT/HEARINGS

B.1 Public Comment (3 minutes per speaker)

Members of the public may address the Board on any matter within the Board's jurisdiction at this time or at the time that a specific agenda item is being considered. Comments should be limited to three (3) minutes. Please know this meeting is being video-recorded and televised. The Board particularly invites comments from parents of students in the District.

B.1 Comentarios del Público *(3 minutos para cada ponente)*

Los miembros del público podrán dirigirse a la Mesa Directiva sobre cualquier asunto que corresponda a la jurisdicción de la Mesa Directiva en este periodo o cuando este punto figure en el orden del día y sea analizado. Los comentarios deben limitarse a tres (3) minutos. Tenga presente que esta reunión está siendo grabada y televisada. La Mesa Directiva invita en particular a los padres y alumnos del distrito a que presenten sus comentarios.

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section C
CONSENT AGENDA

(All Matters Specified as Consent Agenda are considered by the Board to be routine and will be acted upon in one motion. There will be no discussion of these items prior to the time the Board votes on the motion unless members of the Board request specific items be discussed and/or removed from the Consent Agenda.)

Notes:
Moved:
Seconded:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

C.1 Agreements

It is recommended that the Board approve the following agreements: Dept/School

Academic:

- Agreement #17-231 with Ronald Ritchhart, Facilitator, with Harvard's Project Zero to provide teacher workshops for Oxnard School District educators from the three (3) middle school academies during the 2017-2018 school year. His presentations will focus on Making Thinking Visible with one session introducing Cultures of Thinking, and one session on the Cultural Force of Language, amount not to exceed $30,000.00, to be paid with MSAP Funds; — Freeman/ West
- Agreement/MOU #17-232 with Buck Institute for Education to provide three follow-up training days in Project Based Learning for up to 35 educators from the Oxnard School District's three middle school academies during the 2017-2018 school year. The workshops will provide participants with the skills and knowledge needed to design, assess, and manage a rigorous, relevant, and standards-based project. A one-day Sustained Support visit with the consultant is also included, amount not to exceed $14,500.00, to be paid with MSAP Funds; — Freeman/ West
- Agreement/MOU #17-235 with St. Anthony's School. The Oxnard School District will provide services to St. Anthony's School, a private school located within the geographic jurisdiction of this school district, through the Limited English Proficient (LEP) Student Program funded under the Elementary and Secondary Education Act, Title III, Part A for the 2017-2018 school year. Title III Allocation to St. Anthony's School, amount not to exceed $3,748.00; — Freeman/ Thomas
- Agreement/MOU #17-236 with Santa Clara School. The Oxnard School District will provide services to Santa Clara School, a private school located within the geographic jurisdiction of this school district, through the Limited English Proficient (LEP) Student Program funded under the Elementary and Secondary Education Act, Title III, Part A for the 2017-2018 school year. Title III Allocation to Santa Clara School, amount not to exceed $2,142.00; — Freeman/ Thomas

Enrichment:

- #17-229 with Focus on the Masters to work with grades 3-5 to introduce local artists and the medium they use to our students during the 2017-18 school year. Students will also meet the artists as a part of this experience and artwork will be produced by all students, amount not to exceed $7,000.00, to be paid with Title I Funds; — Freeman/ Ramirez
- #17-234 with El Centrito Family Learning Centers to work together with staff from Cesar E. Chavez K-8 School to promote and deliver parent education workshops that build leadership capacity and knowledge for the parents of students at Cesar E. Chavez K-8 School during the 2017-2018 school year, amount not to exceed $2,150.00, to be paid with Title III Funds; — Freeman/ Perez

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Section C
CONSENT AGENDA
(continued)

***C.1 Agreements** (continued)*

It is recommended that the Board approve the following agreements: — Dept/School

Enrichment:

- #17-238 with Coast 2 Coast Soccer to increase interest in STEM and support ELD enrichment for students in grades 1-5 during lunch recess. This will increase the number of students actively engaged in soccer at lunch while providing enrichment activities, and a safe structured playing environment coached by college students; amount not to exceed $13,320.00, to be paid with Title I Funds; — Freeman/ Ramirez

Facilities:

- #17-240 with Nolte Associates Inc. On June 7, 2017, the Board approved Agreement #16-286 with Nolte Associates Inc. for DSA Project Inspection Services as part of the DSA closeout efforts for the Curren P2P Project. Upon completion of the project and submission of final paperwork documents to DSA, additional inspections were requested by DSA. This new agreement addresses the requested inspections required to obtain final certification; amount not to exceed $6,375.00, to be paid with Deferred Maintenance Funds; — Penanhoat/ Fateh
- #17-242 with CTE South Inc. to provide Geotechnical Soils Investigation, Materials Sampling, Laboratory Testing and preparation of reports and recommendations for the Transportation Facility – New CNG Bus Repair Facility Project; amount not to exceed $9,900.00, to be paid with Deferred Maintenance One-Time Funds; — Penanhoat/ Fateh

Special Education:

- #17-222 with New Dawn Counseling & Consulting Inc. to provide Counseling & Consultation services to the Special Education Services Department during the 2017-2018 academic year, amount not to exceed $60,000.00 (per fee schedule), to be paid with Special Education Funds; — Freeman/ Sugden
- #17-223 with Dr. Juliette Boewe, Licensed Psychologist, to provide Independent Educational Evaluation Services to the Special Education Services Department during the 2017-2018 academic year to complete psychoeducational evaluations for due process claims, amount not to exceed $30,000.00 (per rate sheet), to be paid with Special Education Funds; — Freeman/ Sugden
- #17-224 with Dr. Agnesa Papazyan, Licensed Psychologist, to provide Independent Education Evaluator Services to the Special Education Department during the 2017-2018 academic year to complete psychoeducational evaluations for due process claims, amount not to exceed $30,000.00 (per rate sheet), to be paid with Special Education Funds; — Freeman/ Sugden
- #17-226 with Cornelius Mietus, O.D., to provide Independent Education Evaluator Services to the Special Education Services Department during the 2017-2018 academic year to complete vision evaluations, amount not to exceed $20,000.00, to be paid with Special Education Funds; — Freeman/ Sugden
- #17-228 with Inclusive Education & Community Partnership to provide behavior support services and 1 to 1 behavioral therapist services to the Special Education Services Department during the 2017-2018 academic school year, amount not to exceed $60,000.00, to be paid with Special Education Funds; — Freeman/ Sugden

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Section C
CONSENT AGENDA
(continued)

C.1 Agreements** (continued)**:

It is recommended that the Board approve the following agreements: Dept/School

Support Services:

- #17-230 with School Services of California to provide services regarding issues of school finance, legislation, school budgeting, general fiscal issues and the state-mandated program cost claims process. Renewal Agreement #17-230 for the 2018 calendar year presented for the Board's consideration, amount not to exceed $3,860.00 annually, to be paid with General Funds (no increase over last year's rate). — Penanhoat
- #17-233 with G & D Associates will continue to support the district and school teams in support of the implementation of change management strategies, effective magnet promotion, development of marketing collateral and branding, amount not to exceed $59,750.00, to be paid with MSAP Funds. — Freeman/ West

C.2 Ratification of Agreements:

It is recommended that the Board ratify the following agreements: Dept/School

Academic:

- Amendment #1 to Agreement #17-76 with California Department of Education – Child Development Division Contract #CSPP-7667. At the Board meeting of August 2, 2017, the Board of Trustees ratified Agreement #17-76 with the California Department of Education – Child Development Division, including the funding amount of $1,257,719.00, for the operation of seven (7) state preschools. The Budget Act of 2017 includes new reimbursement rates for state preschool programs effective July 1, 2017. The new rate is reflected in Amendment #1. Revised $1,421,883.00 funding to the Oxnard School District to operate State Preschool Program reflects an increase of $164,164.00. — Freeman/ Thomas
- #17-225 with VCOE will work with OSD to improve career and technical education services to the middle schools in the district through the California Department of Education Career Technical Education Incentive Grant and the California Career Pathways Trust Grant. OSD will offer career technical education units of instruction and/or clubs that enable students to transition to secondary school academies throughout Ventura County, especially in the Oxnard Union High School District. OSD will receive up to $8000.00 at each site. Funds may be used to purchase curriculum or instructional materials that focus on a career pathway and on equipment needed to upgrade existing programs, or new equipment to start a career pathway program. — Freeman

Facilities:

- Amendment #1 to Agreement #15-89 with CSDA Design Group to provide additional Architectural Services to complete design for the Marshall New School Project, amount not to exceed $20,055.00, to be paid with Master Construct & Implementation Funds. — Penanhoat/ Fateh/ CFW

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Section C
CONSENT AGENDA
(continued)

***C.2 Ratification of Agreements** (continued):*

It is recommended that the Board ratify the following agreements: Dept/School

Facilities:

- Amendment #1 to Agreement/MOU #15-162 with City of Oxnard, for the Joint Use of Lemonwood Park expires on January 4, 2018. The City and OSD agreed to extend the term of the agreement via Amendment #1 and requires the District to continue to lease the park areas for a monthly fee of $100.00, will extend the agreement until May 31, 2019 or until substantial completion, and beneficial occupancy of the new school, whichever occurs earlier. The approximate not-to exceed amount of $1,700.00, is to be funded from Master Construct and Implementation Funds. — Penanhoat/ Fateh/ CFW

Personnel:

- #17-241 Oxnard School District and Ventura County Community College District on behalf of Ventura College will provide teaching experience through practice teaching to students enrolled in the Elementary Teacher Education Associate Degree program. OSD will provide students with student teacher experiences under direct supervision and instruction of the designated teacher. The student teachers will support the District's programs and objectives, term from January 9, 2017 through June 30, 2020. No fiscal impact. — Vaca/ Bond

Special Education:

- Amendment #1 to Agreement #17-110 with Teaching Learning Creating, Plus (TLC+), Non-Public School. The amount of speech and language hours has increased from 200 minutes to 1290 for student NC072504, the total cost to include the increase of speech and language support is $1,816.67, revised grand total is $39,304.67, to be paid with Special Education Funds. — Freeman/ Sugden
- Amendment #2 to Agreement #17-122 with MyTherapyCompany, LLC. Amendment #1 in the amount of $62,160.00 for a total agreement cost of $92,160.00, to adjust the total expected cost through the end of the 2017-18 fiscal year. Amendment #2 increases the Special Education funding by $97,088.00 to cover additional expected costs through the end of the 2017-18 fiscal year, for a total agreement cost of $189,248.00, to be paid with Special Education Funds. — Freeman/ Sugden
- Agreement #17-201 with Casa Pacifica School, requesting ratification for Non-Public School services for Student GDB040408, for the 2017-2018 school year, including Extended School Year. The Non-Public School will provide a program of instruction which is consistent with the pupil's individual educational plan as specified in the individual service agreement, amount not to exceed $49,009.50, to be paid with Special Education Funds. — Freeman/ Sugden
- Agreement #17-202 with Passageway School, requesting ratification for Non-Public School services for student BE030604 for the 2017-2018 school year, beginning August 1, 2017, and including Extended School Year through August 2018. The Non Public School will provide a program of instruction, which is consistent with the pupil's individual educational plan as specified in the individual service agreement, amount not to exceed $33,915.78, to be paid with Special Education Funds. — Freeman/ Sugden

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Section C
CONSENT AGENDA
(continued)

***C.2 Ratification of Agreements** (continued):*

It is recommended that the Board ratify the following agreements: — Dept/School

Special Education:

- Agreement #17-221 with Assistance League School, requesting approval for Non Public School services for student VL102413 for the 2017-2018 school year, beginning October 17, 2017 and including extended school year. The Non Public School will provide a program of instruction, which is consistent with the pupils' individual educational plan as specified in the individual service agreement, amount not to exceed $7,650.00, to be paid with Special Education Funds. — Freeman/ Sugden
- Agreement #17-227 with Fillmore Unified School District. OSD will provide DHH services for Fillmore Unified School District student #AL080507 for the 2017-2018 school year, excluding Extended School Year (ESY). OSD will provide a program of instruction which is consistent with the pupil's individual educational plan as specified in the Individual Service Agreement, amount not to exceed $2,458.40, to be paid with Special Education Funds. — Freeman/ Sugden

Support Services:

- Agreement #17-237 with CABE. The CABE 2- Inspire Program works with parents to increase their knowledge about schooling to ensure that parents have vital information about high-quality educational options for their children. The curriculum informs parents of their role in their children's education, and works with parents so they can learn how to use the information acquired and develop leadership skills to ensure their participation and collaboration as part of the school community, amount not to exceed $22,000.00, to be paid with LCFF Funds. — Freeman/ Batista

C.3 Approval and Adoption of Oxnard School District Governance Handbook

It is recommended that the Board of Trustees approve the updated Oxnard School District Governance Handbook. — Dept/School Morales

C.4 Ratification of Field Contract #FC-P18-02546 – Standard Demolition Inc.

Proposals were solicited for Field Contract #FC-P18-02546, Demolition of Modular Buildings at ESC, pursuant to the Uniform Public Construction Cost Accounting Act. Three proposals were received on November 7, 2017. It is the recommendation of the Assistant Superintendent, Business & Fiscal Services and the Director of Facilities, that the Board of Trustees ratify Field Contract #FC-P18-02546, in the amount of $14,100.00 with Standard Demolition Inc., who submitted the lowest responsive bid. The project will be funded through the General Fund. — Dept/School Penanhoat/ Fateh

C.5 Approval of Constitution for Chavez K-8 School ASB

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services and the Principal of Chavez K-8 School that the Board of Trustees approve the Chavez K-8 School ASB's constitution as presented, thereby establishing the ASB as a valid organization under the supervision and control of the district. No fiscal impact. — Dept/School Penanhoat/ Perez

C.6 Approval of Constitution for Curren K-8 School ASB

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services and the Principal of Curren K-8 School that the Board of Trustees approve the Curren K-8 School ASB's constitution as presented, thereby establishing the ASB as a valid organization under the supervision and control of the district. No fiscal impact. — Dept/School Penanhoat/ McDaniels

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section C
CONSENT AGENDA
(continued)

C.7 Purchase Order/Draft Payment Report #17-04

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, and the Director of Purchasing that the Board of Trustees approve Purchase Order/Draft Payment Report #17-04 as submitted. — Dept/School: Penanhoat/ Franz

C.8 Certification of Signatures

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, that the Board of Trustees declare the attached Certification of Signatures as that of the agent(s) authorized for signature for the Oxnard School District. — Dept/School: Penanhoat

C.9 Annual and Five-Year Developer Fee Report and Approval of Resolution #17-15

Government Code 66000 et seq. requires annual and five-year reports for school fees and mitigation payments. This report summarizes the developer fee information from the 2011-12 fiscal year through the 2016-2017 fiscal year. It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, that the Board accept the Developer Fee Report for 2011-12 through 2016-2017 fiscal years, and adopt Resolution #17-15. — Dept/School: Penanhoat

C.10 Approval of Contractor Contingency CREDIT No. 012 to the Lemonwood E.S. Reconstruction Project's Contractor Contingency for a reduction of cost for the Work Associated with the Project

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, and the Director of Facilities, in conjunction with Caldwell Flores Winters, Inc., that the Board of Trustees approve Contingency Allocation No. 012, reduction in the amount of $10,721.00, to Construction Services Agreement #15-198 with Swinerton Builders, for additional items of work related to the Lemonwood Elementary School Reconstruction Project. — Dept/School: Penanhoat/ Fateh/ CFW

C.11 Approval of WAL #005 with Rincon Consultants Inc. for CEQA Services for the Kindergarten Flex Classroom Projects at McAuliffe, Ritchen, Brekke, and Ramona Elementary Schools

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, and the Director of Facilities, in conjunction with Caldwell Flores Winters, that the Board of Trustees approve WAL #005 in the amount not to exceed $10,700.00, with Rincon Consultants Inc., for CEQA Services for the Kindergarten Flex Classroom Projects at McAuliffe, Ritchen, Brekke, and Ramona Elementary Schools per Master Agreement #13-131, amount not to exceed $10,700.00, to be paid out of the Master Construct and Implementation Program funds. — Dept/School: Penanhoat/ Fateh/ CFW

C.12 Rejection of Liability Claim: VCBA07432A1

Acting on the advice of the Joint Powers Authorities (JPA), it is the recommendation of the Assistant Superintendent, Human Resources and Support Services, and the Risk Manager, that the Board of Trustees agree to reject York Claim VCBA07432A1. — Dept/School: Vaca/ Magaña

C.13 Rejection of Liability Claim: VCBA07517A1

Acting on the advice of the Joint Powers Authorities (JPA), it is the recommendation of the Assistant Superintendent, Human Resources and Support Services, and the Risk Manager, that the Board of Trustees agree to reject York Claim VCBA07517A1. — Dept/School: Vaca/ Magaña

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section C
CONSENT AGENDA
(continued)

C.14 Rejection of Liability Claim: VCBA07835A2

Acting on the advice of the Joint Powers Authorities (JPA), it is the recommendation of the Assistant Superintendent, Human Resources and Support Services, and the Risk Manager, that the Board of Trustees agree to reject York Claim VCBA07835A2.	Dept/School Vaca/ Magaña

C.15 2017-2018 First Quarter Williams VCOE Activity Report

It is the recommendation of the Assistant Superintendent, Human Resources and Support Services, and the Risk Manager, that the Board of Trustees review and accept the 2017-2018 First Quarter Williams VCOE Activity Report, as presented.	Dept/School Vaca/ Magaña

C.16 Approval of Mentor Stipend for the 2017-2018 Clear Administrative Services Credential ("CASC") Program

It is the recommendation of the Assistant Superintendent, Human Resources that the Board of Trustees approve a $2,000.00 annual stipend for up to three mentor principals participating in the CASC program during the 2017-2018 school year.	Dept/School Vaca

C.17 Request for Approval of Out Of State Conference Attendance

It is the recommendation of Assistant Superintendent, Human Resources that the Board of Trustees approve out of state conference attendance for Dr. Jesus Vaca and Dr. Edd Bond, to attend the 2018 National Association for Bilingual Education Conference in New Mexico, from March 1, 2018 to March 3, 2018, amount not to exceed $5,000.00 for registration, travel and lodging, to be paid from General Funds.	Dept/School Vaca/ Bond

C.18 Establish/Abolish/Increase/Reduce Hours of Positions

It is recommended that the Board approve the establishment, abolishment, increase or reduction of classified positions, as submitted.	Dept/School Rogosin

C.19 Personnel Actions

It is recommended that the Board approve personnel actions, as submitted.	Dept/School Vaca/Rogosin

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section D
ACTION ITEMS
(Votes of Individual Board Members must be publicly reported.)

D.1 Oxnard School District 2017-2018 First Interim Report *(Penanhoat/Crandall Plasencia)*

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services the Director of Finance that the Board of Trustees accept the Oxnard School District 2017-2018 First Interim Report (period ending October 31, 2017).

Public Comment:
Presentation:
Moved:
Seconded:
Board Discussion:
Vote:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

D.2 Consideration and Approval of Resolution #17-16 of the Board of Trustees of the Oxnard School District Approving the Final Architectural Drawings for the Kindergarten Flex Classroom Projects at Brekke, McAuliffe, Ramona, and Ritchen Elementary Schools and Authorizing the District to Submit the Drawings to the Division of the State Architect and the California Department of Education for Administrative Review *(Dr. Morales/Fateh/CFW)*

It is the recommendation of the Superintendent and the Director of Facilities, in consultation with Caldwell Flores Winters, Inc., that the Board of Trustees approve the Architectural Drawings for the Kindergarten/Flex Classroom Projects at Brekke, McAuliffe, Ramona, and Ritchen Elementary Schools and further direct that the plans be submitted to the Division of the State Architect and the California Department of Education for approval. There is no fiscal impact related to the approval of Flewelling & Moody's final architectural drawings. The projects are being funded from the Master Construct and Implementation Program funds.

Public Comment:
Presentation:
Moved:
Seconded:
Board Discussion:
Vote:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

D.3 Annual Appointment/Reappointment of Measure R Bond Oversight Committee *(Penanhoat)*

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, that the Board of Trustees review the current Measure R Board Oversight Committee (BOC) membership and make a determination regarding re-appointing the existing members of the Committee.

Public Comment:
Presentation:
Moved:
Seconded:
Board Discussion:
Vote:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section D
ACTION ITEMS

(Votes of Individual Board Members must be publicly reported.)
(Continued)

D.4 Annual Appointment/Reappointment of Measure D Bond Oversight Committee *(Penanhoat)*

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, that the Board of Trustees review the current Measure D Bond Oversight Committee (BOC) membership and make a determination regarding re-appointing the existing members of the Committee.

Public Comment:
Presentation:
Moved:
Seconded:
Board Discussion:
Vote:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

D.5 Reimbursement for Teacher Substitute at Rio School District *(Penanhoat)*

Board of Trustees member Denis O'Leary, a classroom teacher at Rio Elementary School District, attended the California Latino School Boards Association's Unity Conference in Del Mar on October 5 and 6, 2017. It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, that the Board of Trustees approve reimbursement to Rio School District as stipulated by Education Code Section 44987.3. Reimbursement is requested in the amount of $268.70 to be paid from the General Fund.

Public Comment:
Presentation:
Moved:
Seconded:
Board Discussion:
Vote:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

D.6 Approval of Board of Trustees/Superintendent Vision & Mission Statements and Goals & Objectives for 2017-2018 *(Dr. Morales)*

It is recommended that the Board of Trustees approve the Board of Trustees/Superintendent Vision and Mission Statements, and the Goals & Objectives for 2017-2018, as presented.

Public Comment:
Presentation:
Moved:
Seconded:
Board Discussion:
Vote:

ROLL CALL VOTE:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section E
APPROVAL OF MINUTES

No minutes will be approved at this meeting.

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section F

BOARD POLICIES

(These are presented for discussion or study.
Action may be taken at the discretion of the Board.)

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section G
CONCLUSION

G.1 Superintendent's Announcements *(3 minutes)*

A brief report will be presented concerning noteworthy activities of district staff, matters of general interest to the Board, and pertinent and timely state and federal legislation.

Notes:

G.2 Trustees' Announcements *(3 minutes each speaker)*

The trustees' report is provided for the purpose of making announcements, providing conference and visitation summaries, coordinating meeting dates, identifying board representation on committees, and providing other information of general interest.

Notes:

G.3 Closed Session – Public Participation/Comment (Limit three minutes per person per topic)

Persons wishing to address the Board of Trustees on any agenda item identified in the Closed Session agenda may do so by completing a "Speaker Request Form" and submitting the form to the Assistant Superintendent of Human Resources and Support Services. Public Comment shall be limited to fifteen (15) minutes per subject with a maximum of three (3) minutes per speaker.

The Board will now convene in closed session to consider the items listed under Closed Session.

G.4 Closed Session

1. Pursuant to Section 54956.9 of *Government Code*:
   - Conference with Legal Counsel – Anticipated Litigation: 1 case
   - Conference with Legal Counsel – Existing Litigation:
     - Office of Administrative Services Case No. OAH 2017101129
     - Office of Administrative Services Case No. OAH 2017101137
     - J.R. et. v. Oxnard School District et al. Central District No. CV-04304-JAK-FFM

2. REMOVAL/SUSPENSION/EXPULSION OF A STUDENT (*Education Code 48912; 20 U.S.C. Section 1232g)*
   - Case No. 16-20 (Action Item)
   - Case No. 17-05 (Action Item)

3. Pursuant to Sections 54957.6 and 3549.1 of the *Government Code:*
   - Conference with Labor Negotiator:
     Agency Negotiators: OSD Assistant Superintendent, Human Resources & Support Services, and Garcia Hernández & Sawhney, LLP
     Association(s): OEA, OSSA, CSEA;
     and All Unrepresented Personnel – Administrators, Classified Management, Confidential

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

Section G
CONCLUSION
(Continued)

***G.4 Closed Session** (continued)*

4. Pursuant to Section 54956.8 of the *Government Code:*
   - Conference with Real Property Negotiators (for acquisition of new school site):

Property:	Parcel located Teal Club Road, North of Teal Club Road, South of Doris Avenue
Agency Negotiators:	Superintendent/Assistant Superintendent, Business & Fiscal Services/ Garcia Hernandez & Sawhney, LLP/ Caldwell Flores Winters Inc.
Negotiating Parties:	Dennis Hardgrave on behalf of the property owners
Under Negotiations:	Instruction to agency negotiator on price and terms.

5. Pursuant to Section 54957 of the *Government Code* and Section 44943 of the *Education Code* the Board will consider personnel matters, including:
   - Public Employee(s) Discipline/Dismissal/Release Vaca

G.5 Reconvene to Open Session

G.6 Report Out of Closed Session

The Board will report on any action taken in closed session or take action on any item considered in closed session, including expulsion of students.

REMOVAL/SUSPENSION/EXPULSION OF A STUDENT
(*Education Code 48912; 20 U.S.C. Section 1232g)*
Case No. 16-20 (Action Item)
Motion: _____, Second: _____
Roll Call Vote:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ___

Case No. 17-05 (Action Item)
Motion: _____, Second: _____
Roll Call Vote:
Madrigal Lopez ___, Robles -Solis ___, O'Leary ___, Cordes ___, Morrison ____

ADJOURNMENT

Moved:
Seconded:

Note: No new items will be considered after 10:00 p.m. in accordance with Board Bylaws, BB 9323 – Meeting Conduct

OSD BOARD AGENDA ITEM

Name of Contributor: Dr. Morales Date of Meeting: 12-6-17

A. Preliminary _X_
Study Session ____
Report ____
B. Hearing: ____
C. Consent Agenda ____
Agreement Category:

___ Academic
___ Enrichment
___ Special Education
___ Support Services
___ Personnel
___ Legal
___ Facilities

D. Action Items ____
E. Approval of Minutes ____
F. Board Policies 1st Reading _____ 2nd Reading _____

Schedule of Board Meetings for 2018

This is the time the Board of Trustees can discuss the options of changes to the meeting date or time of the board meetings for January through December 2018.

Month	Meeting Dates	Reasoning
January 2018	One Meeting Wednesday, January 17, 2018	Winter Break December 18, 2017 through January 5, 2018
April 2018	One Meeting Wednesday, April 18, 2018	Spring Break March 26 through April 6, 2018 No Students
July 2018	District Goes Dark No Meetings	No Students/Offices Closed
November 2018	One Meeting Wednesday, November 14, 2018	Veterans Day Holiday 11-12-17 Thanksgiving Holiday 4th week of November 2018 (11-19-18 through 11-23-18)
December 2018	One Meeting Wednesday, December 5, 2018	Winter Break December 17, 2018 through January 4, 2019

FISCAL IMPACT: None

RECOMMENDATION:
It is recommended that the Board of Trustees review the school year calendars and indicate when and how many board meetings will be held during the 2018 year for planning purposes.

ADDITIONAL MATERIAL:
- Draft Schedule of Board Meetings, January – December 2018 (first and third Wednesday of the month, unless indicated otherwise)
- District School Calendars – July 2017 – June 2018
- 2018 Calendar

OXNARD SCHOOL DISTRICT

1051 South "A" Street • Oxnard, California 93030 • 805/385-1501

SCHEDULE OF BOARD MEETINGS
JANUARY – DECEMBER 2018

BOARD MEETINGS WILL BE HELD ON THE FOLLOWING DATES (UNLESS OTHERWISE INDICATED) AT THE DISTRICT OFFICE BOARD ROOM, 1051 SOUTH 'A' STREET, STARTING AT 7:00 PM

January	17	Regular Board Meeting (Note: only ONE meeting in January)
February	7	Regular Board Meeting
	21	Regular Board Meeting
March	7	Regular Board Meeting
	21	Regular Board Meeting
April	18	Regular Board Meeting (Note: only ONE meeting in April)
May	2	Regular Board Meeting
	16	Regular Board Meeting
June	6	Regular Board Meeting
	20	Regular Board Meeting
July		District Dark – No meeting in July
August	8	Regular Board Meeting
	22	Regular Board Meeting
September	5	Regular Board Meeting
	19	Regular Board Meeting
October	10	Regular Board Meeting
	24	Regular Board Meeting
November	14	Regular Board Meeting (Note: only ONE meeting in November)
December	5	Regular Board Meeting – Organizational Meeting of the Board (Note: only ONE meeting in December)

The meeting schedule shown above is subject to change at any time.
NOTE: Changes are indicated in italics/bold.

Spring Break: March 26 – April 6, 2018
First Day of School: August 16, 2018

Board to Approve: 12-6-17

Mission: "Ensure a culturally diverse education for each student in a safe, healthy and supportive environment that prepares students for college and career opportunities."

Oxnard School District

FINAL

2017-2018 School Calendar

July 2017

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

July

4 Independence day

August 2017

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August

14 Staff Development Day (No Students)
15 Preparation Day (No Students)
16 First Day of School

14

September 2017

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

September

4 Labor Day Holiday

20

October 2017

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

October

30 Staff Development Day (No Students)

22

November 2017

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

November

10 Veteran's Day Holiday
14 - 17 Conference Days (Minimum days for students)
20 - 24 Thanksgiving Holiday

16

December 2017

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

December

15 Minimum Day Teachers and Students
18 - 29 Winter Break

11

January 2018

Su	M	Tu	W	Th	F	Sa
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

January

1 New Year's Day Holiday
1 - 5 Winter Break
15 MLK Holiday

17

February 2018

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

February

8 - 9 Conference Days (Minimum days for students)
16 President's Day Holiday
19 President's Day Holiday

18

March 2018

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
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March

26 - 30 Spring Break
30 Spring Holiday

17

April 2018

Su	M	Tu	W	Th	F	Sa
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29	30					

April

2 - 6 Spring Break

16

May 2018

Su	M	Tu	W	Th	F	Sa
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May

28 Memorial Day Holiday

22

June 2018

Su	M	Tu	W	Th	F	Sa
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June

14 Last day of school (Min. Day Teachers & Students)

10

Calendar for Year 2018 (United States)

January

Su	Mo	Tu	We	Th	Fr	Sa
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February

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March

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April

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May

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June

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July

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August

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September

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October

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November

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December

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Holidays and Observances:

Jan 1	New Year's Day	May 28	Memorial Day	Nov 12	Veterans Day observed
Jan 15	Martin Luther King Jr. Day	Jun 17	Father's Day	Nov 22	Thanksgiving Day
Feb 14	Valentine's Day	Jul 4	Independence Day	Dec 24	Christmas Eve
Feb 19	Presidents' Day	Sep 3	Labor Day	Dec 25	Christmas Day
Apr 1	Easter Sunday	Oct 8	Columbus Day (Most regions)	Dec 31	New Year's Eve
Apr 13	Thomas Jefferson's Birthday	Oct 31	Halloween		
May 13	Mother's Day	Nov 11	Veterans Day		

BOARD AGENDA ITEM

Name of Contributor: Janet Penanhoat Date of Meeting: 12/6/17

STUDY SESSION _____
CLOSED SESSION _____
SECTION A-1: PRELIMINARY __X__
SECTION A-II: REPORTS _____
SECTION B: HEARINGS _____
SECTION C: CONSENT AGENDA _____ Agreement Category:
____ Academic
____ Enrichment
____ Special Education
____ Support Services
____ Personnel
____ Legal
____ Facilities
SECTION D: ACTION _____
SECTION F: BOARD POLICIES 1ST Reading _____ 2nd Reading _____

Annual Appointment/Reappointment of Trustees for the Oxnard School District Health and Welfare Benefits Trust (Penanhoat)

In 1992, the Board of Trustees ("Board") established a Retiree Benefits Fund to accumulate restricted monies to cover both the annual and accumulated debt for the payment of health benefit premiums for retirees. Prior to June 25, 2003, the District set aside money for health benefits in a fiduciary trust fund. A revision in the standards of the Governmental Accounting Standards Board (GASB 34) required that the district establish a formal trust in order to continue to maintain the accumulated assets in this fiduciary trust fund.

On June 25, 2003, the Board adopted a Resolution creating and establishing the Oxnard School District Employee Health and Welfare Benefits Trust ("Trust"). The Trust, as structured, calls for the appointment of three (3) trustees. The Board must appoint two (2) of the three (3) trustees for a term of one (1) year. The third trustee is by default the Assistant Superintendent of Business and Fiscal Services for Oxnard School District.

On December 7, 2016, the Board appointed the following trustees to the Trust:
- Trustee Debra M. Cordes, as a member of the Board of Trustees; and
- Ms. Pam Morrison, as a retiree of the Oxnard School District.

The Board directed that this item be brought back to them annually for review during their December organizational meeting.

RECOMMENDATION

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services, that the Board review the current trustee appointments to the Oxnard School District Employee Health and Welfare Benefits Trust and:
1. re-appoint Debra Cordes as the Board Member Representative, or propose a new representative; and
2. re-appoint Pam Morrison as the Retiree Representative, or propose a new representative.

Janet Penanhoat is automatically appointed the third trustee by virtue of her position as Assistant Superintendent, Business & Fiscal Services for Oxnard School District.

ADDITIONAL MATERIAL

Attached: No

BOARD AGENDA ITEM

Name of Contributor: Dr. Morales/Janet Penanhoat Date of Meeting: December 6, 2017

STUDY SESSION _____
CLOSED SESSION _____
SECTION A-1: PRELIMINARY _____
SECTION A-II: REPORTS __X__
SECTION B: HEARINGS _____
SECTION C: CONSENT AGENDA _____ Agreement Category:
____ Academic
____ Enrichment
____ Special Education
____ Support Services
____ Personnel
____ Legal
____ Facilities
SECTION D: ACTION _____
SECTION F: BOARD POLICIES 1ST Reading_____ 2nd Reading _____

Presentation of the December 2017 Semi-Annual Implementation Program Update as an Adjustment to the Master Construct and Implementation Program (Morales/Penanhoat/CFW)

The December 2017 Report provides the second semi-annual update to the Board since establishment of the now-integrated Master Construct and Implementation Program (Program) adopted by the Board in January 2017. The report is also the tenth in a series of updates linked to the original 2013 Implementation Program, and reflects conditions of the District's Program between the June 2017 adoption and the time of this document's publishing in December 2017. Updates are provided on the educational and facilities implementation components, as well as the funding and sequencing requirements to implement the Program. Recommendations are provided for consideration and further action by the Board over the next six-month period.

The District is in the fifth year of implementing academic programs that focus on student collaboration, communication, problem solving and producing projects that demonstrate mastery of the curriculum by creating Academic Strand Focus and Academy programs. These programs continue to be the drivers of facilities improvements and educational technology integration, and continue to be integrated into the school's overall educational vision and related enrichment activities related to the academic themes.

The Master Construct and Implementation Program integrates efforts associated with the implementation of Measure "R" and Measure "D". All Phase 1 Measure "R" facility improvements under the Basic Program are either completed or under construction. Completed efforts include the acquisition of the Seabridge K-5 elementary school site, Kindergarten and science lab upgrades to 22 classrooms across eight school sites, and the opening of the new Harrington K-5 campus. Projects under construction include continued reconstruction efforts for the new Lemonwood K-8 school and new Elm K-5 campus, a new 12-classroom building at Marshall elementary school, and a new child development center/Kindergarten annex at Harrington Elementary School.

Measure "D" projects have moved forward including the submittal of the McKinna reconstruction project to the Division of State Architect, active design for the reconstruction of Rose Avenue K-5 and new Seabridge K-5 schools, and modular construction of Kindergarten/flex classroom projects at four school sites. The new elementary and middle school site at Doris Avenue and Patterson Road has also

undergone continued active negotiation and planning, including the completion of a Draft Environmental Impact Report for public review.

The overall Program projects, budgets, sequencing, and timelines continue to be reviewed and adjusted by the Board on a six-month interval since the Program's inception in 2013.

FISCAL IMPACT

The Master Construct and Implementation Program will be funded through the use of Measure "R" and "D" funds, available local developer fees, and State modernization and new construction grants. Overall funding has been adjusted to approximately $451.1 million. The increase is the result of the addition of proceeds from the District's Certificates of Participation Series 2016 for the acquisition of a new elementary and middle school site at Doris/Patterson. Offsetting the increase in Certificates of Participation (COPs) proceeds is a reduction in G.O. bond proceeds to reflect the net proceeds, absent the cost of issuance, that have been made available to the Program under Measure "R". Proposed uses have been adjusted to provide previously Board approved increases to current projects due to specific project construction needs and required professional services. Based on the State's delay and projected new schedule for funding submitted applications for State aid reimbursements, a significant amount of projected State Aid funds has been moved into Phase 3 and 4 of the program from Phase 2.

RECOMMENDATION

It is the recommendation of the District's Superintendent and the Assistant Superintendent, Business & Fiscal Services, in consultation with CFW, that the Board receive the December 2017 Semi-Annual Implementation Program Update for adoption at its next regular meeting.

ADDITIONAL MATERIAL

Attached: December 2017 Semi-Annual Implementation Program Update Report (68 pages)

December 2017



OXNARD SCHOOL DISTRICT

MASTER CONSTRUCT AND IMPLEMENTATION PROGRAM

Semi-Annual Report to the Board of Trustees



CFW
Planning and Financing Better Schools for California Students

Prepared by:

Caldwell Flores Winters
1901 Victoria Avenue, Suite 106
Oxnard, CA 93035

6425 Christie Avenue, Suite 270
Emeryville, CA 94608

815 Colorado Boulevard, Suite 201
Los Angeles, CA 90041

For:

Oxnard School District
1051 South A Street
Oxnard, CA 93030

Board of Trustees
Ernest Morrison, President
Debra M. Cordes, Clerk
Denis O'Leary, Trustee
Veronica Robles-Solis, Trustee
Monica Madrigal Lopez, Trustee

District Administrators
Dr. Cesar Morales, Superintendent
Janet Penanhoat, Assistant Superintendent, Business and Fiscal Services
Robin Freeman, Assistant Superintendent, Educational Services
Dr. Jesus Vaca, Assistant Superintendent, Human Resources and Support Services
Valerie Mitchell, Chief Information Officer
David Fateh, Director of Facilities

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PROGRAM OVERVIEW

Caldwell Flores Winters, Inc. ("CFW") is pleased to present this semi-annual update to the Master Construct and Implementation Program ("Program") to the Oxnard School District ("District") Board of Trustees ("Board"). This update report is the second semi-annual update since establishment of the now-integrated Master Construct Program adopted by the Board in January 2017, as well as the tenth report in a series of updates linked to the original 2013 Implementation Program, and reflects conditions of the District's Program between the June 2017 adoption and the time of this document's publishing in December 2017. Updates are provided on the educational and facilities implementation components, as well as the funding and sequencing requirements to implement the Program. Recommendations are provided for consideration and further action by the Board over the next six-month period.

The Program continues to provide a consolidated master budget and schedule which merges and integrates the Measure "R" and Measure "D" bond programs and proposed projects and relies on other local funding, including developer fees, Mello Roos funds, and capital program balances. The Program also seeks to maximize State aid reimbursements for modernization and construction of school facilities as State funds become available. Program projects, sequencing, and timelines continue to be reviewed and adjusted by the Board on a six-month interval, as has occurred since the Program's inception in January 2013. Since that time, the District has moved forward with the Basic Program and has been able to:

- Reduce overcrowding at elementary schools by adopting a K-5 educational strand and facilities program at eleven school sites
- Convert the prior three junior high schools to 6-8 middle schools that support an academy based instructional program, including the completion of 21st century classroom and lab facilities
- Expand the K-8 instructional program to six K-8 school sites to increase parent choice, including the completion of 21st century science labs at three school sites
- Implement an extended day kindergarten program with improved facilities
- Deploy over 18,000 1:1 mobile devices to students and teachers
- Open the new Harrington campus, continued construction of the new Lemonwood and Elm schools and commenced construction of a new classroom building at Marshall elementary and Harrington Early Childhood Development Center

- Purchase the first of two planned elementary school sites to accommodate existing and future District enrollment
- Engage in ongoing efforts towards the acquisition and environmental review of a 25-acre site to accommodate existing and future enrollment with a second new elementary school and additional middle school, submit design plans to the Division of State Architect (DSA) for the McKinna reconstruction project and continue design efforts for the Rose Avenue Reconstruction and new Seabridge K-5 projects

The following components provide an executive summary to the Board on the status of Program efforts that have progressed since the previously adopted six-month review and provide recommended adjustments for the next six-month period.

1.1 EDUCATIONAL PROGRAM

The District is in the fifth year of implementing academic programs that focus on student collaboration, communication, problem solving and producing projects that demonstrate mastery of the curriculum by creating Academic Strand Focus and Academy programs. These programs continue to be the driver of facilities improvements and educational technology integration, and continue to be integrated into each school's overall educational vision and related enrichment activities related to the academic themes.

Over the past six months, training sessions have been held with site principals new to the District, focused primarily on an overview of the Academic Strand Focus and Academy programs, purpose and implementation of the programs. Over the next six months, each school within the District will continue to build their academic program through the integration of writing across the curriculum. Additionally, the District will focus on gathering resources to make access to the integrated units easy, develop a template for site administrators and District administrators to use to give good feedback to teachers when doing classroom visits, and monitoring the creation of good formative assessments.

1.2 FACILITIES PROGRAM

The Master Construct and Implementation Program integrates efforts associated with the implementation of Measure "R" and Measure "D". All Phase 1 Measure "R" facility improvements under the Basic Program are either completed, under construction, or approved by the DSA. Completed efforts include the acquisition of the Seabridge K-5 elementary school site, kindergarten and science lab upgrades to 22 classrooms across eight school sites, and the opening of the new Harrington K-5 campus. Projects under construction include continued reconstruction efforts for the new Lemonwood K-8 school and new Elm K-5 campus, a new 12 classroom building at Marshall elementary school, and a new child development center/kindergarten annex at Harrington Elementary School.

Measure "D" projects have commenced including the submittal of the reconstructed McKinna project to the DSA, active design for the reconstruction of Rose Avenue K-5 and new Seabridge K-5 school, and modular construction of kindergarten/flex classroom projects at four school sites. The new elementary

and middle school site at Doris Avenue and Patterson Road has also undergone continued active negotiation and planning, including the completion of a Draft Environmental Impact Report for public review.

Specific details of the status of major ongoing projects are provided in this report and summarized below:

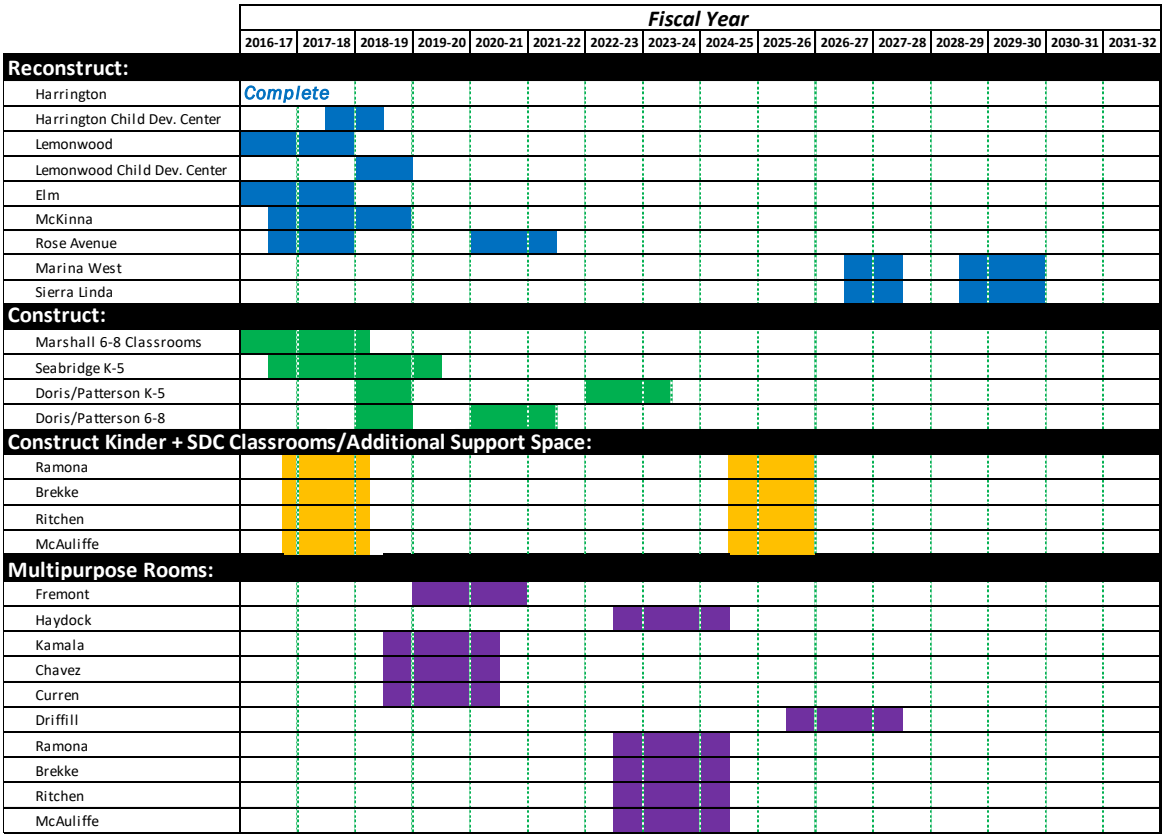
- The reconstructed Lemonwood K-8 school facility includes a new two story classroom building, multi-purpose building including foodservice capability, administration / library building and kindergarten building. The school site has also been redesigned and playground amenities added. Construction of the new school has reached an estimated 66% completion overall and continues to progress on schedule. The classroom building and multi-purpose building are almost complete and planned to be ready to occupy in early 2018. Construction of the administration / library building and the kindergarten building are then set to begin, with overall project completion scheduled for early 2019.
- Reconstruction of the Elm K-5 school facility started in February 2017, following Board approval of the Guaranteed Maximum Price (GMP) construction contract for the project. Utility distribution, foundation work and framing of the walls and roofs have been completed for all four buildings comprising the reconstructed school. Waterproofing is in place to protect the wood framing from rain during the winter months. The project remains on schedule for completion in time for the second half of the 2018 – 2019 school year.
- Construction for the new Marshall twelve (12) classroom building project began in September 2017 with the major underground work, including utilities installation, having been completed at the time of publishing of this report. An application for State Aid reimbursement funding for the project has been submitted to the Office of Public School Construction (OPSC).
- The Harrington Early Child Development Center/Kindergarten Annex project provides the District four preschool classrooms with the flexibility to accommodate transitional kindergarten programs. Construction began in September, consisting of the partial demolition of Building C, followed by the coordination of underground utilities and excavation and foundation pours.
- Design plans for the McKinna reconstruction project were submitted to the Division of State Architect (DSA) in October 2017. Design activities for the new Seabridge K-5 School and Rose Avenue reconstruction continue with DSA submittal scheduled for early 2018.
- Efforts towards the acquisition and environmental review of a new elementary and middle school site at Doris Avenue and Patterson Road continue in active negotiation and planning with a Draft Environmental Impact Report release for public review by the end of the current calendar year.
- Design activities for the new kindergarten/flex classroom projects at McAuliffe, Ritchen, Brekke, and Ramona Elementary Schools have moved forward including the selection of the design professionals, modular contractor, and a lease leaseback firm for the site work. Final siting of the buildings at each campus were completed and design activities are underway. The projects are planned to be completed in time for occupancy for the FY18-19 school year.

1.3 FUNDING & SEQUENCING

The Program is funded through the use of Measure “R” and Measure “D” bond programs and other local funding, including developer fees, Mello Roos funds, and capital program balances. The Program also seeks to maximize State aid reimbursements for modernization and construction of school facilities as State funds become available.

Program projects, sequencing, and timelines continue to be reviewed and adjusted for consideration by the Board. The integrated program focuses largely on the use of local funds for continued reconstruction of existing schools and the construction of new school sites, and State aid reimbursements for improvements to multipurpose rooms and support facilities to accommodate the District’s educational program. The following summary schedule provides an overview of the updated proposed phasing for the Program.

The schedules for the Doris Avenue K-5 and 6-8 school projects have been updated to reflect the extended completion of acquisition and necessary local approvals for the anticipated completion of planning and design efforts by June 2019. This schedule adjustment also accommodates the estimated start of construction by July 2020 for the 6-8 school and July 2022 for the K-5 school. The construction for the Lemonwood Child Development Center is proposed to be moved to fiscal year 2018-19 to accommodate the latest schedule for completion of Phase 1 and 2 of the new Lemonwood K-8 school. Based on projected funding and proposed recommendations, the design and planning effort scheduled for the Fremont Gymnasium project is proposed to commence by fiscal year 2019-20. No other major changes to the schedule are proposed.



Overall funding has been adjusted to reflect projected schedules, District revenues and State aid reimbursements. Proposed uses have been adjusted to provide previously Board approved increases to current projects due to specific project construction needs and required professional services since June 30. Timelines have also been adjusted to reflect actual construction schedules and planned approvals, especially for the extended Doris/Patterson land acquisition and necessary LAFCO approvals. Although approved by Statewide voters in November 2016, State aid facilities grant awards continue to be slowed by the Governor's Office and corresponding State agencies. This requires a significant amount of projected receipt of State Aid funds to be moved into Phase 3 and 4 of the program based on update State guidelines and estimates of future bond sales required to fund the program in biannual increments of $400-$500 million hereafter. In combination with proposed project budget and schedule adjustments, this requires a recommendation to increase local funding options to meet the anticipated delay in State funding through the issuance of the next series of Measure "D" bonds in the amount of approximately $18 million to keep ongoing projects moving forward and to meet new State aid regulations for future funding.

1.4 RECOMMENDATIONS

It is recommended that the Board:

- Accept and adopt this semi-annual update to the Master Construct and Implementation Program
- Direct staff and CFW to proceed with recommended adjustments to the Program for its immediate implementation
- Establish a date for the next six-month review by the Board

EDUCATIONAL PROGRAM

The District is in the fifth year of implementing academic programs that focus on student collaboration, communication, problem solving and producing projects that demonstrate mastery of the curriculum by creating Academic Strand Focus and Academy programs. To aid with the implementation of these teaching strategies, the District continues to develop 21st century learning environments through the capital program that focus on fostering creativity, collaboration and problem solving with the increasing use of technology as a tool for learning.

For the past two years, the District has focused on improving instructional strategies upon which to build 21st Century learning skills by training teachers on instructional strategies for English Language Learners and teaching of reading instruction. This year, the focus is on instructional strategies for the teaching of writing, and on creating integrated units using the Next Generation Science Standards. In addition, the District will now put into practice the concept of strong collaborative groups working together to improve instruction.

As detailed in Section 2.1, the District's overall educational vision and plan for improved student academic performance is based upon research on the best practices for improved student performance. The facilities capital plan continues to be driven by the academic program and improved student outcomes.

Thereafter, Section 2.2 provides an update on the ongoing integration of 21st century technology to advance the Educational Program.

2.1 EDUCATIONAL PROGRAM UPDATE

After initial implementation of K-8 Academy programs in the 2014-15 school year, the K-8 schools have completed their third year of implementation (2016-17). Likewise, implementation of the Academic Strand Focus (K-5) and Academy (6-8) programs during the 2013-14 school year has yielded four years of implementation progress. Combined, these programs, which continue to be integrated into each school's overall educational vision, remain the catalyst and driver of facilities improvements and educational technology integration.

The Academic Strand Focus (K-5) and Academy programs (K-8 and 6-8) respond to District goals for improved student achievement by integrating units of study that foster rigor, engagement, collaboration and problem solving. The integrated units culminate with students producing a project that demonstrates learning mastery and may incorporate instructional techniques such as Project Based Learning (PBL) or program design that includes collaborative groups and visual thinking. Over the last two years, the District

has put a great deal of focus on training the teachers with foundational skills in the teaching of English language development and reading. In turn, the training may improve students' acquisition of skills and knowledge needed to access higher levels of thinking such as problem solving, complex reasoning, and decision making, as well as responding to information by creating and analyzing. This year, the District continues the progression of training on foundational skills with the teaching of writing across the curriculum. In addition, the District has put into practice the concept of strong collaborative groups working together to improve instruction.

The Educational Program Work Plan for 2017-18 is now underway and was established as follows:

1. The District will focus on writing skills across the curriculum. Teachers will attend trainings that demonstrate strategies to create a writer's workshop, manage feedback on writing, and use instructional techniques that are successful for helping students learn to write. These instructional strategies will be integrated into the curriculum already developed at each of the schools.
2. The District will complete the alignment of the Next Generation Science Standards (NGSS) with the English Language Arts curriculum (the "Wonders"), and the District's online digital literacy platform ("myON" reading). For each standard, suggested student projects will be provided to demonstrate mastery of the curriculum and provide content rigor related to the integration of the content curriculum.
3. District schools will continue to build their academic program through the addition of student projects and activities related to the academic focus of each school.
4. Additional elective classes will be added as needed to meet the academic needs of the students. For example, a 6th grade robotics class will need to be added at Frank Middle School. More advanced music classes will need to be added to Haydock Middle School, along with the addition of a 3-D design class or incorporation of 3-D design curriculum into an existing class.
5. The District will begin implementing effective teacher collaborative teams at each school site.
6. Schools will incorporate creating and using formative assessments to track progress so as to inform staff on modification and adjustments that can be made to instruction to generate student improvement.

The latter two elements were formally added to the work plan in response to research on improving student achievement, as described in the following section.

2.1.1. RESEARCH ON IMPROVING ACHIEVEMENT

A yearlong study funded by the S.D. Bechtel Jr. Foundation and the Bill & Melinda Gates Foundation discovered that science instruction can create English Language Learner equity. The report "Unlocking Learning: Science as a Lever for English Learner Equity" (2017) prepared by Education Trust-West, identified six districts with innovative science programs – ranging from Calipatria Unified School District in Imperial County to Oak Grove School District in San Jose. It found that in those schools, English learners scored close to, or in some cases even exceeded, their English-proficient peers on standardized science tests. In some cases, they scored three times as high as English learners at schools where science is taught

very little, not at all, or in a way that's difficult for non-English speakers to follow. Researchers interviewed experts, sat in on classes, examined test scores and demographics, and focused on six districts with large English learner populations that have observed science test scores rise after introducing innovative science programs.

There is a body of research on what improves student achievement. The term "90/90/90 Schools" refers to schools that have 90% poverty as measured by the number of students qualifying for free and reduced lunch, 90% ethnic minority students, and 90% have achieved high academic standards as measured by independently conducted assessments (Doug Reeves, Accountability in Action, Center for Performance Assessments on 90/90/90 Schools, Chapter 19). When studying these schools, what is learned is that the techniques used are consistent over time, not taking on one fad and then another. There is consistent emphasis is on:

1. Writing: Students write frequently in a variety of subjects
2. Performance Assessment: The predominant method of assessment is performance assessment
3. Collaboration: Teachers routinely collaborate, using real student work as the focus of their discussion
4. Focus: Teachers in these schools do not try to "do it all" but are highly focused on learning

Grant Wiggins is a leader in the educational field on assessment, studying its relationship to improved student performance. Feedback is central to learning, so assessments must optimize feedback according to Wiggins. In fact, he says that assessment is so important in our schools that if something is not assessed, it generally is not taught. Wiggins has long been a proponent of authentic assessments (students performing a task in the real world of work) in which students must create a project or perform some task to show they have mastered the standard or content desired. In his article "Autonomy and the Need to Back off by Design" (February 2013), he notes that teachers need to teach students to think, and then on game day they would make a better decision instead of just memorizing the information for the test. He further states that students must become autonomous: "you have to be able, on your own, to size up when to use what you previously learned, i.e. analyze the challenge, and judge what to do, mindful of a repertoire of prior learnings; then, implement a purposeful move, and assess its effect." Employers want workers who are able to think through a problem and solve it, ask important questions, and demonstrate autonomy.

2.1.2 PUTTING THE RESEARCH INTO PRACTICE

Two years ago, the District focused on teaching strategies for English language development for English Language Learners and last year the District focused on the teaching of reading and implementing the new reading adoption, Wonders. This year, the District's focus is on writing, as it is one of two ways (including speaking) to measure reading comprehension. By having students describe what they read or having them write about it, we measure their level of understanding. Reading comprehension is measured primarily through writing on the State assessments, not speaking. Writing is also an extremely

important skill for success in life. In addition, most integrated units require some form of writing as a way to communicate understanding of the curriculum.

All teachers are attending a full day of staff development on the teaching of writing: how to create a writer's workshop, instructional strategies that are successful for helping students learn to write, and strategies for managing feedback to students on their writing. Substitutes are provided so that teachers can be released to attend the training at the Ventura County Office of Education. In the morning they are given the theory and specific strategies to use to help students improve their writing, how to give feedback so that students know how to improve their writing, and successful instructional strategies. In the afternoon, they meet in grade level collaborative groups to discuss how they are going to use the strategies learned, where they will be incorporating it into the Wonders curriculum and previously developed integrated units, and determine when the units will be taught.

The District has completed a comprehensive integration of NGSS with the English Language Arts curriculum (Wonders), and the District's online digital literacy platform (myON). A template was created for all K-5 grades with the NGSS standards listed, along with the location within the Wonders English Language Arts adoption where there is crossover in content, and references to science materials the teachers currently have that can be used to teach the standard. In addition, book lists from myON have been enumerated for each of the standards. The information in the template has been correlated with Marzano's New Taxonomy so that teachers know the level of difficulty and depth of knowledge that will be required of students to successfully complete each of the lessons. Each of these units is now an integrated unit.

This new template with the integration of NGSS and English Language Arts was presented to the principals in May 2017 for use with the following three year roll out plan:

Year 1 (2017-18)	Teachers are exposed to the materials and encouraged to try them out during instruction
Year 2 (2018-19)	Teachers utilize the materials in the classroom with the students
Year 3 (2019-20)	A new science curriculum is adopted and teachers use the templates with the new curriculum

The District is in the process of putting all of these documents online so that there is easy access for every teacher. In November 2017, the templates were reviewed with the District NGSS Curriculum Committee, comprised of members from each school site previously trained on the use of the material. The Curriculum Committee members will take the information back to their school sites and train the teachers.

The District held a three-day teacher training this summer for 90 teachers who chose to attend. They learned about the NGSS and how they can be incorporated into the current science curriculum, prior to adoption of new science curriculum in the 2019-20 school year.

Given the research on practices that will support student learning, the District has provided the basic skills training in the teaching of English Language Development, reading and implementing Wonders English Language Arts program, and now creating Writer's Workshops and instructional strategies for writing and the integration of the NGSS into the language arts instruction. The next step is to build upon this training and implement effective teacher collaboration teams that will develop effective formative assessments to determine what students are learning and review the results of these formative assessments to make adjustments to the academic program to improve student achievement.

Effective collaborative sessions must be focused, data driven and reflect on instructional practices. The District is focusing on creating effective teacher collaborative groups. During Instruction Leadership Team meetings, District administration works with school site administration on strategies for improving the effectiveness of collaboration at each site, with a focus on developing good formative assessments, conducting those assessments, and then using the results of the assessments to improve instruction. Better assessments that measure student knowledge of deep content understandings, paired with the use of assessment results as feedback to the student and teacher to improve instruction, lead to greater student academic improvement.

As the District continues to move forward with the implementation of the new instructional strategies, a new template will be created for principals and District staff to use when visiting classrooms. During Instruction Leadership Team meetings, the District will collaborate with the principals about the design of the template, what constitutes good instruction and practices that support student learning, and how to know if this is happening in the classroom. Additional training for the school site administrators will be provided on giving teachers effective feedback so they can improve their instructional strategies.

2.1.3 K-5 ACADEMIC STRAND FOCUS PROGRAMS AND K-8 ACADEMIES

All K-5 and K-8 schools continued to improve upon their existing integrated units and expand them to reflect the Academic Strand Focus of each school. At the K-8 schools, Dual Language Immersion (DLI) Programs have been implemented across the District. Currently, the program supports kindergarten through fourth grade students. This year, the teachers have received training based upon the research "Teaching for Biliteracy" and are implementing those teaching strategies in their classrooms.

CFW and District administrators provided training on October 5, 2017 for principals new to the District this year. The training reviewed development of the Academic Strand Focus program and Academy programs over the last four years. Principals were given an overview of the programs, how these programs support academic achievement, why the Board supports these programs, and current development of the programs throughout the District. Rubrics to judge a successful program were reviewed as well as the process used to create integrated units. Principals were presented with Robert Marzano's New Taxonomy and demonstrated how this tool is used when creating and then revising an integrated unit. Principals noted that this tool can be used with other curriculum to create lessons with more rigor and depth of knowledge. A rubric for principals and teachers to evaluate integrated units was also reviewed.

All previously developed integrated units will be published to the District website for easy access by any teacher at any of the schools. This will create additional resources for teachers as they continue to develop and expand their instructional practices. Writing strategies will be incorporated into the overall programs at each of the schools. Formative assessments will be developed, reviewed and modified as needed. The new template for the alignment of the NGSS with Wonders English Language Arts curriculum and myON will begin to be used at school sites.

2.1.4 6-8 MIDDLE SCHOOL ACADEMIES

The focus of the development of the 6-8 Middle School Academies has been on the implementation of previous staff development for each of the academies. Beginning in August, two additional elective classes in oceanography were added at Frank Middle School. Next semester a feeder robotics class will also be added so that students in sixth grade are ready for the curriculum in seventh grade robotics class at Frank. At this time, all of the Academies have integrated their themes into their core academic programs through courses that include Project Based Learning, Project Zero Visible Thinking, and Project Lead The Way, as well as field trips, student activities and competitions, and cross curricular planning.

The District is exploring implementing a SmartLab, a turnkey STEM learning environment created and designed by Creative Learning Systems, at both Frank and Fremont. In this lab, students are encouraged, motivated and empowered as learners to build 21st century skills to prepare them to succeed in the global economy. The SmartLab learning environments feature fully integrated systems of hardware, software, furnishings, online curriculum, educational kits, manipulatives, professional development, assessment tools, ongoing support, and training. Creative Learning Systems' hosted curriculum integrates technology education with core academic subjects using a project-based approach to learning. Both teachers and students are empowered to develop and explore areas of personal interest while meeting common core state standards. In this learning environment students not only learn about technology, they learn how to use technology, and it functions as a learning tool. Students learn critical problem-solving skills in a multidisciplinary environment. They have numerous opportunities to apply principles of math, science, language arts and other academic disciplines in engaging, relevant ways.

Students at Frank and Fremont will begin to explore a wider range of technology including software applications in the SmartLab consistent with professional standards. The curriculum explores the scientific principles behind each system of technology in detail and encourages understanding of academic connections. Learner projects become more open-ended, and learners are encouraged to adapt and expand projects to fit their own interests and connect with academic content from their other classes. Students will create ePortfolio documentation of their projects and make presentations to demonstrate their projects. Learners begin to self-assess their performance along with their facilitator.

2.1.5 NEXT STEPS

Over the next 6 months, each school within the District will continue to build their academic program through a focus on writing across the curriculum and implementation of the Writer's Workshop. In

addition, schools will continue to work to implement effective teacher collaborative groups at each school site. Proposals for SmartLabs will continue to be explored for possible implementation in January or fall of 2018.

2.2 TECHNOLOGY PROGRAM INTEGRATION

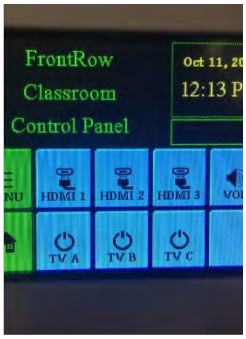
The Program has continued to incorporate the evolution and integration of 21st century learning environments that provide the needed setting for educational programs that call for collaboration, communication, creative thinking and problem solving. When used to their fullest potential, the 21st century learning environment provides opportunities for students to engage with the curriculum content, seek out answers to questions and problems, create projects that demonstrate mastery of the standards, and become masters of their own learning. Teachers become the facilitators of that learning, guiding students to learning mastery.

As technology improves and evolves, so can the program in order to apply the benefits of recent advances that are becoming increasingly available in the educational marketplace. Among technologies being researched, evaluated, and explored are those that incorporate elements of Virtual Reality (VR) and Augmented Reality (AR) to create lifelike experiences on the computer that are immersive and interactive. For example, the District is currently reviewing and exploring tools that supply VR and AR computing stations for use with grade 6-8 science instruction, with applications including a virtual physics "playground" designed to investigate and analyze experiments related to Newton's laws, and a virtual human anatomy display that allows research, viewing, and interaction with 3D models of the human body to learn how its parts relate to each other. The District plans to continue evaluating the merits of these technologies, and will continue investigating options, costs, and approaches from various vendors before recommending any incorporation into future projects.

Students interacting with Virtual Reality and Augmented Reality Computing

The pending completion of the new Lemonwood K-8 classroom building and construction underway at Elm and Marshall has provided an opportunity to incorporate advances in integrated classroom technology that promote ease of use for teachers and continued flexibility for audio/visual presentation. Under the updated approach, classrooms will continue to be outfitted with several high definition displays, teachers will continue to have flexibility in using wired or wireless devices (e.g. iPads, laptops, DVD players, etc.) to project educational content to the displays, and the system maintains a platform agnostic approach that accommodates future adjustment. Nevertheless, underlying components of the classroom audio/visual system have been identified for adjustment that simplify hardware installation and cost, reduce wiring cost, and minimize opportunities for wear and tear over time. As an added benefit, a new wall-mounted classroom technology control panel is planned that provides teachers with preprogrammed access to common functions, easing the transition between educational activities and minimizing the time spent configuring equipment.

Control Panel



Control Panel (upon Touch Activation)

Over the past six months, several meetings have been held by project team members in order to review desired educational functionality and implement adjustments that afford ease of use benefits to teachers, improved reliability for the District's instructional technology staff, and reduced cost at time of construction as well as over the life of the investment. On October 11, 2017, the District's Technology Services Department met with CFW staff and project design team members for a discussion of the specification and installation of classroom technology required for the Elm K-5 reconstruction project. Attendees also confirmed information relevant to the Lemonwood project nearing Phase 1 completion as well as the planning and design of future projects at McKinna, Rose Avenue, Seabridge, and Kindergarten/Flex classrooms. On November 6, 2017, project architects and engineers were invited to view a demonstration of the District's specification in order to improve clarity and understanding of the design intent for the integration of technology and provide an opportunity to ensure DSA approved plans reflect the District's efforts in creating 21st century learning environments.

The proper specification of required equipment is essential to this vision. As part of this report, the following specification is recommended for further implementation in Program projects:

- Continuation of District standard utilizing 3 to 4 flat-panel televisions connected to a device that allows for multiple inputs from wired sources to wireless devices (e.g. iPads, laptops, document cameras, DVD players, etc.) to display information on those TVs in a variety of configurations.
- Adjustment of wiring standards to incorporate a user-friendly touchscreen "control panel" (per "FrontRow" equipment) which allows for teachers to select different display configurations. Instructors have the option of either using the wall mounted control panel or an "app" based version of the control panel installed on their provided iPads. This also includes accommodation of required equipment and wiring in a ceiling mounted equipment enclosure.

- Based on current educational program needs, anticipated usage, and the function of rooms, specification of TV quantities as listed below. All TV's shall be assumed to be 65" or larger class products, except for the Library.
    - General Purpose Classroom and Kindergarten Classroom: 3 TVs
    - Makers' Space, RSP Room, or other 480 square foot support room: 1 TV
    - Administration Building: 1 TV near lobby/public viewing – connected to security camera footage and/or event announcements; 1 TV in conference room
    - Science Classroom: 4 TVs
    - Piano Keyboarding Lab: 3 TVs
    - Library: 1 TV (approximately 90" in size)
- Specification of at least one (1) large remote-operated, retractable presentation screen in projects including a multipurpose room or gymnasium. The screen should be mounted from the ceiling and positioned above the location anticipated to be utilized as a stage for performances and presentations. A high-lumen projector, capable of projection sizes of 120" or more, should be ceiling mounted and positioned to project clearly to the screen when in use. The projector should be wired to a corresponding audio/video box, providing capabilities and control functionality similar to classroom use.

Over the next six months, the team will work with the architects and Lease Lease-Back builders of the Elm and Marshall projects to meet these standards, as well as evaluate any net savings or net cost for these specifications as implemented during construction. Given Board approved changes to the Lemonwood project, a portion of which incorporated similar District requested specification changes, the newer specification may generate some increase to cost on active projects, though this is expected to be mitigated by a form of "Moore's law" in which the cost of improved technology falls over time. Concurrently, direction will be provided to the design teams on projects now entering initial architectural design in order to incorporate and document engineering details and specifications prior to submittal to the Division of the State Architect.

Parallel to the implementation of updated classroom technology specifications, the team will continue to dialogue regarding planning for the District's next major mobile device replenishment, including efforts to consider alternatives that have come to market that offer competitive and instructional advantages to the District's initial 2014-15 iPad deployment.

FACILITIES PROGRAM

The Master Construct and Implementation Program integrates efforts associated with the implementation of Measure "R" and Measure "D." Both measures have been integrated to work in tandem by adopting common programmatic goals and facilities specifications, building upon the sources and uses of funds already allocated by the District, and interlacing scheduling, sequencing, and cash flow requirements to leverage proposed improvements. Collectively, these efforts have been blended into a single Master Budget, Schedule and Timeline as previously directed and approved by the Board and are discussed below as the Master Construct Program.

The following section provides an update as provided by the District, CFW and consultants of planned improvements and projects underway. Local and State factors that have and continue to influence the Master Construct Program are summarized in consideration as their impact to specification, budgets, cash flow, and project sequencing. A detail of work that has been accomplished pursuant to the Master Construct Program, including highlights and expected outcomes over the next six months, are presented, as well as recommendations for proposed adjustments where needed.

3.1 LOCAL AND STATE CONSIDERATIONS

The District and Board practice of ongoing updates to the Master Construct and Implementation Program on a semi-annual basis promotes timely review of Program progress and provides a mechanism for incorporating changes or adjustments over time to reflect evolving local needs, modified State practices, or new Program requirements. Periodically, there is a need to identify the cumulative impact of these modifications to date and how they may impact the program collectively over time.

A particular local need – that of additional K-5 classroom capacity – was addressed and Board adopted in the District's December 2017 report, noting the following limited change to specification to increase enrollment capacity:

> *"Where feasible and pursuant to recommended budgets, select upcoming K-5 projects may be modified to a 750-student specification to provide additional student capacity at reconstructed District school sites to accommodate additional flex space for fluctuations in kindergarten enrollments and increased special education needs."*

The same report established the adoption of revised budgets for the McKinna, Rose Avenue, Marina West, and Sierra Linda reconstruction projects, adjusted pursuant to the anticipated cost of increased classroom capacity, which raised the number of classrooms at each project from 28 in the prior specification to 31 in the revised specification. A net increase of 12 classrooms over time was resultant from this adjustment.

In June 2017, a similar adjustment was made to four existing school sites, thereby incorporating the design and construction of two additional classrooms at each location, as follows:

> *"Existing K-5 school sites that may benefit from the receipt of additional capacity to accommodate TK/Kindergarten and Special Education classrooms, consistent with the proposed revised specifications, have been identified at McAuliffe, Ritchen, Brekke, and Ramona."*

The June 2017 report established a budget for the additional classrooms at each of these four sites, thereby producing a net increase to District capacity of 8 classrooms.

These changes, coupled with the prior approved Marshall grade 6-8 classroom building project, have added a total of 32 permanent classrooms to the District's Program over time, providing opportunities to absorb enrollment throughout the District beyond the baseline originally conceived at the initiation of the Program in January 2013. Nevertheless, the requisite expansion of support facility capacity (e.g. multipurpose rooms, restrooms, etc.), proportionate to the increased classroom capacity, has not been accounted for in individual project budgets, and may necessitate further adjustment in the future and over time.

In addition to the adopted adjustments to educational specification, the District has requested upgrades to facility materials, equipment, and operations consequent to start of construction activities at several school sites, thereby generating either adopted or anticipated increases to costs on these projects. In the case of District requested changes, the following have occurred:

1. Increases due to technology upgrades and in the Data and AV Systems being installed in the ongoing and future school projects and in a planned acceleration of the 1:1 replacement program
2. Increases to specification of Administrative and Food Service spaces
3. Using or increasing requested District Standard Equipment and Materials such as:
    a. HVAC
    b. Locks and Door Hardware
    c. Roofing
    d. Lighting
    e. Fencing
4. Additional sitewide and DSA site specific requirements, including testing and structural requirements
5. Supplemental offsite improvements required by the City (e.g., offsite sewer)

Ancillary to these District requested changes, projects must also bear the impact of changing construction prices and contractor availability, resultant from an overall economy emergent from the earlier recessionary years and now more indicative of the school construction environment as it was in the early 2000's. The voter passage of Proposition 51 in 2016, along with hundreds of local funding measures passed Statewide in recent years, has further prompted a surge in demand for construction materials and labor, thereby increasing the recent strain on projects. Industry related increases include the following:

1. Lumber and framing shortages, including increased DSA oversight

2. Steel price increases and installation availability
3. Subterranean soils preparation and corresponding foundation upgrades
4. Mechanical, Electrical, and Plumbing (MEP) availability and cost increases with associated State prequalification standards

Collectively, the resulting outcome of the aforementioned changes is an estimated overall increase in the square footage hard cost of development of $50 to $75, for an increase to $450 per square foot or greater per square foot of hard construction cost. Total development costs, including hard and soft costs, are now approaching $600 per square foot. This is approximately 30% higher than those originally expended on the construction of Harrington. This represents an approximately 10% increase to date on construction costs and in the size of schools now in the design phase with the balance attributed to increased changes to materials and equipment specifications going forward for the basis of design and delivery of projects. Moreover, the District will need to continue to plan for escalation in the cost of construction, generally observed to run 3-4% on an ongoing annual basis. Collectively, these amounts will exceed the Program Reserve policy for project expenditures established by the District for Phase I projects and will thus need to be refreshed and increased for subsequent program phases.

On the revenue side, districts hoping to take advantage of Prop. 51 dollars to offset construction costs have been sorely disappointed by the Governor's delayed implementation of the measure. This includes the slow expansion of staff at the OPSC, delay of an initial bond sale and reduction in the size and distribution of initial funding availability, plus changes to the grant funding for land and facilities reimbursements. In prior approved State bond measures, the initial sale of bonds has been roughly equal to the amount of prior approved projects awaiting funding. As will be covered in greater depth in Section 4, the State's bond sale in the fall of 2017 advanced only those school projects listed within the first half billion dollars of State apportionment, thereby providing about 25% of the immediate funding required and delaying reimbursement to districts such as Oxnard until subsequent bond sales in the spring and fall of 2018.

Collectively, these adjustments to educational specifications, construction standards and industry impacts, and the timing of State aid reimbursements necessitate adjustment to the Program as put forth in this report. Though District adjustments may not have been anticipated by prior development of the Program, impact Statewide of a recovering economy and resultant inflation have always been anticipated given the market for construction of schools, and thus a portion of these impacts have been accounted in prior Master Budgets by the established Program Reserve. To accommodate these needs, proposed changes to project budgets where needed are included in the following section and proposed changes to planned projects and schedules are provided in Section 5.

3.2 MEASURE "R" PROGRAM

To date, all Phase 1 Measure "R" facility improvements pursuant to the Basic Plan are either completed, under construction, or approved by the Division of the State Architect (DSA). Completed facilities program efforts include the acquisition of the Seabridge elementary school site, kindergarten and science lab

upgrades to 22 classrooms across eight school sites, and the opening of the new Harrington K-5 campus. Projects underway include continued reconstruction efforts for the new Lemonwood K-8 school and new Elm K-5 campus, a new 12 classroom building at Marshall elementary school, and a new child development center/kindergarten annex at Harrington Elementary School. The latter are net additions to the original Phase 1 Measure "R" facility improvements program adopted by the Board in January 2013.

3.2.1 LEMONWOOD RECONSTRUCTION AND EARLY CHILDHOOD DEVELOPMENT CENTER

The Lemonwood Reconstruction project commenced construction in May 2016 and is planned to occur over two construction phases to minimize disruptions to the ongoing educational program. Construction completion is currently at approximately 66% for both construction phases. The first construction phase of work includes the two-story classroom building encompassing 39 classrooms for grades 1-8, one special education classroom and two science / lab classrooms plus one science flex classroom for grades 7-8.

The first construction phase also includes the multi-purpose building with a commercial kitchen, serving / presentation space, gymnasium, lockers and storage. This building is designed to accommodate presentations and performances as well as the serving of meals and sporting events. Four new outdoor basketball courts will be available for the school to use at the completion of the first construction phase of work. This phase of work is 90% complete and substantial completion is on target for January 2018. Occupation of the new classroom building and multi-purpose building by students and staff is planned for completion in March 2018.

The second phase of construction includes new kindergarten and administration buildings and is scheduled to be completed in February 2019. Four kindergarten classrooms, with age appropriate restroom facilities and teacher workrooms, will comprise the kindergarten building. The administration building includes a media center with interactive break-out spaces included, two maker's rooms for additional learning opportunities, a dedicated parent conference space / multi-purpose room, lobby and offices / workrooms.

When phased construction is complete, the new Lemonwood school will accommodate 900 students by State standards in grades K-8. Specified support facilities, administration areas, media center, food service, multipurpose room, physical education spaces, and restrooms will also be provided.

At time of publishing for this report, the exterior envelope of the classroom building, including walls, roof and openings, is complete. Exterior finishes, decorative eyebrows over windows and wall mounted lighting is in place. Interior drywall is complete and markerboard / tackboard installation is finished. Provision for electrical, mechanical, plumbing and audiovisual service has been placed in the walls and above the ceilings. All finish flooring, including at the outdoor covered walkways, is complete. Stairs are complete and the building elevator is operational. Audio visual equipment, including matrix boxes above the ceiling and user control boxes in the walls, have been provided. TV monitors are being installed.

At the multi-purpose building, the exterior envelope is complete, including canopies over entry doors. Mechanical, electrical and plumbing systems for the building are in place. Floor, wall and ceiling finishes

are complete. The basketball backboards have been installed. The fume hood over cooking surfaces, walk-in refrigerator and freezer and other kitchen equipment is in place in the kitchen. Final connections, testing and health department inspection is pending. Lockers have been placed in the locker rooms. Site hardscape elements, including concrete transition strips, seatwalls, and four basketball courts, have been completed. Landscaping is in place for the construction phase 1 scope of work.

New Lemonwood School Construction Progress – November 2017

The Lemonwood Reconstruction project has proceeded through June 30 under a Lease Lease-Back agreement under a Guaranteed Maximum Price (GMP) construction contract and approved change orders totaling approximately $30.2 million. A recommended budget adjustment of approximately $757,000 is proposed to the Master Budget to accommodate Board approved change orders since the June 2017 update. An application for reimbursement funding has been filed with the OPSC totaling approximately $10.5 million in estimated State aid base pupil grants, additional grants for site development costs may be expected to increase the overall grant amount upon apportionment from the State.

Over the next six months, construction will continue as well as the planning towards the transition of students and staff into the new facilities. The move of students and staff from their existing facilities to the new classroom building, currently scheduled for January 8, 2018 – February 15, 2018, has been planned based on a series of meetings commencing in October 2017 and continuing through February 2018. Activities to provide student safety and security during phase two of construction have been planned and will be implemented.

The reconstruction of the Lemonwood facility also retains and repurposes Building 3 of the original campus. Six modernized classrooms are proposed to provide “Flex Rooms” for enhanced kindergarten, transitional kindergarten, or preschool programs as may be required by the District. The construction plans for this phase of work were approved by DSA in January 2017, and construction of the project is expected to be undertaken at completion of the new Lemonwood school.

3.2.2 ELM RECONSTRUCTION

The Elm Reconstruction project replaces the original 1948 facility with 25 new permanent classrooms designed to serve up 600 students per State standards in grades K-5. Construction began in February 2017 and is on pace to be completed the second half of the 2018-2019 school year.

Four new buildings are planned for the site including two-story classroom wing, kindergarten classrooms, and multi-purpose and administration facilities. All four buildings have utility services, foundations poured and have been framed and roofed at the time of publishing this report. A waterproof membrane is in place on the roofs to protect the wood framing from water damage during the winter months. A portion of the electrical conduit and boxes, plumbing pipes and mechanical systems have been placed in the walls. To date, the project is estimated to be 32% complete.

New Elm School Construction Progress – November 2017

The two-story classroom building will include an interactive, flexible audio visual and technology system, designed to 21st century classroom standards. Restrooms, a music keyboarding classroom, and one special education classroom will also be included in the building. Four kindergarten classrooms, with age appropriate restroom facilities and teacher workrooms, comprise the kindergarten building. The multi-purpose building includes a commercial kitchen, serving / presentation space, and storage. The administration building includes a media center with interactive break-out spaces included, one makers' room for additional learning opportunities, a dedicated parent conference space / multi-purpose room, lobby and offices / workrooms.

A Lease Lease-Back agreement for a GMP construction contract of approximately $23.3 million was approved by the Board in December 2016. There are no proposed amendments to the Master Budget at this time.

Over the next six months, construction will continue as well as the final negotiation of required additional sewer and site development improvements as now required by the City. Upon finalization of anticipated additional site development costs, a State aid reimbursement application will be submitted to the OPSC.

3.2.3 MARSHALL NEW CLASSROOM BUILDING

In September 2017, construction efforts commenced towards the development of a new two-story classroom building at Marshall Elementary School. The project has been designed to meet interim 6-8 grade level capacity needs until a new middle school is constructed and to provide Marshall with additional classrooms and a long-term K-8 educational program option. Upon completion, the added building will provide 12 additional permanent classrooms and a redesigned parking area. This building

has been designed to match the existing campus on the outside while providing modern, flexible learning environments on the inside.

Construction commenced in September 2017 with an estimated 25% of the scope of work completed to date. In October 2017, the District conducted a groundbreaking ceremony celebrating the start of construction which was well received by the community.


New Marshall Classroom Building Groundbreaking Event – October 2017

Major underground work and infrastructure installation is complete, and the building is projected to begin taking form during the first two months of 2018. The over-excavation of the building pad along with the stabilization of the soil have been accomplished and the building and column footings, as well as the elevator pit foundation have been poured. The underground site utilities have been installed and coordinated in preparation for concrete slab pours that have been scheduled for the end of December 2017. Construction is scheduled to be completed by September 2018.


New Marshall Classroom Building Construction Progress – November 2017

The Marshall new classroom building is being built under a Lease Lease-Back GMP construction contract approved subsequent to the June 30 report. At this time a budget adjustment of $3,325,000 is proposed to the Master Budget to accommodate the Board approved GMP and change order since the June 2017 update. An application for reimbursement funding has been filed with the OPSC totaling approximately $3.6 million in estimated State aid base pupil grants, additional grants for site development costs may be expected to increase the overall grant amount upon apportionment from the State. Over the next six months, construction will continue to be monitored and coordinated with updates and recommendations to the Board as needed.

3.2.4 HARRINGTON EARLY CHILDHOOD DEVELOPMENT CENTER

The Harrington Early Child Development Center/Kindergarten Annex project includes the renovation of Building 4 of the original Harrington school to provide flexible classroom facilities to serve preschool or kindergarten/transitional kindergarten. Four classrooms that meet preschool and kindergarten requirements are planned as well as improved playground areas.

In August 2017, the District completed a second round of bidding for the project, producing a qualified contractor that met District standards. A construction contract of approximately $1.9 million was approved by the Board in September 2017.

Construction commenced in September 2017 with the renovation scheduled to be complete by summer 2018. The start of construction revealed many utility coordination issues in trying to maintain the Temporary Preschool Facility operational. The contractor worked through the early issues and demolition activities followed in October 2017, which consisted of partially tearing down Building C and stripping the walls down to the structural framing in preparation for marker and tack boards. Excavations for wall foundations were soon followed by the installation of the reinforcing steel and the pouring of the footings. At the time of the publishing of this report, the contractor has planned to finalize the underground utilities installation and will have prepared for the pouring of concrete slabs.

Harrington Child Development Center/Kindergarten Annex Construction Progress – November 2017

A recommended budget adjustment of approximately $1.4 million is proposed to the Master Budget that was originally prepared in December 2014 to accommodate the Board approved construction contract since the June 2017 update. An application for final approval by the California Department of Education (CDE) has been filed for the project. Upon CDE final approval, an application for eligible reimbursement of modernization funding will be filed with the OPSC. Construction will continue to be monitored and coordinated over the next six months.

3.2.5 FREMONT MULTIPURPOSE ROOM REPLACEMENT

As of the June report, a new multipurpose room and gym facility is planned for construction at Fremont Intermediate School, with a dual goal of improving support facility functionality for the existing campus

and allowing integration of the facility into a future school replacement project, should funding become available. This new facility is proposed to be constructed to the east of the existing tennis courts, along the southern boundary of the existing site.

The facility as planned will be designed to accommodate a broad range of indoor cafeteria, athletic, and performance uses, with food services facilities designed to accommodate servicing the school's enrollment in three lunch periods, indoor athletic space sized to meet junior high school basketball standards, and appropriate space for a performance stage along with event lighting and audio/visual systems. Additionally, planned 24-foot-high ceilings will accommodate activities such as volleyball and clerestory windows will be provided to improve natural daylighting. Restrooms will be provided for students, staff, and visitors per code requirements, along with attached changing rooms for students to accommodate physical education program requirements.

The adopted project budget is $5.6 million in and no changes to the budget are proposed at this time. However, due to delays in State aid grant funding by the State on prior approved grant eligible reimbursements projects to the Oxnard School District from the State, the scheduled activities for this project have been moved into Fiscal Year 2019-20 of Phase 3 of the Master Construct Program to accommodate the funding priority projects under the Basic Plan. To the extent funds become available in the interim or at that time, the District could submit for State funding for this project as a joint use project under the requirements outlined in Section 4 of this report. Otherwise the project will need to wait for State reimbursements from previously approved project applications which are now projected to be made available for this project in Phase 3.

3.3 MEASURE "D" PROGRAM

Measure "D" was approved by voters on November 8, 2016, and authorized $142 million in bonds to fund additional school improvements to be integrated with the ongoing Measure "R" Program. A fully integrated Master Construct and Implementation Program was adopted at the last six-month report to carry out this mission. Since June 2017, Measure "D" projects have moved ahead including the submittal of the reconstructed McKinna project to DSA and active design for the reconstruction of Rose Avenue K-5 and new Seabridge K-5 school. The new elementary and middle school site at Doris Avenue and Patterson Road has also undergone continued active negotiation and planning, including the completion of a Draft Environmental Impact Report for public review. Active planning and design efforts have also continued for the kindergarten/flex classroom projects planned at McAuliffe, Ritchen, Brekke, and Ramona elementary schools.

The following sections provide further detail on the status of Measure "D" projects and expected outcomes over the next six months.

3.3.1 MCKINNA ELEMENTARY RECONSTRUCTION

McKinna Elementary School was constructed in 1954, making it one of the oldest schools in the District with 17 permanent and 14 portable classrooms. The school was assessed under the adopted Master Plan

and Master Construct Program as needing extensive modernization and was thus prioritized for reconstruction with an entirely new set of facilities, built according to modern State codes, District specifications, and 21st century educational program requirements. New facilities include a two-story classroom building, library, administration space, multipurpose room, playfields, hard courts, and support spaces. The new school is to be constructed in the current play field areas allowing for instruction to continue at the older facility until completion of the replacement school construction. The new facility will be accessed from a new parking and drop-off provided at "N" Street. Once completed, the older structures would be demolished and new play fields and remaining support facilities would be constructed in their place.

Over the last six months, CFW has managed the architect and Lease Leaseback preconstruction team to the October 2017 submittal of plans to DSA. Required activities to comply with California Environmental Quality Act (CEQA) requirements are complete with the finding of a categorical exemption from CEQA. The CDE has reviewed proposed plans and adjustments to parking and fencing as required by the CDE field representative and the application for approval will be filed within the next six-month period.

The team will continue to monitor DSA review and approval. No budget adjustments are proposed at this time.

Reconstruction of McKinna School – Design Renderings by Dougherty

3.3.2 SEABRIDGE NEW CONSTRUCTION

The New Seabridge K-5 School consists of a new 630 student elementary school north of Oxnard's Seabridge neighborhood, approved by the California Coastal Commission in March 2013. New facilities include a two-story classroom building, library, administration space, multipurpose room, playfields, hard courts, and support spaces.

The new school will cover a 6 acre District owned site and share an adjacent city owned 2.5-acre joint-use park area with pathways, parking, and recreational facilities available to the public. The school's multipurpose room is proposed to be open for community use after school hours and the curriculum is proposed to focus on coastal environment education given its location to the ocean.

Over the last six months, selection processes for both the architect and leaseback team members were completed and team members have moved forward on design activities. Communication has also been made with CDE to review the proposed project as well as coordination with the City of Oxnard.

Over the next six months, CFW will continue managing the design of the Seabridge project, which is currently scheduled to be submitted to DSA by February 2018 after final Board approval. An application for approval is also planned to be filed with the CDE as a condition for submitting to OPSC for facility grant reimbursements. No budget adjustments are proposed at this time.

New Seabridge K-5 School – Design Renderings by Flewelling and Moody

3.3.3 ROSE AVENUE ELEMENTARY RECONSTRUCTION

The Rose Avenue project consists of a complete reconstruction of the existing 50+ year old campus with entirely new K-5 facilities. The project locates all new facilities in the south half of the site along La Puerta Avenue, where playfields currently exist, enabling the existing Rose Avenue Elementary to continue in operation until construction is complete. Upon completion, the north half of the site is to be demolished and replaced with new playgrounds, hard courts, and play fields. New facilities include a two-story classroom building, library, administration space, multipurpose room, playfields, hard courts, and support spaces.

Since August 2017, selection processes for both the architect and leaseback team members were completed and team members are now moving forward with design of the school. CDE review has been initiated as well as coordination with the City of Oxnard. A consultant review for project compliance with the California Environmental Quality Act (CEQA) is anticipated to be completed by December 2017.

Similar to Seabridge, over the next six months, CFW will continue managing the design of the Rose Avenue project, which is also scheduled at this time to be submitted to DSA by February 2018 subsequent to Board approval of final plans. A formal application to CDE as a condition for OPSC facility grant funding will be submitted upon DSA approval. No budget adjustments are proposed at this time. Based on DSA approval, construction of the project is currently planned to commence in August 2020 and be completed by January 2022.

Reconstruction of Rose Avenue School – Design Renderings by IBI Group

3.3.4 DORIS/PATTERSON NEW CONSTRUCTION

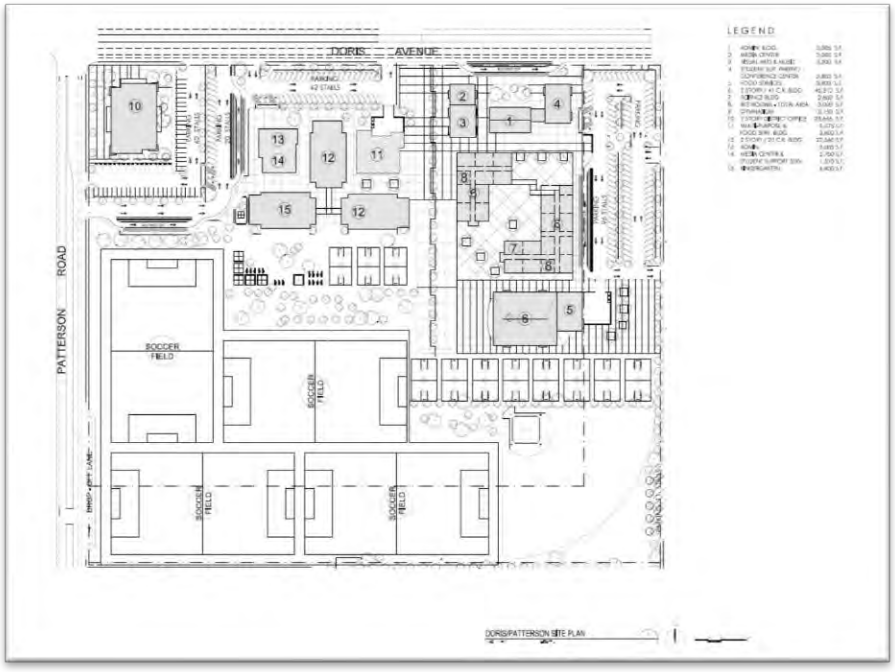
The District has elected to proceed with the acquisition of a 25-acre parcel at the corner of Doris Avenue and Patterson Road for the construction of a new K-5 and 6-8 middle school facility, plus the ability to accommodate a District administrative center. Various preliminary environmental studies of the property have been conducted and the site has received preliminary approval from the CDE. Negotiations regarding the acquisition of the site remain ongoing with landowners. Originally, the land was scheduled to be acquired in mid-2016 and acquisition is now scheduled to close in March 2018. This has required a major adjustment to the timeline for acquisition and phasing of school improvements. In response, the design and construction of Seabridge K-5 school facilities has been accelerated from its original period to provide additional K-5 enrollment capacity.

Since June 2017, efforts to complete compliance with CEQA have continued, including the completion of a Draft Environmental Impact Report (EIR) for public review in late November 2017. A workshop is planned for the December 2017 Board meeting to receive public comments on the Draft EIR as part of the process to file a pre-application with the City of Oxnard for required annexation efforts. The final EIR is anticipated to be completed in March 2018.

Upon conclusion of the CEQA process and acquisition of the property, a final application to the CDE will be filed for the land acquisition component of the project. Following the completion of design of the new school facilities, a separate application will be filed with CDE for the proposed improvements. After receiving the required approval from CDE, funding applications will be filed with the OPSC for State aid facility funding.

The project requires annexation into the City of Oxnard, pursuant to Ventura Local Agency Formation Commission (LAFCO) approval of several changes of organization, collectively called reorganization. Over the last six months, the District and its team of consultants have met on several occasions to review LAFCO prerequisites, including necessary coordination of the required EIR, and have begun preliminary outreach to the City of Oxnard. The LAFCO application process is anticipated to commence in early 2018 and conclude by December 2018.

The proposed site has been planned to accommodate construction of a new grade 6-8 middle school for 1200 students pursuant to state guidelines with 48 planned teaching stations and requisite support facilities and a grade K-5 elementary school for 700 students with 28 planned teaching stations and requisite support facilities, both per State standards. Given ongoing environmental and State agency approvals underway for the project, it is recommended that original educational specifications for the project be maintained at this time.



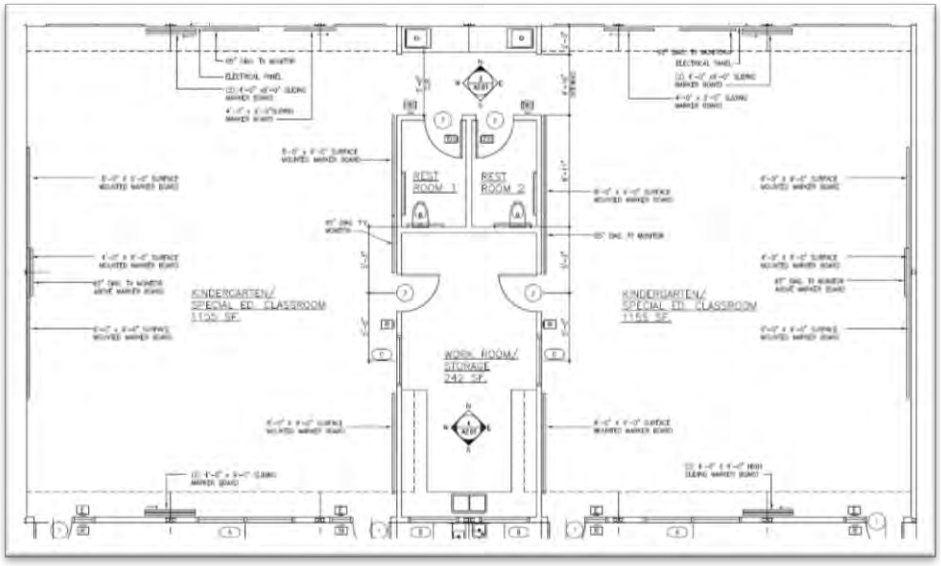
Preliminary Doris/Patterson Conceptual Site Plan

3.3.5 NEW KINDERGARTEN/FLEX CLASSROOM FACILITIES

As reported in June 2017, the District has a need for additional kindergarten classrooms to accommodate growing enrollment due to the transitional kindergarten (TK) program immediately as well as to accommodate future Special Education requirements. To accommodate this need, four new modular kindergarten/flex classroom projects and required architect and construction services have been approved by the Board for additions at McAuliffe, Ritchen, Brekke, and Ramona Elementary Schools.

Each project includes the construction of two 1,120 square foot modular Kindergarten/Flex classrooms along with support spaces to meet a required minimum program square footage specification of 2,670, estimated within a 12' x 72' building footprint. These rooms may support TK/Kindergarten needs as well as potential Special Education program uses.

Since June 2017, the projects have moved forward including the selection of the design professionals, modular contractor, and a lease leaseback firm for the site work. Final siting of the buildings at each campus was completed and design activities are underway. The projects are planned to be completed in time for occupancy for the 2018-19 school year. It is recommended that the Board accept a recommendation to increase each project budget by approximately $243,000 to accommodate Board approved professional services and GMP site development contracts since the June 30 report.



Sample Project Floor Plan – New Kindergarten/Flex Classroom Building

3.4 RECOMMENDATIONS

Over the next six-month period, the work program proposes continued Board review and consideration of projects, as presented through an ongoing series of workshops or Board action items. As part of this report, it is recommended that the Board accept recommendations within this section to adjust project budgets, schedules and timelines as indicated.

SECTION 4

PROGRAM FUNDING & EXPENDITURES

This section reviews existing and anticipated sources of funds for implementing the proposed facilities identified in this report for the Master Construct and Implementation Program. Major funding sources include Measure "R" and Measure "D" bond proceeds, developer fees, Mello Roos funds, prior State aid reimbursements, and capital program balances. The program also seeks to maximize remaining State aid grants for modernization and new construction of school facilities as State funds become available under the State School Facilities Program (SFP).

To date, all Mello Roos and Measure "R" bond proceeds have been received, and available capital program balances have been applied towards Phase 1 improvements. Local developer fees continue to flow into the program as additional residential construction is approved within the boundaries of the District. Approved by District voters in November 2016, Measure "D" provides $142.5 million in general obligation bond authorization to fund identified facilities improvements. Approximately $81 million in Measure "D" bonds have been issued for identified projects, leaving approximately $61.5 million in remaining Measure "D" authorization.

In November 2016, California voters approved Proposition 51 authorizing $6.0 billion for K-12 facilities. In September 2017, the State proceeded with an initial sale of $443.6 million in bonds under its Proposition 51 authorization to be applied towards projects that were received prior to July 12, 2012 for new construction and prior to May 3, 2012 for modernization and remained qualified for funding as of June 2017. An additional $2.6 billion dollars in new construction and modernization grant requests remain on the State's lists. Future bond sales are currently anticipated in the $400-$500 million range every six months.

In previous voter approved bond measures, the State had initially issued much larger bond amounts in an attempt to reduce the backlog of approved projects. Given the current backlog, the State has established a working list based on the date the remaining applications were submitted and the funding and time anticipated to be needed before an application may receive funding. Based on the timing of the District's submitted applications and the $400-$500 million per six month period of anticipated funding, the earliest receipt of State reimbursements for the District has now been moved from the current fiscal year to fiscal years 2018-19 and 2019-20.

This delay reduces the ability of the District to proceed with the implementation of the Enhanced Plan which relies on State aid receipts from constructed projects to accelerate the construction of remaining projects. However, the Basic Plan which relies on locally available funds, including Measure D and its remaining authorization, remains in effect for the construction of priority projects in Phase 1 and 2. Nonetheless, the projected new State timing of receipt of State Aid reimbursements and subsequent rule changes identified as part of the June report require adjustments to the Master Budget and Schedule, including recommendations further in this report to accelerate a portion of the remaining bond authorization to bridge the lapse in State reimbursements anticipated to date and in Phase 2.

The following sections update the prior June 2017 funding and expenditures report to the Board. The report provides a comprehensive funding program, including a review of State aid grants, projected local developer fees, and local general obligation bonds, all which may assist in the implementation of the remaining Master Construct Program. The report recommends adjustments to the Master Budget and Schedule that are required in accordance with financial or policy decisions undertaken by the District and the State from the prior periods and proposed activities over the next six month period.

4.1 STATE MATCHING GRANTS

Through the Office of Public School Construction (OPSC), the State of California provides funding assistance to eligible public school districts through the SFP. OPSC operates various programs pursuant to State Law and provides projects to be considered by the State Allocation Board (SAB) for specific funding. Funding is provided to school districts in the form of per pupil grants, with supplemental grants for site development, site acquisition, and other project specific costs. Pupil grant amounts are periodically reviewed for increase by the SAB.

The program provides new construction and modernization grants to construct new school facilities or modernize existing schools. To receive State grants, a district is required to match the grant portion of the cost of an eligible project from available district funds. This may include proceeds from local general obligation bonds, developer fees, and a district's general fund.

Historically, project funding by the State has been supported through the periodic approval of State bonds for school improvements by California voters. In November 2016, California voters approved Proposition 51 authorizing a total of $9 billion in State bonds for K-14 facilities improvements, of which $6.0 billion was authorized for K-12 facilities. In September 2017, the State proceeded with an initial sale of $443.6 million in bonds under its Proposition 51 authorization, substantially less than is required to clear the backlog of approximately $2.6 billion of prior approved projects. At this time, it is anticipated that the Governor will continued to influence a protracted pace of funding for project implementation.

Since 2012, the OPSC and the SAB have established periodic policies and funding lists to assist in providing a general sense of priority funding levels. The recent Proposition 51 bond sale of $443.6 million is anticipated to be applied towards projects who qualified and submitted a priority funding certification in the latest June 2017 filing period. Projects that qualified for priority funding certification in June were those projects that were placed on an Unfunded List and represented projects that could no longer be

funded from the prior voter approved State bond measure because existing bond authority was no longer available for New Construction and Modernization applications. This list was restricted to projects that were received prior to July 12, 2012 for new construction and prior to May 3, 2012 for modernization.

Beginning November 1, 2012, the OPSC resumed processing applications on the basis of an Acknowledged List for projects that were received by OPSC after bond authority from the prior bond measure was exhausted. Applications placed on this list underwent an intake review to ensure all of the required documents have been submitted and presented to SAB for acknowledgement, but not approval, of funding in the order of date received. This list currently contains over $2.6 billion dollars in new construction and modernization grant requests.

With the implementation of Proposition 51 and subsequent SAB actions, projects on the Acknowledged List are now being processed as part of a Workload List for compliance with new SAB regulations and subsequent approval for funding by the SAB. Based on when applications were submitted to OPSC, all of the District's applications have been on the Acknowledged List and are being transitioned unto the Workload List for SAB funding based on the date they were submitted.

OPSC staff continues to be impacted by reduced personnel and changes in administrative leadership which has substantially slowed the process. Based on discussions with OPSC staff, future bond sales at this time may be anticipated in the $400-$500 million range every six months. CFW continues to attend and monitor activities of the SAB. For purposes of projecting available funding within the Master Budget, the projected timing of receipt of State Aid reimbursements has been adjusted based on this bond sale assumption and where the District's submitted and future applications stand in line (e.g., application requests ahead of submitted applications and future applications).

Subsequent policy changes for grant funding from Prop. 51 have recently been approved by the SAB. Noteworthy key adjustments to the SFP include:

- **Grant Agreement:** Districts must enter into a grant agreement once funds have been apportioned; the agreement would disallow expenditures that have been previously eligible, such as technology
- **Audit Requirement:** As part of a District's local annual audit, an added component will include an audit of State funds; independent auditors must verify that districts appropriately expended State resources
- **New Baseline:** Enrollment projections and updated capacity analysis are required to establish a new construction grant eligibility baseline at the time the application is being processed by OPSC
- **Approved Land Reimbursement:** DSA approved New Construction plans are required prior to land reimbursement of a purchased site, per current OPSC administration
- **Financial Hardship:** Districts seeking financial hardship assistance may submit a request for funding without first obtaining a pre-approved status of their financial hardship

At this time, the primary impact of these adjustments is limited to the District's application for reimbursement for the Seabridge land purchase. The new policy changes require that construction plans

be developed, submitted and approved by the DSA and forwarded with the OPSC application for land purchase reimbursement. Up until July of this year, districts could submit for land purchase reimbursement without incurring the cost and time delay of preparing and having construction plans approved by DSA. The DSA has elected to retroactively apply this policy to projects that have already been on the Acknowledge List. Efforts should be undertaken by the District to appeal this action. If not successful, the District will be dropped from the Acknowledged List and be required to resubmit at the time of DSA and CDE approval for the Seabridge project in compliance with the new rules for reimbursement of the Seabridge land purchase, which will further delay reimbursement.

In the interim, the District needs to continue to coordinate the processing of State Aid to:

- Update Baseline eligibility pursuant to SAB requirements
- Prepare and monitor necessary filings per CEQA, DTSC, DSA, and CDE as shown in Figure 1
- File applications with the OPSC once a project receives all required approvals

Figure 1: State Agency Review Steps

To be effective in seeking State assistance for the funding of local school facility improvements, an overall strategy has been implemented that incrementally builds upon the Basic, Enhanced and Extended Plan for State aid. That strategy is based on a periodic assessment of the amount of local program grants that may be available for qualifying modernization or new construction of school facilities. Wherever possible, participation in these programs is coordinated with and blended within an overall implementation program that seeks to aid in the creation of 21st century learning environments and innovative academic initiatives for all students served by the District. For the most part, these programs require a local match and therefore local funding is integrated to support the construction of projects that maximize eligibility

and promote the maximum reimbursement possible to support other support projects that are not eligible for State aid funding on their own. The strategic blending of these programs is required to support the balance of local investment that may be required to fully implement the program.

These programs are summarized below as well as the District's current and projected eligibility for program funding. Applications that have been approved by the District and submitted to OPSC are catalogued as well and projected applications for potential funding of additional projects are also presented.

4.1.1 STATE AID MODERNIZATION

The State's Modernization Program provides state funds on a 60-40 state and local sharing basis for improvements that educationally enhance existing school facilities. Eligible projects include modifications such as air conditioning, plumbing, lighting, and electrical systems. Applications are submitted to the OPSC in two stages:

1. **Eligibility:** Modernization eligibility is established separately for each school site and requires that permanent facilities be at least 25 years old and portable facilities be at least 20 years old. Students must be enrolled in those facilities based on State classroom loading standards of 25 per classroom for grades K-6 and 27 per classroom for grades 7-8. Once established, site eligibility is not subject to annual review.

2. **Funding:** A district with modernization eligibility may request funding on a 60-40 State grant/local match basis. The 2017 pupil grant is currently $4,228 for grades K-6 and $4,472 for grades 7-8. Eligible costs include design, construction, educational technology, testing, inspection, furniture and equipment. Limited supplemental funding is available for excessive cost such as fire safety and accessibility improvements. Grant levels are periodically reviewed by the State. Program funding is subject to project performance and certification at the completion of construction.

Under SB 50, the State provides the option of a "like for like" approach towards utilizing available modernization eligibility towards new construction. The "like for like" approach allows school districts to utilize modernization funding for new construction projects, if the new construction is replacing a facility with a similar facility that requires modernization. These funds do not affect a district's new construction eligibility pupil grants and are in addition to any available new construction funding. Funds allocated under "like for like" would be based on the modernization grant eligibility on a site by site basis. The District has previously utilized this strategy for the Harrington reconstruction project, and will continue to utilize it where applicable on the remaining planned reconstruction projects.

Table 1: Estimated Modernization Eligibility - 60-40 Program

School Site	CRMs	Phase I (FY 2013-17) CRMs	Phase I (FY 2013-17) Amount	Phase II (FY 2018-20) CRMs	Phase II (FY 2018-20) Amount	Phase III (FY 2021-25) CRMs	Phase III (FY 2021-25) Amount	Phase IV (FY 2026-29) CRMs	Phase IV (FY 2026-29) Amount	Total Amount
Brekke	29	0		2	$211,400	27	$2,853,900	0		$3,065,300
Chavez	27	0		0		0		27	$2,853,900	$2,853,900
Curren	37	0		0		2	$211,400	35	$3,699,500	$3,910,900
Driffill	22	0		0		0		22	$2,325,400	$2,325,400
Elm	31	0		19	$2,008,300	0		12	$1,268,400	$3,276,700
Frank	52	0		45	$5,433,480	5	$603,720	2	$241,488	$6,278,688
Fremont	36	0		2	$241,488	0		34	$4,105,296	$4,346,784
Harrington	3	0		3	$317,100	0		0		$317,100
Haydock	37	32	$3,863,808	0		5	$603,720	0		$4,467,528
Kamala	33	0		5	$528,500	1	$105,700	27	$2,853,900	$3,488,100
Lemonwood	32	3	$317,100	7	$739,900	0		22	$2,325,400	$3,382,400
Marina West	31	4	$422,800	6	$634,200	0		21	$2,219,700	$3,276,700
Marshall	27	0		0		0		27	$2,853,900	$2,853,900
McAuliffe	39	34	$3,593,800	2	$211,400	2	$211,400	1	$105,700	$4,122,300
McKinna	31	7	$739,900	4	$422,800	3	$317,100	17	$1,796,900	$3,276,700
Ramona	52	0		24	$2,536,800	0		28	$2,959,600	$5,496,400
Ritchen	30	28	$2,959,600	2	$211,400	0		0		$3,171,000
Rose Avenue	34	0		3	$317,100	0		31	$3,276,700	$3,593,800
Sierra Linda	37	8	$845,600	8	$845,600	0		21	$2,219,700	$3,910,900
Soria	0	0		0		0		0		$0
Total	**620**	**116**	**$12,742,608**	**132**	**$14,659,468**	**45**	**$4,906,940**	**327**	**$35,105,484**	**$67,414,500**
Submitted Applications										
Project 1 - Fremont		8	$965,952							
Project 1 - McAuliffe		1	$105,700							
		9	$1,071,652							
Remaining Eligibility		**107**	**$11,670,956**	**132**	**$14,659,468**	**45**	**$4,906,940**	**327**	**$35,105,484**	**$66,342,848**

**Current dollars*

Table 1 summarizes the District's eligibility for State modernization grants for permanent and portable facilities, provides a summary of submitted applications, and illustrates remaining eligibility after applications are submitted. No changes are reported from the June 2017 update. The District is currently eligible for approximately $12.7 million in State modernization (including approximately $1 million in prior modernization applications awaiting apportionment). An additional $14.6 million eligibility is projected by 2020, $4.9 million by 2025 and $35.1 million by 2029. All modernization projects require a local match to be provided by the District, unless Financial Hardship is utilized as explained later in this section. Collectively, these amounts are used as inputs and integrated where possible in the facilities Master Budget and Schedule to implement proposed projects.

4.1.2 STATE AID NEW CONSTRUCTION

The State's New Construction Program provides State funds on a 50/50 State and local sharing basis for eligible projects that add permanent classroom capacity to a school district. The goal is to add capacity

to school districts to house students, including the construction of a new school or the addition of classrooms to an existing school. Applications are submitted to the OPSC in two stages:

1. **Eligibility:** Eligibility for new construction funding is not site specific and is determined by the gap between a district's projected enrollment and its existing permanent classroom capacity. Classroom capacity is based on State loading standards of 25 students per classroom for grades K-6 and 27 students per classroom for grades 7-8. Historical and projected student enrollment, plus approved, but not yet built residential units, are utilized to estimate the gap between the amount of future students and the current ability to house students in permanent facilities. Portable classrooms are not counted by the State as being permanently available to house pupils. Until approved for construction, eligibility is subject to annual review.

2. **Funding:** Once eligibility is approved, a district may apply for funding on a 50/50 State grant/local match basis. The 2017 pupil grant is currently $11,104 for grades K-6 and $11,744 for grades 7-8, and is counted based on each student found to exceed a district's permanent capacity to house students. Eligible costs include design, construction, testing, inspection, furniture and equipment, and other costs closely related to the actual construction of school buildings. Supplemental grants are available for site acquisition, utilities, on/off-site and general site development, and other excessive costs. Grant levels are periodically reviewed by the State.

Table 2 summarizes the District's estimated new construction eligibility. No changes are reported since the June 2017 update. The District is eligible for approximately $74.1 million in new construction grants, including $63.2 million for grades K-6 and $10.9 million for grade levels 7-8. These amounts continue to be subject to a local match requirement by the District equal to the amount of the total State grant. If enrollment continues to grow, the amount of State eligibility for new construction is expected to increase. Likewise, if enrollment declines, a comparable decrease in future State aid will decrease. The estimated eligibility is available district wide, but subject to the availability of funding from the SFP.

Table 2: New Construction Eligibility (50/50)

Grade Level	Eligible Pupils	Grant Value (2017)	*Est. Grant Amount (50%)	Est. Local Match (50%)
K-6	5,691	$11,104	$63,192,864	$63,192,864
7-8	932	$11,744	$10,945,408	$10,945,408
Total	**6,623**		**$74,138,272**	**$74,138,272**

** Does not include State reimbursements for land acquisition.*

4.1.3 FINANCIAL HARDSHIP FUNDING

The State also provides a Financial Hardship Program to assist districts that cannot provide all or part of their local match for an approved modernization or new construction SFP project. At this time, it appears that the District may be eligible for financial hardship. In Financial Hardship, the State funds its normal

grant amount, and if a district is found to be eligible, provides an additional grant amount equal to the portion of the match that would have been required to be funded by a district. This in effect increases the amount of grant funding a district would otherwise receive. To qualify, a district must be charging the maximum developer fee and meet one of the following criteria:

- Bonded indebtedness of 60 percent or greater
- Successful passage of a Proposition 39 Bond
- District total bonding capacity of less than $5 million

In addition, it must meet at least two of the following criteria:

- District has placed on the ballot within the last four years a local general obligation bond
- Bond received at least 50 percent yes votes
- Debt has been issued for capital outlay obligations at a level of at least 30 percent of the district's total bonding capacity
- At least 20 percent of the district's teaching stations are relocatable classrooms

Under the current Financial Hardship Program, a district must have exhausted all unencumbered capital fund balances available for modernization or new construction at the time of application. In addition, any funds that become available during the time the District is in the Hardship period will reduce the amount of the State's grant in lieu of the District's match, proportionally. Audits of available capital facilities funding (e.g., Funds 21, 25, 35, 40, 10) are required throughout the project period that a District is in Hardship funding and at "close out", or completion of the project. Until approved for construction, eligibility is subject to review every 6 months. A district can apply for planning funds for site acquisition, DSA submittals and construction.

The Oxnard District has exceeded its net bonding capacity and meets more than two of the subsequent criteria, including the 30 percent capital outlay obligations and the teaching station requirement. Except for land acquisition and some site service costs, 100 percent hardship grant funding does not typically equate to 100 percent of the total development costs associated with the design and construction of an eligible project. Often projects must be phased, alternate methods of construction (e.g. modular) must be employed to achieve the desired space requirement for housing students or additional bond funding must be provided thereafter to complete a hardship project. Financial hardship funding is proposed to be used strategically, with careful consideration to minimize the impact on the use of other sources of funding as identified above. Potential Hardship funding sites include Rose Avenue, Sierra Linda and Marina West.

4.1.4 JOINT USE FUNDING

The SFP also provides a Joint-Use Program that allows school districts to utilize a joint-use partner and State funding to build a joint-use project the District would not otherwise be able to build due to lack of

financial resources or SFP eligibility. For school districts, prior projects that have been funded by the State have included multipurpose rooms, gymnasiums and sport facilities. The State and local contribution to a joint-use project is 50/50. The State provides 50% of the project cost; with a maximum State contribution of $1 million for an elementary school, $1.5 million for a middle school and $2 million for a high school. Participating districts must enter into a joint-use agreement with a joint use-partner. The program does not require the use of modernization or new construction pupil grants. However, any modernization or new construction grants previously utilized for a project would be deducted from the joint use grant, should a district wish to apply for joint use funds for the same facility.

The joint-use partner must match a minimum of 25% of the eligible project costs. If a district has passed a General Obligation (G.O.) bond which specifies that the monies are to be used specifically for the joint-use project, the district can opt to pay up to the full 50% local share of eligible costs. Anything beyond the eligible project costs is the responsibility of the joint use partner and/or the district.

The State has not been accepting applications for joint-use up to this point due to lack of funding. To the extent funds become available at that time, the District could submit for funding for eligible joint use projects. Any additional funds received through the joint use program may serve to augment revenues to the program and reallocate pupil grants elsewhere, where applicable.

4.1.5 REMAINING AND PROPOSED USE OF NEW CONSTRUCTION ELIGIBILTY

Table 3 presents the New Construction applications that have been filed with the OPSC, indicating approximately $28.5 million in submitted applications. Over the last six months, efforts were completed to receive final approval from the CDE for the Lemonwood, Marshall, and Elm projects. Approximately $14.2 million in funding applications have been filed for the Lemonwood and Marshall projects. Elm awaits final design of the City required off-site sewer improvements for submittal.

Table 3 also reflects the 2017 per pupil grant amounts but excludes any additional anticipated allowances for site development and SDC pupils, which may increase the potential overall grant amount upon apportionment. For example, the funding application for the Elm project is pending determination of final site development costs associated with required sewer improvements per the City of Oxnard. Once final, the application will include the established costs, thereby increasing the anticipated reimbursement funding from the State for Elm.

Per the current regulations, the District has secured its place in line for these applications as part of the State's "Workload List" for compliance with new SAB regulations and subsequent approval for funding by SAB. Based on when applications were submitted to OPSC, all of the District's applications have been on the Acknowledged List and are being transitioned unto the Workload List for SAB funding based on the date they were submitted.

Table 3: Submitted New Construction Applications

	Pupil Grants			Est. Grant
	K-6	7-8	Total	Amount
Current Eligibility	**5,691**	**932**	**6,623**	**$74,138,272**
Harrington School	807	0	807	$8,960,928
Driffill	0	132	132	$1,550,208
Lemonwood	575	351	926	$10,506,944
Marshall	100	216	316	$3,647,104
Total	**1,482**	**699**	**2,181**	**$24,665,184**
Plus Seabridge Land Purchase[1]				$3,878,426
Total Applications				**$28,543,610**
Current Eligibility				**$74,138,272**
Less Pupil Grant Applications				**($24,665,184)**
Total grant amount remaining	**4,209**	**233**	**4,442**	**$49,473,088**

1. No pupil grants required

Taking into consideration the applications that have been filed, the District's total remaining eligibility is estimated to be $49.5 million of remaining pupil grants, based on the State's 50/50 match program. The State does not deduct pupil grants from the total eligibility for land acquisition, therefore pupil grants are not reported for the Seabridge land purchase and the grant amount is not deducted from the eligibility.

Table 4 provides a summary of proposed new construction applications to be submitted. These estimated amounts exclude any grants anticipated to be utilized for SDC classrooms. Approximately $6.7 million is anticipated to be reimbursed from Elm. Approximately $32.4 million is anticipated to be filed for five new school projects under the State's 50/50 matching program. A local match would be required to obtain State funding for these future projects, plus any additional amounts necessary to complete the total required school construction costs identified in this report. In the final phase of implementation, a Financial Hardship strategy is proposed to be used to reconstruct Sierra Linda and Marina West which would utilize the remaining 657 pupil grants, as well as Rose Avenue during Phase 3, if needed.

Table 4: Anticipated Remaining New Construction Applications

	Remaining New Construction Grants			Grant Amount
	K-6	7-8	Total	
Remaining pupil eligibility	4,209	233	**4,442**	
Less SDC pupils used	*228*	*48*	***276***	
	3,981	**185**	**4,166**	**$46,377,664**
Less grants for Measure "R" projects to be used at:				
Elm	600	0	**600**	$6,662,400
Total grants used	**600**	**0**	**600**	**$6,662,400**
Less grants for Measure "D" projects to be used at:				
Reconstruction of McKinna	715	0	**715**	$7,939,360
New K-5 at Seabridge	612	0	**612**	$6,795,648
Reconstruction of Rose Avenue*	710	0	**710**	$7,883,840
New K-5 at Doris/Patterson	687	0	**687**	$7,628,448
New 6-8 at Doris/Patterson	0	185	**185**	$2,172,640
Total grants used	**2,724**	**185**	**2,909**	**$32,419,936**
Balance of Pupil Grants Remaining	**657**	**0**	**657**	**$7,295,328**

**Available for hardship funding if needed*

4.2 DEVELOPER FEES

Developer fees levied on new residential and commercial construction in a school district attendance area are permissible under State Education Code, Section 17620. The purpose of these fees is to offset the student enrollment impact that would be generated by new development. Fees may be used to fund the construction of new school facilities, the modernization of existing facilities, or the reopening of closed facilities. The code also permits an inflation-based increase in developer fees every two years based on changes in the Class B construction index. There are three levels of Developer Fees that can be assessed:

- Level 1 fees are established by statute and adjusted by the State Allocation Board and are currently $3.48 per square foot of residential development and $0.56 per square foot of commercial and industrial development
- Level 2 fees constitute up to 50% of the State allowed cost for construction and sites, if the school district meets specified eligibility tests and assumes that the will State pay for the other 50% of cost through the SFP
- Level 3 fees are the same as Level 2, but include the State's 50% share as well, but only when the State declares it is out of funds for new construction

A district justification study must be completed in order to levy Level 1 or Level 2 fees and in the event that the State declares that it is out of new construction state grant funds, the same report may allow the District to levy Level 3 fees. In April 2016, the District adopted a Developer Fee Justification Study prepared by the Dolinka Group that established the justification for collecting Level 1 fees at the adjusted level of $3.48 per square foot of residential construction and $0.56 per square foot of commercial or industrial construction. Based on the District's fee sharing agreement with the Oxnard Union High School District, the District collects 66% of the maximum Level 1 fees, or $2.30 per square foot for residential and $0.37 per square foot for commercial.

In April 2017, the District adopted a School Facilities Needs Analysis, prepared by Cooperative Strategies to establish and justify the collection of Level 2 developer fees at a rate of $3.71 per square foot for all new future residential units built within the District's boundaries. Using available County and local data, the Study estimates that an additional 1,410 residential single and multi-family homes, totaling 2,257,250 square feet, will be built in the District over the next five years. From this data, an estimated $8.4 million is anticipated to be to be collected in developer fees over the next five years. The District is required to complete an annual update to the Level 2 Study in order to continue collecting Level 2 fees during this period. The current projections to not include any additional developer fee mitigation amounts from the Doris/Patterson project should it be annexed by the City and development allowed to occur pursuant to the proposed Mitigation Agreement.

4.3 GENERAL OBLIGATION BONDS

The District has used G.O. bonds previously to fund major school facility improvements and has been successful in making use of public financing options and garnering community support to improve school

facilities. These bonds are secured by an annual levy on all taxable parcels within the boundaries of a school district. The levy is based on the assessed value of a parcel as determined by the County, pursuant to Proposition 13. Traditionally, G.O. bonds carry far lower interest and issuance costs than other financing options. Buyers of most California school bonds receive an exemption from state and federal taxes on the interest portion of the bonds purchased, allowing for a lower rate of interest to a district to finance improvements over time.

The Master Construct and Implementation Program utilizes two G.O bond measures: Measure "R" approved by voters in 2012 and Measure "D" approved by voters on November 8, 2016. Measure "R" authorized the sale of $90 million in G.O. bonds and has been used in combination with other local funds to support the reconfiguration of school facilities, provide the local funding to reconstruct Harrington, Elm, and Lemonwood, and to provide additional grade 6-8 capacity at Marshall. To date, all bonds from Measure "R" have been sold and the District is awaiting State reimbursements from the above projects to fund additional facility improvements.

Measure "D" was approved by voters on November 8, 2016, and authorized $142.5 million in bonds to fund additional school improvements as part of Phases 2, 3 and 4 of ongoing facilities improvements. In March 2017, the District issued approximately $81 million in Measure "D" bonds, leaving approximately $61.5 million in remaining Measure "D" authorization. Proceeds from the Series 2017A bond issuance are funding a portion of Phase 2 of the ongoing new school construction and classroom modernization program, and will also be used to meet the local match requirement for State school facility grants—leveraging the State Aid matching grants.

No additional Measure "D" bonds were issued during the six-month period beginning July 1st through December 31st. However, to bridge the State's delay in funding submitted State aid applications, it is recommended that the District accelerate the sale of approximately $18 million in Series B bonds during the current fiscal year. The issuance of additional bonds will allow the District to utilize funds from other local sources to accommodate the beginning of a technology replacement cycle and to refresh the Program Reserve which was utilized to mitigate construction cost increases due to additional scope and inflation. A subsequent Series C of bonds is still contemplated to occur in 2020-21 which would consist of the balance of anticipated G.O. bond proceeds for Phase 2 in the amount of $5.7 million. Additional bond sales are currently scheduled for 2023 and 2026.

4.4 PROJECT EXPENDITURE TO DATE

A budget and expenditure tracking protocol has been established and utilized for Phase 1 and Phase 2 projects under current implementation. As of the June 2017 Semi-Annual Report, the total Phase 1 and Phase 2 budget was approximately $309.9 million for projects under current implementation, inclusive of the program reserve. Table 5 below also includes approximately $7.9 million budgeted for land acquisition for the Doris Patterson site, funded by a District Certificate of Participation (COP) issued in 2016. Any changes to sources, uses, and schedules included in this report have considered actual District expenditures for the respective projects and are tracked against established project budgets. As needed,

the program reserves and estimated ending fund balance will be utilized to accommodate unforeseen, but required budget adjustments.

Table 5 provides a summary report of expenditures made for the Program during the period July 1, 2012 – October 31, 2017 totaling approximately $86.8 million. Expenditures made after this period will be accounted for in the next Semi-Annual update. The District's financial system accounts for expenditures by Fiscal Year (July 1 – June 30). The report is organized by Fiscal Year and includes expenditures across various construction funds. It should be noted that expenditures reporting is based on the budget approved as part of the June 2017 Semi-Annual Report. Once the recommended budget adjustments are approved as part of this December 2017 report, subsequent expenditure reports will reflect the revised budget value.

Table 5: Estimated Phase I and Phase II Expenditures to Date

		Fiscal Year Expenditures						
Project	**Adopted Budget**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18[1]**	**Total**
Acquire Site New Elem K-5	$7,756,852	$7,668,620	$34,158	$0	$46,736	$16,375	($5,885)	$7,760,003
Doris/Patterson Acquire Land	$7,920,000	$0	$0	$0	$102,895	$250,347	$0	$353,242
Doris/Patterson LAFCO Planning	$660,000	$0	$14,625	$37,345	$31,776	$144,811	$27,484	$256,042
Design & Reconstruct Harrington Elem K-5	$23,846,732	$146,934	$1,433,501	$12,220,917	$9,698,198	$224,482	$3,338	$23,727,370
Design & Reconstruct Lemonwood Elem K-8	$37,465,448	$153,297	$821,438	$1,473,830	$1,763,788	$15,489,906	$5,006,216	$24,708,475
Design & Reconstruct Elm Elem K-5	$28,672,291	$0	$348,343	$1,214,699	$359,188	$3,311,917	$1,835,844	$7,069,990
Design & Construct Seabridge K-5	$28,568,432	$0	$0	$0	$0	$191,895	$187,256	$379,150
Design & Reconstruct McKinna K-5	$31,507,869	$0	$0	$0	$0	$656,309	$1,244,750	$1,901,059
Design & Reconstruct Rose Avenue K-5	$5,739,807	$0	$0	$0	$0	$103,202	$92,861	$196,062
Design & Construct Doris/Patterson K-5	$29,556,164	$0	$0	$0	$420,907	$0	$46,538	$467,445
Design & Construct Doris/Patterson 6-8	$49,057,213	$0	$0	$0	$0	$0	$63,331	$63,331
Design & Improve K-5 Kindergarten Facilities								
Ritchen	$456,837	$16,341	$70,428	$341,936	$16,563	$119	$0	$445,387
Brekke	$276,090	$12,005	$56,576	$199,561	$6,513	$112	$0	$274,767
McAuliffe	$336,509	$11,856	$86,202	$214,623	$8,898	$107	$0	$321,686
Driffill	$409,771	$51,334	$56,711	$242,911	$0	$817	$0	$351,773
Total K-5 Kindergarten Facilities	***$1,479,208***	***$91,537***	***$269,916***	***$999,031***	***$31,974***	***$1,155***	***$0***	***$1,393,613***
Design & Construct Science Labs/Academies								
Chavez	$649,009	$17,760	$166,257	$443,641	$19,273	$182	$0	$647,113
Curren	$598,330	$17,092	$116,368	$445,658	$17,485	$176	$0	$596,779
Kamala	$619,123	$17,500	$152,875	$428,993	$18,299	$186	$0	$617,853
Haydock	$1,075,212	$63,767	$296,345	$664,682	$23,810	$25,687	$7,188	$1,081,480
Fremont	$1,893,735	$85,147	$502,885	$1,209,337	$12,709	$83,718	$0	$1,893,796
Total Science Labs/Academies	***$4,835,409***	***$201,266***	***$1,234,731***	***$3,192,311***	***$91,576***	***$109,948***	***$7,188***	***$4,837,020***
Project 1 Remaining Adjustment	***$151,678***							
Kindergarten Flex Classrooms								
Brekke	$1,259,071	$0	$0	$0	$0	$0	$12,539	$12,539
McAuliffe	$1,259,071	$0	$0	$0	$0	$0	$12,539	$12,539
Ramona	$1,259,071	$0	$0	$0	$0	$0	$12,539	$12,539
Ritchen	$1,259,071	$0	$0	$0	$0	$0	$12,539	$12,539
Total Kindergarten Flex Classrooms	***$5,036,286***	***$0***	***$0***	***$0***	***$0***	***$0***	***$50,155***	***$50,155***
Pre-Kindergarten Improvements								
Harrington	$1,083,351	$0	$0	$8,631	$85,441	$31,200	$7,800	$133,071
Lemonwood	$860,386	$0	$0	$6,854	$10,618	$9,247	$2,399	$29,118
Total Pre-Kindergarten Improvements	***$1,943,737***	***$0***	***$0***	***$15,485***	***$96,059***	***$40,446***	***$10,199***	***$162,189***
Ritchen New Special Day Classroom	$175,000	$0	$0	$9,011	$100,210	$0	$0	$109,221
Marshall K-8 12 Classroom Addition	$8,097,558	$0	$0	$67,943	$533,775	$136,310	$30,204	$768,232
FF&E Allowance	$5,373	$0	$0	$0	$0	$0	$0	$0
Planning related to MPRs for P/P K-8 Schools	$175,000	$0	$0	$0	$204,563	($31,904)	($690)	$171,969
Fremont MS Gym	$5,557,436	$0	$0	$0	$0	$0	$32,285	$32,285
Technology Phase 1	$11,216,175	$1,280,012	$7,486,417	$2,161,123	$269,612	$920,735	$0	$12,117,900
Technology Phase 2	$9,000,000	$0	$0	$0	$0	$57,574	$29,876	$87,451
Program Planning	$150,474	$150,000	$474	$0	$0	$0	$0	$150,474
Program Reserve	$19,305,992							
TOTAL	**$317,880,132**	**$9,691,666**	**$11,643,603**	**$21,391,694**	**$13,751,259**	**$21,623,508**	**$8,660,949**	**$86,762,679**

Notes:

1. Fiscal Year 2017-18 expenditures are as of October 31, 2017

2. Budgets have been adjusted per the June 2017 Master Construct and Implementation Program approved by Board

3. Budget adjusted to include Doris/Patterson land acquisition of $7.9 million funded from District COP

4. Figures presented above are unaudited

From July 1, 2012 through October 31, 2017, the District expended approximately $29 million in expenditures for additional facilities improvements, of which $8.2 million were expended for eligible projects beginning with $3.7 million of Developer Fee Fund Balances prior to the adoption of the Jan 2013 Implementation Plan, plus additional expenditures thereafter which were planned for State Aid reimbursement. Given the deferral of State reimbursements, these expenditures are now being assumed by the Master Construct Program until such time that State Aid reimbursement becomes available. Eligible improvements included, but are not limited to, replacement or addition of relocatable facilities, improvements and DSA closeout of prior projects, District energy efficiency improvements, and other facility improvements. The remaining $21 million in expenditures outside of the Program were funded by the District's prior Measure M bond program.

Expenditure reports related to the current bond programs are made available for review by the Citizens Oversight Committees and expenditures are audited annually for the Board's review.

SECTION 5

MASTER BUDGET & SCHEDULE

The Master Construct and Implementation Program provides a consolidated master budget and schedule which merges and integrates proposed projects reliant on the funds from the Measure "R" and Measure "D" bond programs and other local sources including developer fees, Mello Roos funds, pending State aid reimbursements and capital program balances. The Program also seeks to maximize State aid reimbursements for modernization and construction of school facilities as State funds become available.

The integrated Program includes four improvement phases which commenced in 2013 and are anticipated to be complete in 2029. The total adopted budget for all phases is approximately $447.3 million, inclusive of a Program Reserve to accommodate changes in program as mandated from time to time by the State and as may be needed to accommodate local program requirements. Each project is unique in its scope, schedule, and amount of funding. All projects must be addressed with the amount of available funding. The budget represents an "all-in" master program budget that combines hard construction costs with anticipated soft costs (e.g., design fees, contractor's fees, consulting services, testing and inspection services, agency approval fees, etc.) resulting in the total cost estimated to fully implement the Program.

The following components update the Board on the status of the previously adopted Master Budget, schedule and timeline as of the June 2017 six-month review and recommended adjustments for the next six-month period. During this period, adjustments include proposed budget increases to current projects including Lemonwood, Harrington Child Development Center, Marshall, and the Kindergarten Flex Classroom projects due to specific project construction needs and required professional services as previously approved by the Board. Based on actions from the SAB and OPSC, including the current estimate of future biannual State bond sales of approximately $400-$500 million, the Master Budget and Schedule has been revised pursuant to projected timing of anticipated receipt of State Aid reimbursements by the District and by owner driven delays on the completion of the Doris/Patterson land purchase and the consequent impact to acquire local agency approval thereafter. This guidance results in a significant amount of projected State Aid funds being projected to move into Phase 3 and 4 of the program, correspondingly.

5.1 ADOPTED MASTER CONSTRUCT AND IMPLEMENTATION PROGRAM BUDGET

Table 6 presents the Adopted Master Construct and Implementation Program Budget as of June 2017 and identifies available sources of funding and anticipated expenditures. The total adopted budget for all proposed four phases is approximately $447.3 million funded from a combination of local and State resources. A Program Reserve is included for Phases 2 through 4 to accommodate changes in program as

mandated from time to time and as may be needed to accommodate local program specifications and requirements.

Phase 1 spans the period from FY2013-2017 and is underway. Phase 1 progress includes:

- completed improvements to kindergarten facilities at Ritchen, Brekke, McAuliffe, and Driffill schools, and construction of science labs at Chavez, Curren, Kamala, Haydock, and Fremont schools to accommodate the educational reconfiguration plan
- purchase of the first of two planned elementary school sites to accommodate existing and future District enrollment
- occupancy of the newly constructed Harrington Elementary to replace the prior obsolete facility
- current construction of the new Lemonwood K-8 and Elm K-5 schools to replace older existing facilities
- current construction of an early childhood development center/kindergarten annex at Harrington Elementary and a new grade 6-8 classroom building at Marshall
- ongoing efforts towards the acquisition and environmental review of a joint second elementary school site and an additional middle school site to accommodate existing and future enrollment
- deployment of State-of-the-art learning resources, including 1:1 mobile devices for all students and teachers at every school district wide

Phase 2 commenced in January 2017 and extends through the fiscal year ending in 2020. Phase 2 launches the Measure "D" projects with the proposed:

- reconstruction of McKinna and design for reconstruction of Rose Avenue K-5 schools
- construction of a new Seabridge K-5
- construction of new kindergarten/flex classroom buildings at McAuliffe, Brekke, Ritchen, and Ramona elementary schools
- acquisition of a site and construction of new Doris/Patterson K-5 and 6-8 schools
- construction of a gym at Fremont middle school
- upgrades to the technology program to maintain 21st Century Facilities standards and connectivity

Launching in 2021, Phase 3 includes additional MPR improvements for remaining K-5 and K-8 schools, as well as middle school gymnasium/multipurpose room improvements at Haydock. An allowance is also provided for continued technology implementation. Also included are support facility improvements at Brekke, McAuliffe, Ramona, and Ritchen, as well as completing the reconstruction of Rose Avenue K-5.

The Program concludes with Phase 4 with an anticipated launch of 2026. Phase 4 includes the reconstruction of Marina West and Sierra Linda K-5 schools. Multipurpose room improvements are also planned at Driffill to accommodate the opportunity to further consider the reconfiguration of the Driffill site.

Table 6: Adopted Master Construct & Implementation Program Budget

Sources	Est. Total	Phase 1	Phase 2	Phase 3	Phase 4
Measure "R"					
Series A	$ 18,390,000	$ 18,390,000	$ -	$ -	$ -
Series B	$ 25,500,000	$ 25,500,000	$ -	$ -	$ -
Series C	$ 15,750,000	$ 15,750,000	$ -	$ -	$ -
Series D	$ 30,360,000	$ 30,360,000	$ -	$ -	$ -
Total Measure "R" Bonds	**$ 90,000,000**				
Master Construct Authorization					
Series A	$ 81,000,000	$ -	$ 81,000,000	$ -	$ -
Series B	$ 23,700,000	$ -	$ 23,700,000	$ -	$ -
Series C	$ 15,100,000	$ -	$ -	$ 15,100,000	$ -
Series D	$ 22,700,000	$ -	$ -	$ -	$ 22,700,000
Total Master Construct Bonds	**$ 142,500,000**				
Measure "L" Authorization	$ 3,316,728	$ 3,316,728	$ -	$ -	$ -
State Bonds	$ 266,611	$ 266,611	$ -	$ -	$ -
Est. State Reimbursements**	$ 123,767,309	$ 2,515,863	$ 75,631,428	$ 15,442,374	$ 30,177,645
Est. Developer Fees	$ 55,909,771	$ 9,029,075	$ 10,697,340	$ 19,303,620	$ 16,879,736
Mello Roos Proceeds	$ 9,088,089	$ 9,088,089	$ -	$ -	$ -
State Reimbursements (Driffill)	$ 9,001,083	$ 9,001,083	$ -	$ -	$ -
Est. Interest Earnings	$ 13,425,922	$ 3,257,638	$ 1,129,896	$ 4,203,110	$ 4,835,279
Est. Total Sources	**$ 447,275,513**	**$ 126,475,086**	**$ 192,158,664**	**$ 54,049,104**	**$ 74,592,660**

Uses	Est. Total	Phase 1	Phase 2	Phase 3	Phase 4
Acquire New K-5 Elementary Site	$ 7,756,852	$ 7,756,852	$ -	$ -	$ -
Acquire New K-5/Middle School Site	$ 660,000	$ 660,000	$ -	$ -	$ -
Construct Doris/Patterson K-5	$ 29,556,164	$ -	$ 29,556,164	$ -	$ -
Construct Doris/Patterson 6-8	$ 49,057,213	$ -	$ 49,057,213	$ -	$ -
Construct Seabridge K-5	$ 28,568,432	$ -	$ 28,568,432	$ -	$ -
Reconstruct Harrington Elementary	$ 23,846,732	$ 23,846,732	$ -	$ -	$ -
Reconstruct Elm Elementary	$ 28,672,291	$ 28,672,291	$ -	$ -	$ -
Reconstruct Lemonwood K-8	$ 37,465,448	$ 37,465,448	$ -	$ -	$ -
Reconstruct McKinna K-5	$ 31,507,869	$ -	$ 31,507,869	$ -	$ -
Reconstruct Marina West K-5	$ 32,175,006	$ -	$ -	$ -	$ 32,175,006
Reconstruct Rose Avenue K-5	$ 30,680,582	$ -	$ 5,739,807	$ 24,940,775	$ -
Reconstruct Sierra Linda K-5	$ 31,547,013	$ -	$ -	$ -	$ 31,547,013
Marshall K-8 (CR)	$ 8,097,558	$ 8,097,558	$ -	$ -	$ -
Driffill K-8 (K/MPR)	$ 8,057,505	$ 409,771	$ -	$ -	$ 7,647,733
Chavez K-8 (SL/MPR)	$ 2,656,588	$ 649,009	$ 2,007,579	$ -	$ -
Curren K-8 (SL/MPR)	$ 5,179,830	$ 598,330	$ 4,581,500	$ -	$ -
Kamala K-8 (SL/MPR)	$ 2,703,662	$ 619,123	$ 2,084,539	$ -	$ -
McAuliffe ES (K/Modular/MPR/Support)	$ 3,326,948	$ 336,509	$ 1,259,071	$ 1,731,368	$ -
Brekke ES (K/Modular/MPR/Support)	$ 2,692,092	$ 276,090	$ 1,259,071	$ 1,156,930	$ -
Ritchen ES (K/Modular/MPR/Support)	$ 5,618,661	$ 631,837*	$ 1,259,071	$ 3,727,753	$ -
Ramona ES (Modular/MPR/Support)	$ 3,306,697	$ -	$ 1,259,071	$ 2,047,625	$ -
Project 1 Adjustment	$ 151,678	$ 151,678	$ -	$ -	$ -
Fremont MS (SL/Gym)	$ 7,451,170	$ 1,893,735	$ 5,557,436	$ -	$ -
Haydock MS (SL/Gym)	$ 2,575,212	$ 1,075,212	$ -	$ 1,500,000	$ -
Planning for K-8 MPRs	$ 175,000	$ 175,000	$ -	$ -	$ -
Harrington CDC	$ 1,083,351	$ 1,083,351	$ -	$ -	$ -
Lemonwood CDC	$ 860,386	$ 860,386	$ -	$ -	$ -
Technology	$ 26,216,175	$ 11,216,175	$ 9,000,000	$ 6,000,000	$ -
Subtotal	$ 411,646,113	$ 126,475,086	$ 172,696,824	$ 41,104,451	$ 71,369,752
Program Reserve	$ 35,629,399	$ -	$ 19,461,839	$ 12,944,653	$ 3,222,907
Est. Total Uses	**$ 447,275,513**	**$ 126,475,086**	**$ 192,158,664**	**$ 54,049,104**	**$ 74,592,659**
Est. Ending Fund Balance	$ -				
Total Combined Master Budget	**$ 447,275,513**				

*Includes New Special Day Classroom

**Applies some State Aid reimbursements received from Phase 1 projects to Phase 1 and assumes State Aid financial hardship during Phase 4

5.2 REVISED MASTER CONSTRUCT AND IMPLEMENTATION PROGRAM BUDGET

Table 7 below presents the proposed Revised Master Construct and Implementation Program for Board consideration as part of the current six-month update report.

Table 7: Revised Master Construct & Implementation Program Budget

Sources	Est. Total	Phase 1	Phase 2	Phase 3	Phase 4
Measure "R"					
Series A	$ 18,055,496	$ 18,055,496	$ -	$ -	$ -
Series B	$ 25,266,398	$ 25,266,398	$ -	$ -	$ -
Series C	$ 15,578,000	$ 15,578,000	$ -	$ -	$ -
Series D	$ 30,160,000	$ 30,160,000	$ -	$ -	$ -
Total Measure "R" Bonds	**$ 89,059,894**				
Master Construct Authorization					
Series A	$ 80,725,000	$ -	$ 80,725,000	$ -	$ -
Series B	$ 18,000,000	$ -	$ 18,000,000	$ -	$ -
Series C	$ 5,700,000	$ -	$ 5,700,000		$ -
Series D	$ 15,100,000	$ -	$ -	$ 15,100,000	$ -
Series E	$ 22,700,000	$ -	$ -	$ -	$ 22,700,000
Total Master Construct Bonds	**$ 142,225,000**				
Certificates of Participation					
Series 2016	$ 7,606,764	$ 7,606,764	$ -	$ -	$ -
Total COP Proceeds	**$ 7,606,764**				
Measure "L" Authorization	$ 3,316,728	$ 3,316,728	$ -	$ -	$ -
State Bonds	$ 266,611	$ 266,611	$ -	$ -	$ -
Est. State Reimbursements**	$ 131,430,082	$ -	$ 13,865,714	$ 85,777,754	$ 31,786,614
Est. Developer Fees	$ 52,860,734	$ 7,454,555	$ 9,963,212	$ 17,280,738	$ 18,162,229
Mello Roos Proceeds	$ 9,088,089	$ 9,088,089	$ -	$ -	$ -
State Reimbursements (Driffill)	$ 9,001,083	$ 9,001,083	$ -	$ -	$ -
Est. Interest Earnings	$ 6,297,192	$ 1,594,953	$ 534,190	$ 2,303,289	$ 1,864,761
Est. Total Sources	**$ 451,152,178**	**$ 127,388,677**	**$ 128,788,116**	**$ 120,461,781**	**$ 74,513,604**

Uses	Est. Total	Phase 1	Phase 2	Phase 3	Phase 4
Acquire New K-5 Elementary Site	$ 7,756,852	$ 7,756,852	$ -	$ -	$ -
Acquire New K-5/Middle School Site	$ 9,410,000	$ 660,000	$ 8,750,000	$ -	$ -
Construct Doris/Patterson K-5	$ 29,556,164	$ -	$ 3,546,740	$ 26,009,424	$ -
Construct Doris/Patterson 6-8	$ 49,057,213	$ -	$ 5,886,866	$ 43,170,347	$ -
Construct Seabridge K-5	$ 28,568,432	$ -	$ 28,568,432	$ -	$ -
Reconstruct Harrington Elementary	$ 23,846,732	$ 23,846,732	$ -	$ -	$ -
Reconstruct Elm Elementary	$ 28,672,291	$ 28,672,291	$ -	$ -	$ -
Reconstruct Lemonwood K-8	$ 38,222,523	$ 38,222,523	$ -	$ -	$ -
Reconstruct McKinna K-5	$ 31,507,869	$ -	$ 31,507,869	$ -	$ -
Reconstruct Marina West K-5	$ 32,175,006	$ -	$ -	$ -	$ 32,175,006
Reconstruct Rose Avenue K-5	$ 30,680,582	$ -	$ 3,681,670	$ 26,998,912	$ -
Reconstruct Sierra Linda K-5	$ 31,547,013	$ -	$ -	$ -	$ 31,547,013
Marshall K-8 (CR)	$ 11,422,558	$ 11,422,558		$ -	$ -
Driffill K-8 (K/MPR)	$ 8,057,505	$ 409,771	$ -	$ -	$ 7,647,733
Chavez K-8 (SL/MPR)	$ 2,656,588	$ 649,009	$ 2,007,579	$ -	$ -
Curren K-8 (SL/MPR)	$ 5,179,830	$ 598,330	$ 4,581,500	$ -	$ -
Kamala K-8 (SL/MPR)	$ 2,703,662	$ 619,123	$ 2,084,539	$ -	$ -
McAuliffe ES (K/Modular/MPR/Support)	$ 3,570,015	$ 336,509	$ 1,502,138	$ 1,731,368	$ -
Brekke ES (K/Modular/MPR/Support)	$ 2,935,159	$ 276,090	$ 1,502,138	$ 1,156,930	$ -
Ritchen ES (K/Modular/MPR/Support)	$ 5,861,728	$ 631,837*	$ 1,502,138	$ 3,727,753	$ -
Ramona ES (Modular/MPR/Support)	$ 3,549,764	$ -	$ 1,502,138	$ 2,047,625	$ -
Project 1 Adjustment	$ 145,349	$ 145,349	$ -	$ -	$ -
Fremont MS (SL/Gym)	$ 7,451,231	$ 1,893,796	$ 5,557,436	$ -	$ -
Haydock MS (SL/Gym)	$ 2,581,480	$ 1,081,480	$ -	$ 1,500,000	$ -
Planning for K-8 MPRs	$ 175,000	$ 175,000	$ -	$ -	$ -
Harrington CDC	$ 2,512,726	$ 2,512,726	$ -	$ -	$ -
Lemonwood CDC	$ 860,386	$ -	$ 860,386	$ -	$ -
Technology	$ 26,216,175	$ 11,216,175	$ 9,000,000	$ 6,000,000	$ -
Subtotal	$ 426,879,831	$ 131,126,151	$ 112,041,569	$ 112,342,359	$ 71,369,752
Brekke ES COP Lease Payments	$ 4,291,014	$ -	$ 1,419,606	$ 2,390,860	$ 480,548
Land Acquisition COP Lease Payments	$ 4,863,500	$ -	$ 480,000	$ 2,062,500	$ 2,321,000
Additional Program Expeditures	$ 4,519,836	$ -	$ 4,519,836	$ -	$ -
Subtotal	$ 13,674,350	$ -	$ 6,419,442	$ 4,453,360	$ 2,801,548
Program Reserve	$ 6,860,522	$ (3,737,474)	$ 6,589,630	$ 3,666,062	$ 342,304
Est. Total Uses	**$ 451,152,178**	**$ 131,126,151**	**$ 125,050,642**	**$ 120,461,781**	**$ 74,513,604**
Est. Ending Fund Balance	$ -				
Total Combined Master Budget	**$ 451,152,178**				

*Includes New Special Day Classroom

**Assumes State Aid financial hardship during Phase 4

Total sources of funding are anticipated to increase to approximately $451.1 million. The increase is the result of the addition of proceeds from the District's Certificates of Participation Series 2016 in the amount of approximately $7.6 million for the acquisition of a new elementary and middle school site at Doris/Patterson. Offsetting the increase in Certificates of Participation (COPs) proceeds is a reduction in G.O. bond proceeds to reflect the net proceeds, absent the cost of issuance, that have been made available to the Program under Measure "R". Based on the State's delay and projected new schedule for funding submitted applications for State aid reimbursements and the extended period to acquire and construct Doris / Patterson facilities, a significant amount of projected State Aid funds of approximately $61.8 million has been moved into Phase 3 and 4 of the program from Phase 2. It is anticipated that the District will receive the first tranche of reimbursements in 2018-19 which includes the applications for Harrington, Seabridge land acquisition, and Fremont and McAuliffe modernization during Project 1. Applications submitted for subsequent projects are now anticipated to be funded starting in Phase 3 and may continue through Phase 4.

Proposed uses have been adjusted to provide increases to current projects due to specific project construction needs and required professional services as previously approved by the Board. Additional facilities expenditures as of October 31, 2017 are also reported to account for available funds. The Program has also been amended to incorporate existing ongoing lease payments for the District's COPs related to prior improvements to Brekke Elementary and the acquisition of new elementary and middle school sites. Some of these expenditures are due to the need to accommodate the protracted delay in the receipt of State aid funding, absent the availability of other funds.

5.3 PHASE 1 MASTER BUDGET AND SCHEDULE

Table 8 provides the total estimated cost for Phase 1 of approximately $131.1 million.

Table 8: Proposed Phase 1 Master Budget and Schedule (FY 2013-17)

Project	Schedule June 2017	Schedule Dec 2017	Estimated Budget		Variance
Master Construct & Implementation Program Improvements					
Acquire New Sites					
Seabridge Elementary School	2013	2013	$7,756,852		$0
Doris/Patterson K-5 / Middle School	2014/16	2014/16	$660,000		$0
Subtotal				$8,416,852	$0
Design & Reconstruct Sites					
Harrington Elem. K-5	2013/14	2013/14	$23,846,732		$0
Lemonwood K-8	2014/18	2014/18	$37,465,448	**$38,222,523**	$757,076
Elm Elem. K-5	2014/16	2014/16	$28,672,291		$0
Subtotal				$90,741,545	$757,076
Design & Improve K-5 Kindergarten Facilities	2013/14	2013/14			
Ritchen			$631,837 **		$0
Brekke			$276,090		$0
McAuliffe			$336,509		$0
Driffill			$409,771		$0
Subtotal				$1,654,208	$0
Design & Construct Science Labs (Project 1)	2013/14	2013/14			
Chavez Science Labs K-8			$649,009		$0
Curren Science Labs K-8			$598,330		$0
Kamala Science Labs K-8			$619,123		$0
Haydock Science Labs 6-8 & Utility Upgrades			$1,075,212	**$1,081,480**	$6,268
Fremont Science Labs 6-8 & Utility Upgrades			$1,893,735	**$1,893,796**	$61
Subtotal				$4,841,738	$6,329
Project 1 Adjustment				$145,349	($6,329)
Childhood Development Center Improvements					
Harrington	2015	2015	$1,083,351	**$2,512,726**	$1,429,375
Lemonwood	2016	**2019**	$860,386	**$0**	($860,386)
Subtotal				$2,512,726	$568,989
Planning for K-8 MPRs	2016	2016	$175,000		$0
Marshall K-8: 12 Classroom Building	2015/17	2015/17	$8,097,558	**$11,422,558**	$3,325,000
Technology	2013/15	2013/15	$11,216,175		$0
Program Improvements Subtotal				$131,126,151	$4,651,064
Program Reserve			$0	**($3,737,474)**	
Program Improvements Total				$131,126,151	$4,651,064

*Current dollars
**Includes New Special Day Classroom

Phase 1 consists of the Measure "R" projects currently underway, including the construction of Harrington, Elm, Lemonwood and Marshall and all projects that have already been completed, including the acquisition of the Seabridge site and implementation of Project 1. Major adjustments to the Phase 1 budget are centered on additional construction costs associated with Lemonwood, Harrington Child Development Center, and Marshall which have been reviewed and approved by the Board since June 2017. These budgets have been adjusted to reflect the approved final Guaranteed Maximum Price (GMP) at Marshall, the approved bid for Harrington Child Development Center, and approved change orders for Lemonwood. Additional adjustments are proposed to accommodate approved professional services and GMP site development contracts for the Kindergarten Flex Classroom projects. Project 1 actuals are proposed to be offset by the budgeted Project 1 adjustment line to accommodate close out of these projects. The balance of project costs remains the same from the prior six-month period. In total, the Phase 1 budget has been increased to $131.1 million to reflect these adjustments. Any shortfalls to the Program Reserve have since been reduced from available local sources, including Measure D.

5.4 PHASE 2 MASTER BUDGET AND SCHEDULE

Table 9 provides the total estimated cost for Phase 2 of approximately $125.1 million.

Table 9: Proposed Phase 2 Master Budget and Schedule (FY 2017-20)

Project	Schedule June 2017	Schedule Dec 2017	Estimated Budget		Variance
Master Construct & Implementation Program Improvements					
Acquire New Sites					
Doris/Patterson K-5 / Middle School		**2018**	$0	$8,750,000	$8,750,000
Subtotal				$8,750,000	$8,750,000
Construct New School Sites: Master Construct					
Dorris Patterson K-5	2018/2019	**2019/2023**	$29,556,164	**$3,546,740**	($26,009,424)
Dorris Patterson 6-8	2018/2020	**2019/2021**	$49,057,213	**$5,886,866**	($43,170,347)
Seabridge K-5	2018/2020	2018/2020	$28,568,432		$0
Reconstruct School Sites: Master Construct					
Rose Avenue K-5	2018/2021	2018/2021	$5,739,807	**$3,681,670**	($2,058,137)
McKinna K-5	2017	2017	$31,507,869		$0
Construct Kinder/SDC Classrooms					
Brekke	2018	2018	1,259,071	**$1,502,138**	$243,067
McAuliffe	2018	2018	1,259,071	**$1,502,138**	$243,067
Ramona	2018	2018	1,259,071	**$1,502,138**	$243,067
Ritchen	2018	2018	1,259,071	**$1,502,138**	$243,067
Construct Gym & Modernize MPR					
Fremont	2018	**2020**	$5,557,436		$0
Modernize K-8 Multipurpose Rooms					
Chavez	2019	2019	$2,007,579		$0
Curren	2019	2019	$4,581,500		$0
Kamala	2019	2019	$2,084,539		$0
Childhood Development Center Improvements					
Lemonwood	2016	**2019**	$0	**$860,386**	$860,386
Subtotal				$94,291,569	($60,655,256)
Technology	2020	**2018/2020**		$9,000,000	$0
Program Improvements Subtotal				$112,041,569	($60,655,256)
Program Reserve			$19,461,839	**$6,589,630**	($12,872,209)
Additional Facilties Expenditures		**2018**	**$0**	**$4,519,836**	**$4,519,836**
Program Lease Payments					
Brekke ES COP	**2026**	**2026**	**$0**	**$1,419,606**	**$1,419,606**
COP for Land Acquistion	**2026-29**	**2026-29**	**$0**	**$480,000**	**$480,000**
Subtotal				$6,419,442	$6,419,442
Program Improvements Total				$125,050,642	($67,108,022)

*Current dollars

Given the protracted schedule for the Doris/Patterson land acquisition and the local agency process for approvals, the proposed construction timing for the Doris Patterson K-5 and 6-8 facilities has been adjusted to allow sufficient time to complete necessary acquisition and agency approvals. Required planning and design on the proposed Doris Patterson K-5 and 6-8 sites will continue during Phase 2 and corresponding funding for completion of design and construction remains from Measure "D" authorization and State aid reimbursements from prior submitted applications. Construction is now anticipated to occur in Phase 3.

Remaining adjustments are for the Kindergarten Flex classroom project, Rose Avenue design and the Early Childhood Development Center at Lemonwood. Proposed budget adjustments to the Kindergarten Flex classroom projects are included to accommodate approved professional services and GMP site development contracts that have been approved by the Board individually since the prior June 2017 Report. The Rose Avenue design component has been adjusted to reflect the actual contracting of design and construction services and anticipated costs to prepare and submit required design drawings for approval to DSA. The schedule for the construction of the Early Childhood Development Center at

Lemonwood has been adjusted to accommodate the latest schedule for completion of Phase 1 and 2 of the new Lemonwood K-8 school.

Phase 2 and subsequent phases have been revised to account for additional facilities expenditures against the program as of October 31, 2017 as well as District lease payments related to prior improvements at Brekke Elementary and the acquisition of new elementary and middle school sites. The additional facilities expenditures include, but are not limited to, replacement or addition of relocatable facilities, improvements and DSA closeout of prior projects, District energy efficiency improvements, and other eligible facility improvements. Including the District lease payments, these expenditures are in addition to the overall program budget and account for approximately $6.4 million in Phase 2.

Given the new OPSC projected schedule for receipt of State aid reimbursements from prior approved District applications and the extended schedule for Doris/Patterson, the proposed State aid reimbursements during Phase 2 have been substantially decreased. This requires bridge financing to keep ongoing projects moving forward, including compliance with new SAB requirements, through the recommended issuance of the next series of Measure "D" bonds of approximately $18 million in early 2018. Originally planned as a $23.7 million bond issuance in 2020, the next series of Measure D bond sales are proposed to be issued in two issuances of approximately $18 million in 2018, and approximately $5.7 million in 2021 to accelerate the availability of funding for active projects and to bridge the delay in anticipated State aid reimbursements.

5.5 PHASE 3 MASTER BUDGET AND SCHEDULE

Table 10 provides a summary of the proposed Phase 3 budget and schedule totaling approximately $120.5 million.

Table 10: Proposed Phase 3 Master Budget and Schedule (FY 2021-25)

Project	Schedule June 2017	Schedule Dec 2017	Estimated Budget		Variance
Master Construct & Implementation Program Improvements					
Construct New School Sites: Master Construct					
Dorris Patterson K-5	2018/2019	**2019/2023**	$0	**$26,009,424**	$26,009,424
Dorris Patterson 6-8	2018/2020	**2019/2021**	$0	**$43,170,347**	$43,170,347
Rose Avenue	2018/2021	2018/2021	$24,940,775	**$26,998,912**	$2,058,137
Construct Academic Program Space: Master Construct					
Brekke	2025	2025	$459,373		$0
McAuliffe	2025	2025	$290,643		$0
Ramona	2025	2025	$292,151		$0
Ritchen	2025	2025	$457,865		$0
Construct Gym & Modernize MPR					
Haydock	2023	2023	$1,500,000		$0
Modernize K-5 Multipurpose Rooms					
Brekke	2023	2023	$697,557		$0
McAuliffe	2023	2023	$1,440,725		$0
Ramona	2023	2023	$1,755,474		$0
Ritchen	2023	2023	$3,269,888		$0
Subtotal				$106,342,359	$71,237,908
Technology	2025	2025		$6,000,000	$0
Program Improvements Subtotal				$112,342,359	$71,237,908
Program Reserve			$12,944,653	**$3,666,062**	($9,278,591)
Program Lease Payments					
Brekke ES COP	**2026**	**2026**	**$0**	**$2,390,860**	**$2,390,860**
COP for Land Acquistion	**2026-29**	**2026-29**	**$0**	**$2,062,500**	**$2,062,500**
Subtotal				$4,453,360	$4,453,360
Program Improvements Total				$120,461,781	$66,412,677

*Current dollars

Phase 3 completes the construction of the Doris Patterson K-5 and 6-8 schools and reconstruction of Rose Avenue K-5. Phase 3 also provides additional MPR improvements for remaining K-5 schools, as well as middle school gymnasium/multipurpose room improvements at Haydock. An allowance is also provided for continued technology implementation. Support facility improvements at Haydock, Brekke, McAuliffe, Ramona, and Ritchen remain as originally planned. The recommended budget change in Phase 3 includes adjustment for the construction of the Doris Avenue K-5 and 6-8 schools that were moved from Phase 2 to Phase 3. Similar to Phase 2, Phase 3 accounts for approximately $4.4 million in lease payments related to the District's outstanding Brekke and Doris/Patterson COPs.

5.6 PHASE 4 MASTER BUDGET AND SCHEDULE

As summarized in Table 11, Phase 4 completes the Master Construct and Facilities Implementation Program totaling an estimated $74.5 million. As reported in June 2017, a financial hardship State Aid approach is proposed to be used to reconstruct Marina West and Sierra Linda K-5 schools. Multipurpose room improvements continue to be planned at Driffill to accommodate the opportunity to further consider the reconfiguration of the site. COP payments are scheduled to continue in Phase 4 and are estimated to total $2.8 million during this period. However, lease payments related to Brekke Elementary are scheduled to conclude in 2025-26. Additionally, the District's lease payments for its COPs related to land acquisition will be eligible for refunding on August 1, 2026 at which time the District may elect to prepay or refund the outstanding COPs to either decrease or eliminate future payments, assuming funds are available.

Table 11: Proposed Phase 4 Master Budget and Schedule (FY 2026-29)

Project	Schedule June 2017	Schedule Dec 2017	Estimated Budget		Variance
Master Construct & Implementation Program Improvements					
Design & Reconstruct School Sites: Master Construct					
Marina West K-5	2028/2029	2028/2029	$32,175,006		$0
Sierra Linda K-5	2027/2029	2027/2029	$31,547,013		$0
Subtotal				$63,722,019	$0
Construct K-8 Multipurpose Room					
Driffill	2026	2026	$7,647,733		$0
Subtotal				$7,647,733	$0
Program Improvements Subtotal				$71,369,752	$0
Program Reserve				$342,304	
Program Lease Payments					
Brekke ES COP	**2026**	**2026**	**$0**	**$480,548**	**$480,548**
COP for Land Acquistion	**2026-29**	**2026-29**	**$0**	**$2,321,000**	**$2,321,000**
Subtotal				$2,801,548	$2,801,548
Program Improvements Total				$74,513,604	$2,801,548

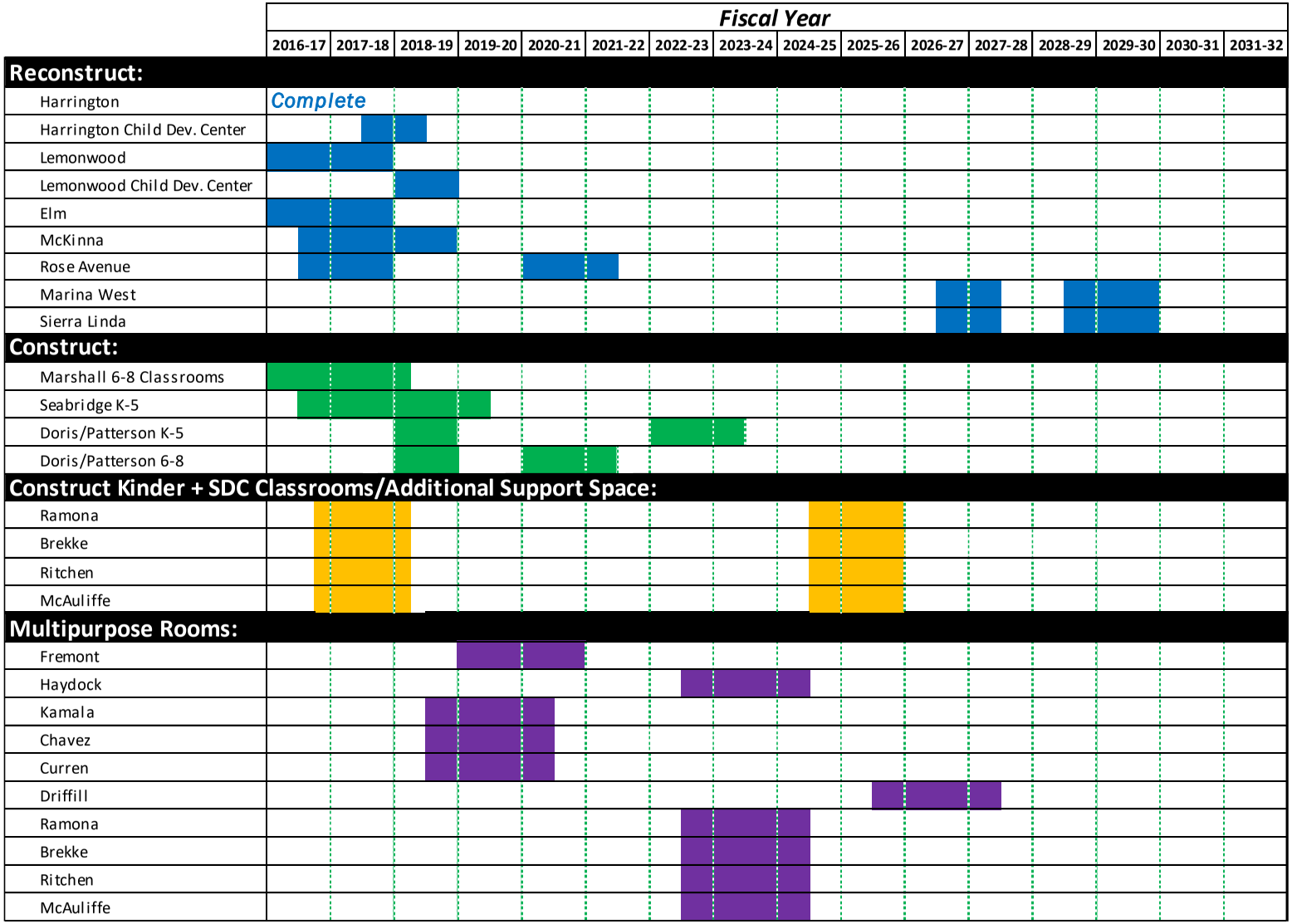
*Current dollars

5.7 MASTER SCHEDULE

The following summary schedule provides an overview of an updated proposed phasing strategy for the Master Construct and Implementation Program. Table 12 illustrates the proposed phasing of the integrated Program, and is organized by the continued reconstruction of existing schools, the construction of new school sites, and improvements to multipurpose rooms support facilities to support the District's educational program.

The schedules for the Doris Avenue K-5 and 6-8 school projects have been updated to reflect the extended completion of acquisition and necessary local approvals for the anticipated completion of planning and design efforts by June 2019 and accommodates the estimated start of construction during the fiscal year starting July 2020 for the 6-8 school and July 2022 for the K-5 school. The construction for the Lemonwood Child Development Center is proposed to be moved to fiscal year 2018-19 to accommodate the latest schedule for completion of Phase 1 and 2 of the new Lemonwood K-8 school. Based on projected funding and proposed recommendations, the design and planning effort scheduled for the Fremont Gymnasium project is proposed to commence by fiscal year 2019-20. No other major changes to the schedule are proposed.

Table 12: Summary Schedule



Based on the identified phasing plan, Table 13 on the following page provides a summary of projects under management, including those that are currently underway and are to be implemented, totaling approximately $188.5 million.

Table 13: Projects Under Management

Project Name	Start Date	End Date	Master Budget (Current Dollars)
Reconstruct:			
Harrington Child Development Center	Nov-2014	Dec-2018	$2,512,726
Lemonwood K-8	Feb-2013	May-2018	$38,222,523
Lemonwood Child Development Center	Nov-2014	Jun-2019	$860,386
Elm K-5	Jul-2013	Jun-2018	$28,672,291
Construct:			
Marshall 6-8 Classroom Building	Dec-2014	Jul-2018	$11,422,558
Seabridge K-5	Jan-2017	Apr-2020	$28,568,432
McKinna K-5	Jan-2017	Jun-2019	$31,507,869
Rose Avenue K-5	Jan-2017	Jan-2022	$30,680,582
Construct Kinder + SDC Classrooms:			
Ramona	Jul-2017	Aug-2018	$1,502,138
Brekke	Jul-2017	Aug-2018	$1,502,138
Ritchen	Jul-2017	Aug-2018	$1,502,138
McAuliffe	Jul-2017	Aug-2018	$1,502,138
Planning/Land Acquisition:			
Doris/Patterson LAFCO Planning	Jul-2015	Dec-2017	$660,000
Doris/Patterson Acquire Land*	Feb-2016	Mar-2018	$8,750,000
Chavez, Curren, Kamala, Driffill MPR Planning	Jul-2015	Jun-2019	$175,000
Educational Technology Intregration/Planning	Jan-2017	Jun-2020	$427,500
		Total	**$188,468,420**

**Funded out of District's 2016 COP issuance*

SECTION 6

RECOMMENDATIONS

6.1 CONCLUSION & RECOMMENDATIONS

Over the next six months of implementation, the Master budget will continue to be monitored and enforced. Expenditure reporting will continue and be updated to reflect recommended budget adjustments provided in this December 2017 report. Budgets will also be reviewed and adjusted, where required, to accommodate actual contract commitments approved by the Board over the next six-month period. Steps will continue to be taken to file for eligible State aid applications and required agency approvals for project development and construction. Status reports will be provided to the Board as needed.

As part of the formal review process, it is recommended that the Board:

- Accept and adopt this semi-annual update to the Master Construct and Implementation Program
- Direct staff and CFW to proceed with recommended adjustments to the Program for its immediate implementation
- Establish a date for the next six-month review by the Board

EXHIBIT A

PRESENTATIONS, WORKSHOPS & UPDATES TO THE BOARD OF TRUSTEES

The table below contains a listing of presentations, workshops, and updates to the Board of Trustees for the Oxnard School District Facilities Implementation Program. Documentation of all Board activities are provided for the prior six months. For documentation of prior related Board Action items, please reference the same section of previous reports.

Date	Board Agenda Item	Agenda Description	Purpose	Action
21-Jun-17	C.15	Approval of Change Order No. 006 for Swinerton Builders regarding the Lemonwood K-8 School Reconstruction	Approval of four (4) change order requests: (1) furnish and install a hydration station at the MPR, (2) add wireless access points as directed by the district, (3) adding lath and plaster to the soffit overhang at the classroom building and (4) duct shaft modifications above the ceiling.	Approved
21-Jun-17	C.16	Approval of the Dispersal of Contingency Allocation No. 007 for Swinerton Builders regarding the Lemonwood K-8 School Reconstruction Project	Approval of a combination of five (5) Proposed Allocation Items due to discrepancies or errors in the Construction Documents and work required by a governmental agency involved with the permitting or approval/certification process that is not shown in the Construction Documents.	Approved
21-Jun-17	C.17	Approval of Supplemental Work Authorization Letter (WAL) #3-S for CTE South Inc. regarding the Marshall New Classroom Building Project	Approval of Supplemental Work Authorization Letter (WAL) #3-S to Agreement #13-124 with CTE South Inc. for additional work completed during the design phase.	Approved
21-Jun-17	C.18	Approval of Work Authorization Letter (WAL) #4 for Rincon Consultants Inc. regarding the Elm Elementary School Reconstruction Project	Rincon Consultants deemed it necessary to import soil to complete the pad at the MPR Building. Following proper procedure, they requested the import site and allocated soil be tested and approved by a certified hygienist to satisfy regulatory requirements that the material is adequate for use at a school site.	Approved
21-Jun-17	C.19	Approval of Work Authorization Letter (WAL) #8 for Earth Systems Southern California regarding the Doris/Patterson Project	WAL #8 for Earth Systems Southern California provides for design phase Geotechnical Engineering Services.	Approved

Date	Board Agenda Item	Agenda Description	Purpose	Action
21-Jun-17	C.20	Approval of Work Authorization Letter (WAL) #9 for Tetra Tech Inc. regarding the Doris/Patterson Project	WAL #9 for Tetra Tech Inc. provides Pipeline Risk Analysis Services for the Doris Patterson Environmental Impact Report	Approved
21-Jun-17	C.21	Approval of Work Authorizaion Letter (WAL) # 10 for Tetra Tech Inc. regarding the Doris Patterson Project	WAL #10 for Tetra Tech Inc. provides Aviation Risk Hazard Assessment Services for the Doris Patterson Environmental Impact Report.	Approved
21-Jun-17	C.22	Approval of Lease-Leaseback Agreements #17-41, #17-42, and #17-43 for Bernards regarding the McKinna Elementary School Reconstruction Project	Approval and execution of the Lease Lease-Back Agreements (Lease, Sublease, and Construction Services Agreement) between the District and Bernards for completion of the work identified in Dougherty's architectural drawings.	Approved
21-Jun-17	C.23	Rejection of Formal Bid Award, Bid #16-07 Harrington Early Child Development Center	Rejection of all bids as all three (3) bidders used non-prequalified mechanical, electrical and plumbing subcontractors, and exceeded the District's project budget.	Approved
21-Jun-17	D.8	Consideration to Appoint of IBI Group as Architect of Record for the Rose Avenue Elementary School Reconstruction Project	Approval of Agreement #17-49 for Architectural Services with IBI Group, as well as the project design and site layout.	Approved
2-Aug-17	C.7	Approval of Resolution #17-06 for Rincon Consultants regarding the McKinna Elementary School Rconstruction Project	Resolution #17-06 for Rincon Consultants provides a California Environmental Quality Act (CEQA) analysis report for the project. This report indicates that the project is eligible for a Class 2 Categorical Exemption, under CEQA Section 15302.	Approved
2-Aug-17	C.8	Approval of Resolution #17-07 regarding the Doris/Patterson Project	Approval of the Preliminary Environmental Assesment Report (PEA) and Soil Managemnet Plan (SMP) regarding the Doris/Patterson Site.	Approved
2-Aug-17	C.9	Approval of the Dispersal of Contingency Allocation No. 008 with Swinerton Builders regarding the Lemonwood K-8 School Reconstruction Project	Contractor Contingency Allocation No. 008 provides a combination of seven (7) Proposed Allocation Items due to discrepancies or errors in the Construction Documents and work required by a governmental agency involved with the permitting or approval/certification process that is not shown in the Construction Documents.	Approved
2-Aug-17	C.10	Approval and Adoption of the June 2017 Semi-Annual Implementation Program Update as an Adjustment to the Master Construct and Implementation Program	The Semi-Annual Implementation Program Update reflects conditions of the District's Program between January and the time of the report's publishing in June 2017.	Approved

Date	Board Agenda Item	Agenda Description	Purpose	Action
2-Aug-17	C.11	Approval of Work Authorization Letter (WAL) #5 for Construction Testing Engineering (CTE) Inc. regarding the Rose Avenue Elementary School Reconstruction Project	WAL #5 for Construction Testing Engineering (CTE) Inc. provides for a Geotechnical Report.	Approved
2-Aug-17	C.12	Approval of Work Authorization Letter (WAL) #5 with MNS Engineers regarding the Rose Avenue Elementary School Reconstruction Project	WAL #5 for MNS Engineers provides for a Topographical Survey.	Approved
2-Aug-17	C.13	Approval of Work Authorization Letter (WAL) #11 for ATC Group Services LLC regarding the McKinna Elementary School Reconstruction Project	WAL #11 for ATC Group Services LLC provides for a Hazardous Materials Survey.	Approved
2-Aug-17	C.18	Ratification of Work Authorization Letter (WAL) #3-S for NV5 West Inc. regarding the McKinna Elementary School Reconstruction Project	WAL #3-S for NV5 West Inc. provides for Geotechnical Engineering Services.	Approved
2-Aug-17	D.1	Approval of the Proposed Project Design and Attached Agreement #17-81 for Architectural Services with Flewelling and Moody and Appointment of Flewelling and Moody as Architect of Record for the New Seabridge K-5 School Project	The contract provides for the Architectural Services of Flewelling and Moody related to the New Seabridge K-5 School project.	Approved
2-Aug-17	D.2	Approval of Change Order No. 007 for Swinerton Builders regarding the Lemonwood K-8 School Reconstruction Project	The approval of Change Order No. 007 results in the following scope of work: structural changes at the classroom building, added a janitors service sink, provide power and fire alarm to building 6, additional work due to encountering water 2 feet higher than expected while installing duct banks.	Approved
23-Aug-17	C.5	Approval of Work Authorization Letter (WAL) #6 for Construction Testing & Engineering (CTE) Inc. regarding the Elm Street Elementary School Reconstruction Project	WAL#6 for Construction Testing & Engineering (CTE) Inc. provides for Geotechnical Engineering Services that include Special Inspections and Material Testing. This satisfies the Project Labor Agreement (PLA).	Approved
23-Aug-17	C.6	Approval of Work Authorization Letter (WAL) #6 for MNS Engineers Inc. regarding the Seabridge K-5 Elementary School Project	WAL #6 for MNS Engineers provides for a Topographical Survey.	Approved
23-Aug-17	C.7	Approval of Work Authorization Letter (WAL) #6 for NV5 West Inc. regardig the Seabridge K-5 Elementary School Project	WAL #6 for NV5 West provides for Geotechnical Engineering Services.	Approved
23-Aug-17	C.8	Approval of Change Order No. 008 for Swinerton Builders regarding Lemonwood K-8 School Reconstruction Project	Approval of one (1) change order request which involves the handling of stock piled soil spoils from the MPR Building pad area coinsiding further tests performed by the environmental consultant.	Approved

Date	Board Agenda Item	Agenda Description	Purpose	Action
23-Aug-17	C.9	Approval of Dispersal No. 009 from the Lemonwood K-8 Reconstruction Project's Contractor Contingency for Payment of Additional Work Associated with the Project	Approval of a combination of two (2) Proposed Allocation Items due to discrepancies or errors in the Construction Documents and work required by a governmental agency involved with the permitting or approval/certification process that is not shown in the Construction Documents.	Approved
23-Aug-17	C.10	Approval of Agreement #17-116 for Architectural Services and approval of Flewelling and Moody as Architect of Record regarding the Kindergarten Flex Classroom Projects at Brekke, McAuliffe, Ramona, and Ritchen Elementary Schools	Approval of Flewelling and Moody for architecteral services for the Kindergarten Flex Classroom Projects at Brekke, McAuliffe, Ramona, and Ritchen Elementary Schools.	Approved
23-Aug-17	C.11	Approval of Amended Agreement #17-49 for IBI Group regarding the Rose Avenue Elementary School Reconstruction Project	Approval of Amended Agreement #17-49 for Architectural Services with IBI Group. The agreement reflects revisions to language as requested by IBI Group's legal representatives.	Approved
23-Aug-17	C.12	Approval of Lease-Leaseback Agreements #17-117, #17-118, #17-119 and Guaranteed Maximum Price (GMP) with Bernards regarding the Marshall New Classroom Building Project	Approval of the negotiated GMP and execution of the Lease Lease-Back Agreements (Construction Services Agreement, Site Lease, and Sublease) between the District and Bernards for completion of the work identified in CSDA's architectural drawings.	Approved
6-Sep-17	C.6	Approval of Work Authorization Letter (WAL) #7 for MNS Engineers regarding the four Kindergarten/Flex Facilities Projects for the McAuliffe, Ritchen, Brekke and Ramona Elementary Schools	WAL #7 for MNS Engineers provides for Topographical Survey Services.	Approved
6-Sep-17	C.7	Approval of Work Authorization Letter (WAL) #9 for Earth Systems Southern California regarding the four Kinder/Flex Facilities Projects for the McAuliffe, Ritchen, Brekke and Ramona Elementary Schools	WAL #9 for Earth Systems provides for Geotechnical Engineering Services.	Approved
6-Sep-17	C.8	Approval of Work Authorization Letter (WAL) #12 for ATC Group Services LLC regarding the Rose Avenue Elementary School Project	WAL #12 for ATC Group Services LLC provides for a demolition level Asbestos, Lead, and Other Hazardous Materials Survey	Approved
6-Sep-17	C.10	Informational Item Regarding Piggyback Purchase Order with Silver Creek regarding the Brekke Kindergarten Flex Classroom Project	Identification of a new project at Brekke Elementary School to construct two Flex Classrooms to support TK/Kindergarten needs as well as potential Special Education program uses. Proposal from Silver Creek is based on existing Piggyback Contract #14/15-3 with the Chula Vista Elementary School District.	Approved

Date	Board Agenda Item	Agenda Description	Purpose	Action
6-Sep-17	C.11	Informational Item Regarding Piggyback Purchase Order with Silver Creek regarding the McAuliffe Kindergarten Flex Classroom Project	Identification of a new project at McAuliffe Elementary School to construct two Flex Classrooms to support TK/Kindergarten needs as well as potential Special Education program uses. The proposal from Silver Creek is based on existing Piggyback Contract #14/15-3 with the Chula Vista Elementary School District.	Approved
6-Sep-17	C.12	Informational Item Regarding Piggyback Purchase Order with Silver Creek regarding the Ramona Kindergarten Flex Classroom Project	Identification of a new project at Ramona Elementary School to construct two Flex Classrooms to support TK/Kindergarten needs as well as potential Special Education program uses. The proposal from Silver Creek is based on existing Piggyback Contract #14/15-3 with the Chula Vista Elementary School District.	Approved
6-Sep-17	C.13	Informational Item Regarding Piggyback Purchase Order with Silver Creek regarding the Ritchen Kindergarten Flex Classroom Project	Identification of a new project at Ritchen Elementary School to construct two Flex Classrooms to support TK/Kindergarten needs as well as potential Special Education program uses. The proposal from Silver Creek is based on existing Piggyback Contract #14/15-3 with the Chula Vista Elementary School District.	Approved
6-Sep-17	D.1	Rejection of Bid Protest, Award of Formal Bid #17-01 and Approval of Agreement #17-139 regarding the Harrington Early Child Development Center	Rejection of the Bid Protest received from The Nazerian Group ("Nazerian") in connection with the bid submitted by Ardalan Construction Company Inc. Approval of and award to Ardalan Construction Company Inc. for Bid #17-01. For Harrington Early Child Development Center.	Approved
20-Sep-17	C.4	Approval of Dispersal No. 010 with Swinerton Builders regarding the Lemonwood K-8 School Reconstruction Project	Contractor Contingency Allocation No. 010 provides for the Board's approval one (1) Proposed Allocation Item due to discrepancies or errors in the Construction Documents.	Approved
20-Sep-17	D.1	Approval of Lease Leaseback Agreements #17-158, #17-159, and #17-160 for Balfour Beatty Construction regarding the Rose Avenue Elementary School Reconstruction Project	Approval and execution of the Lease Leaseback Agreements (Lease, Sublease, and Construction Services Agreement) between the District and Balfour Beatty Construction for completion of the work identified in IBI Group's architectural drawings.	Approved

Date	Board Agenda Item	Agenda Description	Purpose	Action
4-Oct-17	C.4	Approval of Lease Leaseback Agreements #17-170, #17-171, and #17-172 for Swinerton Builders regarding the New Seabridge K-5 School Project	Approval and execution of the Lease Leaseback Agreements (Lease, Sublease, and Construction Services Agreement) between the District and Swinerton Builders for completion of the work identified in Flewelling and Moody's architectural drawings.	Approved
4-Oct-17	C.5	Approval of Amendment #004 for SVA Architects regarding the Elm Elementary School Reconstruction Project	Amendment #004 and the attached proposal received from SVA Architects provide for the redesign of the lighting system at Elm Elementary School to incorporate LED lighting.	Approved
4-Oct-17	C.7	Approval of Change Order No. 001 for Bernards regarding the Marshall New Classroom Building Project	Change Order No. 001 is to compensate the additional services performed by the LLB Contractor in their value engineering efforts during the negotiation of the Guaranteed Maximum Price (GMP).	Approved
4-Oct-17	C.8	Approval of Supplemental Work Authorization Letter (WAL) #4-S for Construction Testing Engineering (CTE) Inc. regarding the Elm Elementary School Reconstruction Project	WAL #4-S provides for additional testing as requested by the inspector of record as part of DSA approval not originally covered under WAL #4. This one-time supplemental WAL covers the additional required testing needed to complete the project.	Approved
4-Oct-17	C.11	Ratification of Supplemental Work Authorization Letter (WAL) #11-S for ATC Group Services LLC (ATC) regarding the McKinna Elementary School Reconstruction Project	WAL #11-S for ATC Group Services provides for a Hazardous Materials Survey	Approved
18-Oct-17	C.5	Approval of Work Authorization Letter (WAL) #012 for Tetra Tech Inc. regarding the Doris/Patterson Project	WAL #012 for Tetra Tech provides for both a Tier 1/Tier 2 screening health risk assessment for the construction phase of the project as well as a carbon monoxide screening analysis.	Approved
18-Oct-17	C.6	Approval of Work Authorization Letter (WAL) #011 for Tetra Tech Inc. regarding the Rose Avenue School Reconstruction Project	WAL #011 for Tetra Tech provides for an Evaluation of Historic Significance regarding the Rose Avenue School	Approved
18-Oct-17	C.7	Approval of Contractor Contingency CREDIT No. 011 for Swinerton Builders regarding the Lemonwood Elementary School Reconstruction Project	Contractor Contingency Allocation No. 011 is a CREDIT to the Contractor Contingency line item of the Gauranteed Maximum Price (GMP) Construction Services Agreement.	Approved
18-Oct-17	D.1	Approval of Resolution #17-13 between the District and Dougherty Architects regarding the McKinna Elementary School Reconstruction Project	Approval of the Architectural Drawings by Dougherty Architects for the McKinna Reconstruction Project. Followed by submittal of the drawings to the Division of the State Architect and the California Department of Education for administrative review.	Approved

Date	Board Agenda Item	Agenda Description	Purpose	Action
1-Nov-17	C.1	Approval of Cooperative Agreement #17-169 between the City of Oxnard and the Oxnard School District regarding the Elm Street School Sewer Connection Project	The existing sewer line was inadequate to handle the wastewater flow from the school. This agreement requires that the District fund the costs of design, inspection and construction management of the "Project". This includes the following: remove and replace approximately 670 feet of existing 8-inch pipe and replace with 12-inch pipe in the capacity deficient areas that are identified in the hydraulic model; install approximately 100 feet of new 12-inch sewer pipe on Iris Street and connect to the trunk line on Saviers Road; remove and replace four (4) sewer manholes; eliminate two (2) sewer manholes; and install one (1) new sewer manhole at the connection point.	Approved
1-Nov-17	C.3	Approval of Lease-Leaseback Agreements #17-209, #17-210, and #17-211 for Viola Inc. regarding the Brekke Kindergarten Project	Approval and execution of the Lease Lease-Back Agreements (Lease, Sublease, and Construction Services Agreement) between the District and Viola Inc. for completion of the work identified in Flewelling and Moody's architectural drawings.	Approved
1-Nov-17	C.4	Approval of Lease-Leaseback Agreements #17-212, #17-213, and #17-214 for Viola Inc. regarding the McAuliffe Kindergarten Project	Approval and execution of the Lease Lease-Back Agreements (Lease, Sublease, and Construction Services Agreement) between the District and Viola Inc. for completion of the work identified in Flewelling and Moody's architectural drawings.	Approved
1-Nov-17	C.5	Approval of Lease-Leaseback Agreements #17-215, #17-216, and #17-217 for Viola Inc.regarding the Ramona Kindergarten Project	Approval and execution of the Lease Lease-Back Agreements (Lease, Sublease, and Construction Services Agreement) between the District and Viola Inc. for completion of the work identified in Flewelling and Moody's architectural drawings.	Approved
1-Nov-17	C.6	Approval of Lease-Leaseback Agreements #17-218, #17-219, and #17-220 for Viola Inc.regarding the Ritchen Kindergarten Project	Approval and execution of the Lease Lease-Back Agreements (Lease, Sublease, and Construction Services Agreement) between the District and Viola Inc. for completion of the work identified in Flewelling and Moody's architectural drawings.	Approved
1-Nov-17	C.7	Approval of Supplemental Work Authorization Letter (WAL) #12-S for ATC Group Services LLC regarding the Rose Avenue Elementary School	WAL #12-S for ATC Group Services LLC provides for a Hazardous Materials Survey	Approved

BOARD AGENDA ITEM

Name of Contributor: Janet Penanhoat Date of Meeting: December 6, 2017

STUDY SESSION _____
CLOSED SESSION _____
SECTION A-1: PRELIMINARY _____
SECTION A-II: REPORTS X
SECTION B: HEARINGS _____
SECTION C: CONSENT AGENDA _____ Agreement Category:

- ____ Academic
- ____ Enrichment
- ____ Special Education
- ____ Support Services
- ____ Personnel
- ____ Legal
- _____ Facilities

SECTION D: ACTION _____
SECTION F: BOARD POLICIES 1ST Reading_____ 2nd Reading _____

Public Workshop for the Draft Environmental Impact Report as Prepared for the Doris/Patterson Project (Penanhoat/Fateh/CFW)

The purpose of this Agenda Item is to provide a workshop summary presentation and to receive comments on the Draft Environmental Impact Report (EIR) for the Doris Avenue/Patterson Road Educational Facilities Project (proposed project). The District proposes to construct and operate joint-use facilities to support a district administrative office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8.

The Draft EIR evaluates potential impacts from all phases of project planning, implementation, and operation for the proposed project. As lead Agency for the California Environmental Quality Act (CEQA), the District prepared this Draft EIR with assistance from Tetra Tech in compliance with *the State CEQA Guidelines* and City of Oxnard CEQA Guidelines.

The EIR serves as a public disclosure document explaining the effects of the proposed project on the environment, alternatives to the project, and ways to minimize adverse effects and to increase beneficial effects. On December 4, 2017, the District opened a 45-day public review and comment period on the Draft EIR. The public comment period will close on January 17, 2018. All interested parties are invited to submit written comments on the Draft EIR prior to the close of the public review period. As part of this agenda item, the Board of Trustees will provide all interested parties an additional opportunity to provide oral comments on the Draft EIR.

No decision about the environmental document will be made at today's meeting. At the conclusion of the 45-day public review period, comments received will be incorporated into a Final EIR. A determination on the environmental document would occur at a future publicly noticed meeting.

The proposed project requires annexation into the City of Oxnard, pursuant to Ventura Local Agency Formation Commission (LAFCo) approval of several changes of organization, collectively called reorganization. This process is anticipated to commence in early 2018.

FISCAL IMPACT

None.

RECOMMENDATION

It is the recommendation of the Assistant Superintendent, Business & Fiscal Services and the Director of Facilities, in conjunction with Caldwell Flores Winters, that the Board of Trustees consider any and all comments received, whether written or oral for the Draft EIR for the Doris Avenue/Patterson Road Educational Facilities Project. Comments received will be responded to in writing in the Final EIR and agencies and individuals will be notified at least 10 days prior to certifying the EIR in compliance with *State CEQA Guidelines* Section 15088.

ADDITIONAL MATERIAL

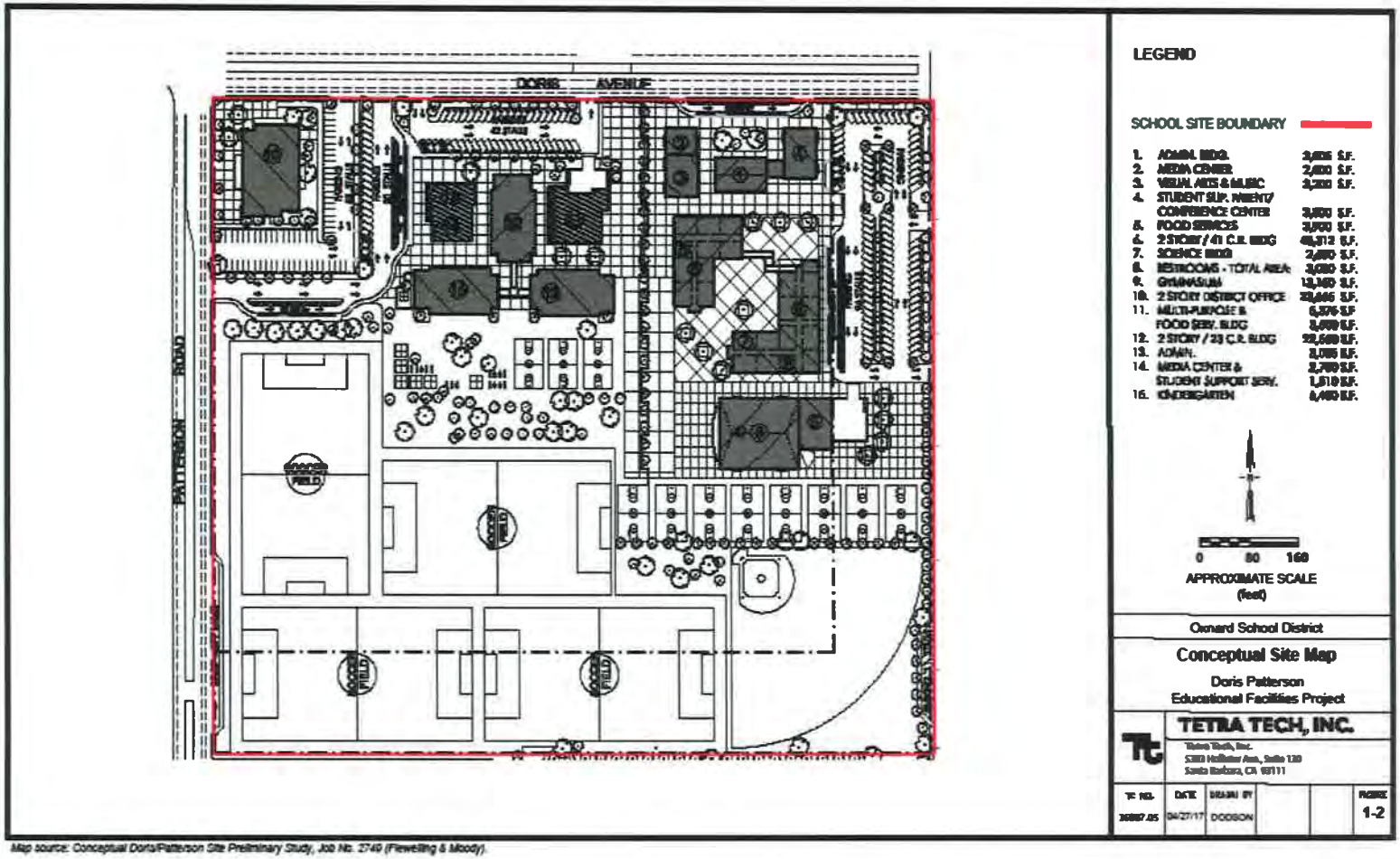
Attached: Summary Presentation by Tetra Tech Inc. (8 pages)
Draft Environmental Impact Report for the Doris Avenue/Patterson Road Educational Facilities Project – prepared by Tetra Tech (2,595 pages)


TETRA TECH
ENVIRONMENTAL REVIEW FOR THE PROPOSED DORIS AVENUE/ PATTERSON ROAD EDUCATIONAL FACILITIES PROJECT
Draft Environmental Impact Report
December 6, 2017
Randy Westhaus, P.E.

PROJECT OVERVIEW

- Proposed new District office, 700 student elementary school (grades K-5), and 1,200 student middle school (grades 6-8) would be constructed on a new 25-acre site.
- Proposed project would comprise approximately 178,678 square feet and provide 220 parking spaces onsite.
- Project includes soccer fields, tennis courts, hard courts and play fields located south of school buildings.

CONCEPTUAL SITE MAP



Map source: Conceptual Doris/Patterson Site Preliminary Study, Job No. 2749 (Flewelling & Moody).

VENTURA LOCAL AGENCY FORMATION COMMISSION (LAFCO) APPROVAL

- Annexation of project area into City would require LAFCo approval under a reorganization process
  - Annexation to City of Oxnard
  - Annexation to Calleguas Municipal Water District
  - Annexation into Metropolitan Water District of Southern California
  - Detachment from Oxnard Drainage District 1
  - Detachment from Ventura County Resource Conservation District
  - Detachment from Ventura County Fire Protection District
  - Detachment from Ventura County Service Area Nos. 32 and 33

VENTURA LOCAL AGENCY FORMATION COMMISSION (LAFCO) APPROVAL (CONT.)

- Sphere of Influence (SOI) Amendments will also be needed under a reorganization process
  - City's SOI to include adjoining segment of Patterson Road and agricultural land to the west
  - Calleguas Municipal Water District's SOI to include adjoining segment of Patterson Road and agricultural land to the west
  - Oxnard Drainage District 1's SOI to remove adjoining segment of Patterson Road and agricultural land to the west
  - Ventura County Service Area No. 33's SOI to remove the entire proposal area

CEQA OVERVIEW

- The California Environmental Quality Act (CEQA) requires that public agencies disclose environmental impacts of projects that have a physical effect on the environment.
- An Initial Study (IS) was prepared for the proposed project and released for public review and comment on May 11, 2017.
- A Draft Environmental Impact Report (EIR) was prepared for the proposed project and released for public review and comment on December 4, 2017.

DRAFT ENVIRONMENTAL IMPACT REPORT (DRAFT EIR)

- The Draft EIR evaluates potential impacts from all phases of project planning, implementation, and operation for the proposed project.
- As lead agency under CEQA, the District prepared this Draft EIR with assistance from Tetra Tech in compliance with State and City of Oxnard CEQA Guidelines.
- The EIR serves as a public disclosure document explaining effects of the proposed project on the environment, alternatives to the project, and ways to minimize adverse effects and increase beneficial effects.

TETRA TECH

PUBLIC REVIEW AND NEXT STEPS

- The purpose of this Agenda Item is to receive public comments on the Draft EIR. No decision about the environmental document will be made at tonight's meeting.

- January 17, 2018 is the conclusion of the 45-day public review period to receive comments on the Draft EIR. Comments received will be incorporated into a Final EIR.

- A determination on the environmental document will be made at a future publicly noticed meeting based on the complete environmental record including public comments received.

Job No. 34007.05

Draft Environmental Impact Report Doris Avenue/Patterson Road Educational Facilities Project Ventura County, California SCH# 2017051041

Prepared for:

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November 29, 2017

EXECUTIVE SUMMARY

This Draft Project Environmental Impact report (EIR) was prepared by Oxnard School District (OSD or the District), to evaluate potential impacts from all phases of project planning, implementation, and operation for the proposed Doris Avenue and Patterson Road Educational Facilities Project (proposed project). OSD proposes to construct and operate joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. As lead Agency for the California Environmental Quality Act (CEQA), the District prepared this Draft EIR in compliance with the State CEQA Guidelines and City of Oxnard CEQA Guidelines (Oxnard 2017).

The content of this EIR was established based on the findings in the Initial Study (IS) and input received from agencies and individuals during the public scoping process. Topics discussed in detail in this EIR include: Aesthetics, Agriculture, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Geology and Soils, Green House Gases (GHGs), Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use Planning, Noise, Population, Public Services, Transportation and Traffic, and Utilities and Service Systems.

This EIR serves as a public disclosure document explaining the effects of the proposed project on the environment, alternatives to the project, and ways to minimize adverse effects and to increase beneficial effects. The EIR will be used by OSD and responsible and trustee agencies with jurisdiction over portions of the project prior to deciding whether to approve or permit project components.

Project Location

The project site is located in unincorporated Ventura County, California and is within the Ventura County Save Open-Space and Agricultural Resources (SOAR) boundary. The project site is also within the City of Oxnard's Sphere of Influence (SOI) and City Urban Restriction Boundary (CURB). The Site comprises a portion of Lot 158, in the City of Oxnard, County of Ventura, State of California as shown on the Map of Patterson Ranch, recorded in Book 8, Page 1 of Maps in the office of the Ventura County Recorder (Portion of APN: 183-0-070-090). The project site consists of 1,088,824.84 square feet (approximately 25 acres).

The project site has a Ventura County General Plan land use designation of agricultural-urban reserve and a zoning designation of agricultural exclusive (AE-40). Since the project site is also within the SOI of the City of Oxnard, the City of Oxnard General Plan identified land use designations for the site. The City of Oxnard General Plan land use designations for the project site include public/semi-public, open space, and park.

The project area is relatively flat and is currently used for agriculture. It is surrounded by adjacent agricultural uses to the south, east, and west. The agricultural land to the west is located within the Ventura-Oxnard Greenbelt. Located to the north of the project site is a residential neighborhood. Access to the project site is provided by North Patterson Road to the west and Doris Avenue to the north.

The project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the project site. Oxnard Airport is an active general aviation/small scheduled service airport and the project site is located within Safety Zone 6, identified as the Traffic Pattern Zone (Caltrans 2014).

Project Description

The OSD proposes to construct and operate a new elementary (K-5), middle school (6-8) and District administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road. The new schools are needed to accommodate existing and anticipated future enrollment in the District. The project site is located within unincorporated Ventura County and within the City of Oxnard SOI area.

Parcel Boundary

Pursuant to Government Code Section 66428(a)(2), and in compliance with City of Oxnard Municipal Code Section 15-11, under a statutory exemption in the Subdivision Map Act, a tentative map is not required for property transferred to or from a government agency proceeding under Government Code section 66428(a)(2).

Reorganization

The proposed project would require annexation into the City of Oxnard (City). Annexation of the project area to the City would require Ventura Local Agency Formation Commission (LAFCo) approval of several changes of organization, collectively called reorganization. The following LAFCo actions would be necessary components of the reorganization:

- Annexation to the City of Oxnard
- Annexation to the Calleguas Municipal Water District
- Annexation into Metropolitan Water District of Southern California
- Detachment from Oxnard Drainage District 1
- Detachment from the Ventura County Resource Conservation District
- Detachment from the Ventura County Fire Protection District
- Detachment from Ventura County Service Area No. 32
- Detachment from Ventura County Service Area No. 33

As part of the reorganization process, sphere of influence amendments will also be needed. Anticipated amendments include the following:

- Amendment of the City of Oxnard's sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Calleguas Municipal Water District sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Oxnard Drainage District No. 1 sphere of influence to remove the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Ventura County Service Area No. 33 sphere of influence to remove the entire proposal area.

The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257). The projects will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with LAFCo. Upon approval of the reorganization and sphere amendments by LAFCo, and a 30-day reconsideration period, the reorganization will be recorded and the site will be annexed into the City of Oxnard and the Calleguas Water District and eligible for all public services.

School Facilities

The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 students- on-site. In total, the proposed project would comprise approximately 178,678 square feet (sq. ft.) of building and structures and provide 220 parking spaces on-site. In addition, the proposed project includes a variety of playfields and recreational areas to accommodate the recreational needs of the K-8 student's on-site. These facilities include a separate playground for the kindergarten with play structures and open space. There will be lower and upper grade play areas with hard courts for tether ball, basketball and volley ball and motor skill development as well as play structures. Grass fields will be used for

kickball, soccer, softball, track and field challenges and general play. The elementary school will have a multi-purpose room for some indoor recreational activities during inclement weather and potential after hours community use. An additional drop-off area for the playfield area is provides along Patterson Road.

A two-story 24,868 sq. ft. District Office is proposed on the northwest corner of the site with 62 parking stalls provided to the south and east of the building. Access to this parking area would be provided from Doris Avenue. An elementary school drop-off and pick-up area would separate the district office space from the elementary school buildings. Access to the elementary school drop-off and pick-up area would be from Patterson Road with traffic following in a single direction exiting on Doris Avenue. The elementary school buildings are clustered together to the east of the District office area with primary access provided from Patterson Road. These buildings are anticipated to include:

- Multi-Purpose & Food Services (8,975 sq. ft.)
- Two-Story / 23 Classroom Building (36,692 sq. ft.)
- Administration Building (3,005 sq. ft.)
- Media Center & Student Support Services (4,210 sq. ft.)
- Kindergarten (18,346 sq. ft.)

A parking lot with 42 spaces is provided adjacent to the elementary school buildings to the north with access provided from Doris Avenue and an additional 20 parking spaces are provided within the drop-off and pick-up area to the west.

The middle school buildings are located near the northeast corner of the site and are anticipated to include:

- Administration Building (4,200 sq. ft.)
- Media Center (2,153 sq. ft.)
- Visual Arts & Music (3,400 sq. ft.)
- Student Support/Conference Center (4,083 sq. ft.)
- Food Services (3,900 sq. ft.)
- Two-Story/ 41 Classroom Building (45,312 sq. ft.)
- Two-Story Science Building (2,600 sq. ft.)
- Two-Story Restrooms (3,000 sq. ft.)
- Gymnasium (13,934 sq. ft.)

Approximately 96 parking stalls would be provided adjacent to the middle school buildings to the east. The bus drop-off and pick-up area for the middle school would be from Doris Avenue. An additional drop-off and pick-up area and parking lot would be provided to the east of the middle school buildings with access provided from a new road. The proposed new access road is expected to terminate at the southernmost access to the parking lot for the school.

Project Design Features

Noise

Classrooms would be designed and constructed to have a Community Noise Equivalent Level of 45dB or less. The exterior mechanical equipment is anticipated to be located on roofs in a protected manner such as a parapet.

Landscaping

The project site will have a drought tolerant landscape that meets the 2009 Model Water Efficiency Landscape Ordinance (MWELO) regulations adopted by the Department of Water Resources (DWR).

Lighting

The proposed project will include necessary lighting for adequate nighttime safety and security. Campus lights will be shielded and directed downward to the extent feasible. No lighted playfields are proposed.

There are existing street lights located on the north side of Doris Avenue at the intersections of Patterson Road and at the intersection of Daffodil Way. Those facilities will most likely remain in effect; however, the proposed project would install street lighting on the proposed project frontage and the City may require additional lighting to be installed on Patterson Road and Doris Avenue in the project area. The proposed access road from Doris Avenue to Teal Club Road will also include street lighting.

Stormwater Drainage

The proposed project would install curb and gutter improvements along the north and south sides of the project site. There would be an access road on the east side of the project site and that paved road shall have curb and gutter along the west side. These facilities would route non-project site stormwater around the parcel. The proposed project improvements would include post construction best management practices (BMPs) to manage the storm flows generated by the hardscape portion of the project. The existing agricultural site conditions shall be considered similar to the proposed landscaped areas on the project site plan. Site improvements intended to deal with the proposed project stormwater shall be designed in accordance with the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures, Manual Update 2011. It is intended to utilize BMPs such as a dry extended detention basin (TCM-1) coupled with hydrodynamic separation devices (PT-1) for the parking lot areas. The groundwater is anticipated to be relatively close to the surface so infiltration BMPs such as dry wells may not be preferable (Phoenix 2017).

The southern portion of the project site are soccer fields totaling approximately 6.7 acres of the parcel. As part of this project, those areas would be depressed 8 inches below the surrounding grade (or conversely an 8 inch tall earthen berm would be constructed along the western, eastern and southern boundaries to collect and detain the storm runoff from the Project. At that depth, this area would collect 195,640 cubic feet (4.5 acre feet) of runoff. This runoff could be detained for up to two days and then the remainder released to the existing agriculture ditch or concrete pipe system recommended in the 2003 Master Plan of Drainage. Preliminary calculations indicate that 5 acre feet of runoff would be generated by a 100 year storm event. The project site could detain that volume with only 0.5 acre feet of runoff (Phoenix 2017).

The parking lot areas would drain to the south field detention areas. The parking lot areas would be filtered to collect the trash, debris and oil/petroleum products out of the runoff prior to discharge onto the field detention areas. The proprietary hydrodynamic filter systems have not been identified at this time, but will be part of the design efforts. Each parking lot will have one device for treating that specific area. Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017).

Transportation/Circulation

A new access road is proposed to the east of the project site as shown on the conceptual site plan. The City will dictate the final route for the access road. The sidewalks on the north side of Doris Avenue are a 4-foot-wide meandering walk. The sidewalks on the south side of the street due to the pedestrian traffic will most likely need to be wider (6- or 8-feet) and will have the width dictated by the City. On Patterson Road, the sidewalk will match Doris Avenue. While the educational facilities would be contained within the 25-acre project site; the City may require the sidewalk be extended to at least the project boundary.

Utility Connections

The project site is currently undeveloped and used for agriculture. Utility connections will need to be extended to the site, including water, sewer, gas, electric, data/telecommunications, and recycled water.

- On the west side of the proposed site (Patterson Road) there are existing 15- and 8-inch diameter wastewater pipelines. Teal Club Road has a 21-inch diameter sewer pipeline that collects flow and transports it to the west where it heads south on Victoria Avenue. There are no wastewater facilities located in Doris Avenue. The City's Master Plan shows that there are no capacity issues in the Teal

Club Road trunk sewer pipeline or the pipelines located in Patterson Road. Discussion with the City Public Works Department during design will determine if the 8- or 15-inch diameter pipeline is connected to for serving the project site. The addition of the proposed project is assumed to not cause capacity improvements in the existing collection system (Phoenix 2017). There is an existing 12-inch diameter potable water pipeline that is located on Doris Avenue across the frontage of the proposed site.

- Power facilities are located on Doris Avenue and a portion of Patterson Road as underground facilities. South of the first aerial pole on Patterson Road, the power facilities are aerial.
- Gas facilities are not present on Doris Avenue or Patterson Road according to the record drawings received from the Gas Company.
- Recycled water pipelines are not present in Doris Avenue or Patterson Road; however, the City may require installation of a mainline. The proposed project would be designed with "purple pipe" for recycled water so that the proposed project can connect if recycled water becomes available.
- Telecommunication facilities exist on Patterson Road and in the development to the north (across Doris Avenue).

Project Construction

Construction of the proposed K-5 and 6-8 schools are planned to start in 2019. All project construction activities including those for the Administrative Facilities are anticipated to be completed by the start of the 2021-2022 school year. The Project construction activities are anticipated to occur in phases and include site preparation, grading, building construction, paving, architectural coating, and landscaping.

Anticipated construction equipment includes graders/compactors, backhoes, watering trucks, trucks carrying required fill or spoils would be used for the grading portion of the project(s). During the building construction phases, material delivery trucks, including tractor trailers, would be bringing raw and finished materials and equipment. Paving for parking areas and hardcourts are expected to be asphalt. Concrete for foundations floor slabs and walkways and plazas shall be delivered via concrete mixing vehicles. Back hoes and forklifts and small cranes are also anticipated to move materials around the site or assist in placing in the facilities.

The size of the construction crews for either the elementary or middle school will vary day by day. Typical days have an average of 20 personnel on-site, while peak personal levels may reach over 50 depending on activities and the project schedule. Personnel working on the project site will park on-site. Contractor field personnel for each school or office would typically include a project superintendent, assistant superintendent, and a clerk. A project manager may also be assigned to be on-site for a portion of each work day. One project inspector is expected to be on-site for each facility. Specialty inspectors would be on-site for various activities such as welding or masonry. Periodically architects, engineers, public agency and District staff would be on-site to review progress (typically weekly).

Employees

The District Administrative Facility would have approximately 113 staff (CFW 2015). The approximate number of employees for each school was estimated based on the educational specifications approved by the Board. The K 5 elementary school is anticipated to have approximately 52 employees. This includes 7 administrative staff (including a psychologist and nurse), 30 teachers, 6 aides, 1 library staff, 1 technology teacher, 4 cafeteria workers, 2 janitors, and 1 grounds staff. The 6-8 middle school is anticipated to have approximately 74 employees. This includes 7 administrative staff (this also includes a psychologist and nurse), 50 teachers, 4 aides, 2 library workers, 1 technology teacher, 6 cafeteria workers, 3 janitors, and 1 grounds staff.

Required Permits and Approvals

This EIR will be used by OSD and responsible and trustee agencies with jurisdiction over portions of the project prior to deciding whether to approve or permit project components. A public agency, other than the lead agency, that has discretionary approval power over a project is known as a "responsible agency" as defined by CEQA

Guidelines Section 15381. The City of Oxnard, LAFCo, Ventura County Airport Land Use Commission, Calleguas Municipal Water District, and MWD are responsible agencies. Anticipated discretionary actions for the proposed project are identified in the table below.

Discretionary Actions

Agency/Organization	Role	Action
Oxnard School District	Lead Agency	• Approve Project (Educational Specifications, Design/Construction Funding and Associated Contract Approvals)
City of Oxnard	Responsible Agency	• Initiate Reorganization • GPA and Pre-Zone
LAFCo	Responsible Agency	• Approval of Reorganization
Ventura County Airport Land Use Commission	Responsible Agency	• Finding of Consistency or Inconsistency with the Airport Comprehensive Land Use Plan
Calleguas Municipal Water District (CMWD) & Municipal Water District	Responsible Agencies	• MWD Formal Terms • CMWD Approval of Annexation (accept MWD Formal Terms and LAFCo Conditions)

In addition to discretionary actions, additional state, regional and/or local government permits may be required to develop the proposed project, whether or not they are explicitly listed in the table below.

Non-Discretionary Permits/Approvals

Agency	Permit/Approval
City of Oxnard	Local roadway modifications and water connections
California Department of Education	Approval of construction plans and allocation of construction funding
Fox Canyon Groundwater Management Agency	Approval of water allocation transfer
California Department of Fish and Wildlife	Jurisdictional determination; if needed, Streambed Alteration Agreement
California Department of Toxic Substance Control	Approval of Land Use Covenant
Division of the State Architect	Approval of construction plans and grading permit
Federal Aviation Administration	Obstruction evaluation
State Water Resources Control Board	Stormwater Construction General Permit
Los Angeles Regional Water Quality Control Board	If needed, authorization under Clean Water Act Section 401 If needed; Groundwater Discharge Permit
U.S. Army Corps of Engineers	Jurisdictional determination; if needed, authorizations under the Nationwide Permit Program

Known Areas of Controversy

Areas of controversy include known issues or concerns raised by agencies and the public regarding the proposed project. Known issues of concern to OSD are based on preliminary agency consultation, public scoping meeting comments, and comment letters received in response to the NOP. The general key areas of known controversy and the location where the issue is addressed in the EIR are provided below.

General Areas of Known Controversy

Area of Concern	EIR Section Where Topic is Addressed
Site location near airport	Section 3.8 Hazards and Hazardous Materials
Aircraft hazard	Section 3.8 Hazards and Hazardous Materials
Airport related noise	Section 3.11 Noise
Agricultural conversion and compatibility	Section 3.2 Agriculture
Air quality	Section 3.3 Air Quality
Community character	Section 3.1 Aesthetics
Traffic and traffic safety	Section 3.14 Transportation and Traffic
Water supply and demand	Section 3.9 Hydrology and Water Quality Section 3.15 Utilities and Service Systems

Alternatives

Alternatives considered in this EIR include:

- No Project Alternative – This alternative assumes that improvements described for the proposed project would not be implemented. OSD would not implement any changes to the project site that would result in changes to existing project site or existing agricultural uses. Under the No Project Alternative it is assumed that increases in enrollment would have to be accommodated by existing OSD schools.
- Reduced Project Use Alternative – Under the Reduced Project Alternative, total student capacity would be reduce by more than 20% as follows: 900 middle school students in grades 6-8 and 600 elementary school students in grades K-5. With the reduction in capacity, there would be a proportional reduction in classroom square footage. Support facilities (e.g., multipurpose room, food services, library, administration) would also be reduced in size. It is assumed that there would be an overall decrease in square footage by 15%. There would be no change to the District Office component.

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. This would ideally be the alternative that results in fewer (or no) significant and unavoidable impacts. CEQA Guidelines Section 15126(d)(2) states that if the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives.

A comparison of each alternative is provided in the following table. The No Project Alternative would result in no impacts to any of the issue areas. The Reduced Project Alternative would reduce potential impacts of the proposed project, although would still result in significant and unavoidable impacts. The No Project Alternative would be the environmentally superior alternative, but would not meet any of the project objectives. The environmentally superior development alternative would likely be the Reduced Project Alternative since this alternative would result in slightly less impacts due to decrease of development intensity on the project site.

Summary of Project Alternatives

Issue Area	Proposed Project	No Project	Reduced Project
Aesthetics	LTS	NI	LTS
Agriculture	S	NI	S
Air Quality	LTS/M	NI	LTS/M
Biological Resources	LTS/M	NI	LTS/M
Cultural and Tribal Cultural Resources	LTS/M	NI	LTS/M
Geology and Soils	LTS/M	NI	LTS/M
Greenhouse Gas Emissions	LTS	NI	LTS
Hazards and Hazardous Materials	S	NI	S
Hydrology and Water Quality	LTS/M		LTS/M
Land Use and Planning	LTS	NI	LTS
Noise	LTS/M	NI	LTS/M
Population	LTS	NI	LTS
Public Services	LTS	NI	LTS
Transportation	LTS/M	NI	LTS/M
Utilities and Service Systems	LTS	NI	LTS

NI = No Impact
LTS = Less Than Significant
LTS/M = Less Than Significant with Mitigation
S = Significant and Unavoidable

Summary of Environmental Impacts

Provided in the table herein is a summary of the environmental issues discussed in the EIR, level of significance before mitigation, mitigation measures (when warranted), and the level of impact after mitigation.

Summary of Project Impacts, Mitigation Measures and Level of Impact After Mitigation
Doris Avenue/Patterson Road Educational Facilities Project
Oxnard School District

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
3.1 Aesthetics			
Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within view from a state scenic highway, or route identified as scenic by the County of Ventura or City of Oxnard?	**Less than Significant Impact.** Views of the Ventura-Oxnard Greenbelt would primarily be from travelers on local roadways in the vicinity of the project site including Patterson Road and Doris Avenue. These are short duration viewers. Development of the proposed project would occur on the southeast corner of Doris Avenue and Patterson Road. Therefore, travelers' views of the Ventura-Oxnard Greenbelt located to the west would not be impacted on Patterson Road. On Doris Avenue, development of the project may obstruct westbound travelers' views across the site to the Ventura-Oxnard Greenbelt for a short duration in comparison to existing conditions. While this would be a visual change, it would not be a significant impact since the proposed project is located in an area planned for future development in the City of Oxnard General Plan and westbound travelers would be coming from similar developed areas. Eastbound travelers on Doris Avenue would be leaving the Ventura-Oxnard Greenbelt viewing area and traveling toward more developed urban areas in the City of Oxnard. Other viewers in the area include residents in the homes to the north of the project site. However, residents' views of the Ventura-Oxnard Greenbelt along Doris Avenue and Patterson Road are generally obstructed by an existing wall along the perimeter of the development and street trees along the northern side of Doris. In addition, the proposed project will be designed to be consistent with the community character goals and policies of the City of Oxnard General Plan designed to minimize impacts to scenic resources adjacent to scenic routes. Therefore, the proposed project would have a less than significant impact on these scenic routes, and no mitigation measures are required.	No mitigation is required.	Less than Significant Impact
Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	**Less than Significant Impact.** Visual impacts would result from construction activities, including the presence of equipment, materials, and workers, at the project site, and along Doris Avenue and Patterson Road. These impacts would be considered short-term and temporary. Vehicles such as automobiles, pickup trucks, and dump trucks would be visible. Heavy equipment such as backhoes, graders, and excavators and workers would be visible during site clearing, grading, construction, and site cleanup. Construction equipment and activities would be seen by various viewers in proximity to the project site, including pedestrians and motorists on Doris Avenue and Patterson Road. Other viewers in the area include residents in the homes to the north of the project site. However, residents' views along Doris Avenue and Patterson road are generally obstructed by the existing wall and street trees. Therefore,	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	project visual impacts from construction activities would be less than significant. The visual characteristics of the proposed project would be consistent with the developed areas immediately to the north and nearby to the east. The project would be consistent with the visual character of future development anticipated under the City of Oxnard General Plan for the project site area. The project would represent the continuation of existing city-wide land use patterns and proposed new development within the northeastern portions of the City of Oxnard SOI on land used for a variety of agricultural and open space uses (City of Oxnard 2011). Therefore, project impacts to visual character and quality would be less than significant and no mitigation measures are required.		
Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**Less than Significant Impact.** The proposed project would install street lighting on the project frontage and the City may require additional lighting to be installed on Patterson Road and Doris Avenue within the project area. The proposed project would include exterior lighting around the buildings, walkways and parking areas as needed for adequate safety and security at night. No lighted playfields are proposed. The exterior finish of the proposed buildings would not include any highly reflective surfaces aside from standard glass windows. The proposed project would be constructed with materials and lighting that will be consistent with the lighting principles contained in the Community Design Element of the City of Oxnard General Plan (Oxnard 2011) and the Oxnard Municipal Code (Oxnard 2017), that require that all outdoor lights be designed, located, and arranged so as to reflect the light away from adjoining properties or streets. Campus lights will be shielded and directed downward to the extent feasible to minimize glare for pedestrians and drivers and to minimize spillover light. The landscaping buffers surrounding all the parking lots will also minimize and/or block campus lighting and any headlights from vehicles traveling on the project site. While the proposed project would introduce new sources of light and glare; this change would be similar to existing light associated with the adjacent residential neighborhoods and roads. Therefore, the proposed project would not result in a substantial source of light or glare and project impact would be less than significant.	No mitigation is required.	Less than Significant Impact
Cumulative Aesthetic Impacts	**Less than Significant Impact.** Through the development of the proposed project and other development contemplated for this area in the City of Oxnard General Plan, the visual character of the project area would increasingly change from agricultural to urban. The City of Oxnard 2030 General Plan Program EIR evaluated the potential environmental impacts of buildout of the 2030 General Plan, including the project area. The 2030 General Plan Program EIR found that, while this development would have impacts related to scenic routes, visual character, and light and glare, these impacts would be less than significant and would not	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	require mitigation. As the proposed project is similar to the development contemplated for the project site in the City of Oxnard General Plan, the proposed project's incremental contribution to impacts associated with visual quality would be would be less than significant.		
3.2 Agriculture			
Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	**Significant Impact.** The permanent conversion of Farmland of Statewide Importance to non-agricultural uses would result in a significant impact. While City policies encourage establishment of a farmland protection program and use of conservation easements and land banking to protect continued agricultural uses throughout the City's SOI, presently the City does not utilize a banking or fee approach to mitigate impacts to agricultural soils or lands (City of Oxnard 2009). The City also has policies and programs that support existing agricultural buffers (such as the SOAR Ordinance) in order to reduce or slow further loss of agricultural resources, however, these policies do not offset an actual loss of farmland acreage. No additional feasible mitigation measures are currently available to reduce this impact to a less than significant level, therefore this impact would remain significant and unavoidable (City of Oxnard 2009).	No mitigation is feasible.	Significant Unavoidable Impact
Would the project conflict with existing zoning for agricultural use?	**Less than Significant Impact.** The project site is currently located within unincorporated Ventura County and is within the Ventura County SOAR boundary. The Ventura County General Plan land use designation for the project site is agricultural-urban reserve and the zoning designation is agricultural exclusive (AE-40). Schools are prohibited within the County's AE-40 zone. However, the proposed project includes annexation into the City of Oxnard thereby the County's land use designations would no longer be applicable to the project site. The project site is also within the City of Oxnard's SOI with a City of Oxnard General Plan land use designations of public/semi-public, open space and park. The project site is in an area planned for future development in the City of Oxnard 2030 General Plan. The proposed project includes annexation into the City of Oxnard. The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and an Annexation through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257). With the approval of the GPA, Pre-Zone, and Annexation, the proposed project would be consistent with zoning. Impacts would be less than significant and no mitigation is required.	No mitigation is required.	Less than Significant Impact
Would the project involve other changes in the	**Less than Significant Impact.** The County of Ventura Agriculture/Urban Buffer Policy also provides guidelines to prevent and/or mitigate	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	agricultural/urban interface compatibility issues. Per the County of Venture Agriculture/Urban Buffer Policy, a 300-foot setback from adjacent agricultural uses to new structures and sensitive uses is required on the non-agricultural property unless a vegetative screen is installed. With a vegetative screen, the buffer/setback is a minimum of 150 feet. These guidelines apply to projects requiring discretionary approval by the county or a city where the proposed non-farming activity is abutting or on land zoned AE, OS or RA, and the farming activity is located outside a Sphere of Influence, as adopted by LAFCO. However, the project site is located within the SOI for the City of Oxnard and buildout of the site was accounted for as part of the 2030 General Plan. In addition, the proposed project includes annexation into the City of Oxnard with a proposed C-R zone, thereby the County's land use designations would no longer be applicable to the project site. As such these guidelines would not apply to the proposed project. While the County of Ventura Agriculture/Urban Buffer Policy would not apply to project, the District has designed the lay-out of the project in order to minimize compatibly issues with adjacent agricultural uses. Based on input from the Ventura County Agricultural Commissioner, the proposed project was designed to cluster the school facilities within the middle of the northern portion of the site closer to the existing residential neighborhood to the north. The orientation and location of the drop off areas, bus turnouts, and play fields in the proposed site plan were also designed as a result of consultation with the County of Ventura's Agricultural Commissioner. The southern half of the project site will be composed of play fields (soccer, baseball, and hardcourts) and bordered by a vegetative screen, providing a buffer of over 400 feet or greater between the elementary and middle school buildings and the agricultural uses to the south. In addition, as appropriate and applicable, the District will follow recommendations in *Farming Near Schools, A Community Guide for Protecting Children* (Ag Futures Alliance 2002). With the implementation of these policies, as appropriate, to compatibility issues impacts associated with compatibility issues conversion of the project site from agricultural uses to non-agricultural uses would be less than significant.		
Cumulative Agricultural Impacts	**Significant Impact.** Buildout of the City would result in the conversion of up to 2,000 acres of important farmland including 1,230 acres of Farmland of Statewide Importance (City of Oxnard 2009). The cumulative loss of 4,335 acres of important farmland is expected due to development in the County of Ventura (County of Ventura 2005). The proposed project would contribute to the cumulative loss of agricultural lands within the region, specifically acres of Farmland of Statewide Importance. As discussed above, presently the City does not utilize a banking or fee	No mitigation is feasible.	Significant Unavoidable Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	approach to mitigate impacts to agricultural soils or lands (City of Oxnard 2009) and City policies and programs to reduce or slow further loss of agricultural resources do not offset an actual loss of farmland acreage. No additional feasible mitigation measures are currently available to reduce the project's contribution to this significant cumulative impact to a less than significant level, therefore this cumulative impact would remain significant and unavoidable.		
3.3 Air Quality			
Conflict with or obstruct implementation of the applicable air quality plan?	**Less than Significant Impact**. The proposed project is currently at least partially consistent with the existing General Plan land use designation Public/Semi-Public and would be consistent with the proposed School land designation if approved. The area designated as Public/Semi Public in the City of Oxnard General Plan is similar to the area that would be occupied by the proposed project structures (e.g., classrooms and offices). The only difference is that the proposed project would be located only about 40 percent on the area designated Public/Semi-Public. The other approximately 60 percent would be located on the areas designated as Open Space and Park. The recreational facilities of the proposed project are consistent with the Open Space and Park land uses. As noted in Section 3.12 Population of this EIR, the proposed project would not induce substantial population growth into the area either directly or indirectly. The student population would be part of the existing and projected growth for the city. In general, K-12 schools accommodate growth as a result of other land use decisions in the City such as the construction of new homes. As these educational facilities would accommodate existing and projected growth and the requirement for local schools, an indirect impact related to growth inducement would not occur. The proposed project would not result in population growth above what is forecasted in the 2030 General Plan and in turn the 2016 AQMP. Therefore, the proposed project would not conflict or obstruct implementation of the applicable 2016 AQMP and project impact would be less than significant.	No mitigation is required.	Less than Significant Impact
Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	**Potentially Significant Impact during Construction.** Ventura County does not have significance thresholds for construction emissions due to the fact that construction emissions occur only on a temporary basis and do not contribute to long-term air quality impacts. Thus, emissions resulting from proposed project would not be expected to have a significant impact on the environment and no mitigation measures would be required. However, Mitigation Measure AQ-1 is provided to minimize fugitive dust emissions and to ensure compliance with CARB off-road regulations in accordance with Ventura County recommendations for construction emissions exceeding the county's thresholds of significance	**Mitigation Measure AQ-1** During project construction the contractor shall ensure that: • All soil excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall be a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	of 25 pounds per day for NO_x and SO_x. With compliance with AQ-1, project impact would be less than significant.	• All clearing, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (mph) (averaged over one hour), if disturbed material is easily windblown, or when dust plumes of 20% or greater opacity impact public roads, occupied structures, or neighboring property. • All fine material transported off site shall be either sufficiently watered or securely covered to prevent excessive dust. • All haul trucks shall be required to exit the site via an access point where a gravel pad or grizzly has been installed. • Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust. • Once initial leveling has ceased, all inactive soil areas within the construction site shall either be seeded and watered until plant growth is evident, treated with a dust palliative, or watered twice daily until soil has sufficiently crusted to prevent fugitive dust emission. • On-site vehicle speed should be limited to 15 mph. • All areas with vehicle traffic should be paved, treated with dust palliatives or watered a minimum of twice daily. • Properly maintain and tune all internal combustion engine powered equipment; • Require employees and subcontractors to comply with the CARB idling restrictions for compression ignition engines; and use California ultra-low sulfur diesel fuel; use construction equipment with Tier 2 engines; and use interior and exterior paint with a VOC content of 100 grams per liter.	

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	**Less than Significant Impact.** The proposed project would result in significant cumulative impacts if it exceeds daily thresholds of significance established by VCAPCD or if it incurred in an increase of emissions beyond what is planned in the City of Oxnard General Plan. Since the proposed project's long-term emissions are less than established thresholds of significance, and its land use is not anticipated to provide for increase population growth above what is forecasted in the General Plan, the proposed project would not result in a cumulative considerable net increase of any criteria pollutant for which the region is non-attainment. Therefore, the proposed project would have less than significant cumulative impacts.	No mitigation is required.	Less than Significant Impact
Expose sensitive receptors to substantial pollutant concentrations?	**Less than Significant Impact.** The project site is surrounded by residential units in the north, agricultural/open space in the east, and by agricultural land in the south and west. The proposed project is a public school that qualifies as a sensitive receptor (i.e., a facility serving populations likely to suffer adverse health effects from pollution, such as children and the elderly). The location of the project site is not expected to expose students to sources of substantial pollutant concentrations (e.g., industrial facilities emitting odorous or hazardous substances). During construction, construction activities would generate particulate matter emissions resulting from the combustion of diesel fuel by construction equipment. Since nearby residents would be potentially exposed to these emissions a screening health risk assessment was conducted to determine impacts from these emissions. Additionally, operation of the proposed project has the potential to contribute significantly to traffic volumes in the nearby roadway system. Congested intersections have the potential to result in localized high levels of CO, which results from incomplete combustion of carbon containing fuels (e.g., gasoline and diesel). CO exposure can have a significant impact on sensitive receptors. To this end, a CO analysis was conducted for six intersections expected to be impacted by the implementation of the proposed project and no significant impacts associated with CO emissions were found during the analysis. A SHRA was conducted for the proposed project and emissions from construction sources are not anticipated to expose sensitive receptors in the nearby residential area to substantial pollutant concentrations.	No mitigation is required.	Less than Significant Impact
Create objectionable odors affecting a substantial number of people?	**Less than Significant Impact.** While the project would be adjacent to agricultural fields, the types of crops grown at these field are not anticipated to create objectionable odors in accordance with the listing for odorous land uses prescribed in the Ventura County Air Quality Guidelines. Emissions from construction equipment are not listed either as odorous sources. Thus, the proposed project would not result in	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	objectionable odors affecting a substantial number of people and project impact would be less than significant.		
Cumulative Air Quality Impacts	**Less than Significant Impact.** The proposed project would not result in significant cumulative impacts since it does not exceed daily thresholds of significance established by VCAPCD or result in an increase in emissions beyond what is planned in the City of Oxnard General Plan and thereby the applicable AQMP. Project contribution toward cumulative impacts would be less than significant.	No mitigation is required.	Less than Significant Impact
3.4 Biological Resources			
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?	**Potentially Significant Impact during Construction.** The proposed project site consists of an active agricultural field, and is surrounded by agricultural uses to the west, south, and east, and residential development to the north. No candidate, sensitive, or special-status wildlife or plant species in any local or regional plans, policies, or regulations, or regulated by the CDFW or USFWS were observed during the site visit in July 2017. Additionally, no suitable habitat for these species was found within or directly adjacent to the project site. The ornamental tree stand north of the site and the telephone poles running along the western and southern borders of the site may serve as potential perching or nesting locations for birds. A visual survey of these locations was conducted from the project site during the site visit in July 2017, and no nests were observed. Small numbers of common birds were observed in-flight over the site, including: house sparrow (*Passer domesticus*), song sparrow (*Melospiza melodia*), house finch (*Carpodacus mexicanus*), American crow (*Corvus brachyrhynchos*), and turkey vultures (*Cathartes aura*). A few American crow individuals were observed in the ornamental tree stand north of the project site. No trees or shrubs are present on the project site, and therefore would not be removed as part of the proposed project. Existing ornamental trees and shrubs north of the project site and telephone poles to the west and south may provide suitable nesting bird habitat. Doris Avenue separates the project site from the ornamental tree stand and experiences heavy vehicle traffic. While the potential for significant impacts from project activities is low, the use of heavy machinery or activities that generate significant ground disturbance may disturb nesting birds if present. With implementation of mitigation measure BIO-1, project impact would be reduced to less than significant.	**Mitigation Measure BIO-1** Prior to construction, the general contractor shall have a preconstruction nesting bird survey conducted by a qualified biologist, prior to the use of heavy machinery or significant ground disturbance, at the ornamental tree stand north of the site and at the telephone poles west and south of the site if activities are conducted within the breeding season for birds (February 15 – September 15). If any migratory or federally or state listed species birds are found to be actively nesting within 250 feet of the designated construction area, an appropriate exclusionary buffer around the active nest shall be established by the qualified biologist. The buffer distance will be determined based on the specific nesting bird species, and would be maintained until the birds have fledged from the nest. Active nests and buffers would be monitored initially by a qualified biologist to determine if active nests are being adversely affected by project activities.	Less than Significant Impact
Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife	Refer to impact discussion under Threshold above.	Refer to Mitigation Measure BIO-1.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			
Would the project have a substantial adverse effect on federally protected waters of the U.S. as defined by Section 404 of the Federal CWA or protected waters of the state as defined by Section 1600 et seq. of the California Fish and Game Code (including, but not limited to, marshes, vernal pools, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means?	**Potentially Significant Impact during Construction**. No designated jurisdictional wetlands or wetland habitats are known to occur within or directly adjacent to the project site based on review of the CNDDB and USFWS National Wetlands Inventory (NWI) databases. Agricultural ditches were found along the western and southern site boundaries during the July 2017 site visit. Both ditches are predominantly un-vegetated and heavily disturbed. The western ditch was noted as completely dry and the southern ditch had minor ponding (less than 6 inches of water). Since the ACOE does not typically assert jurisdiction over swales, erosional features, or ditches that were excavated primarily to drain uplands that do not carry a permanent flow of water, neither a CWA Section 401 nor 404 permit is anticipated to be required. Likewise, it is not anticipated that a permit pursuant to Section 1602 of the California Fish and Game Code would be required. However, the ACOE, CDFW, and RWQCB reserve the right to regulate these waters on a case-by-case basis. Therefore, if the ditches are determined to be under the jurisdiction of one or more of these agencies and are affected by project-related activities, then mitigation measures BIO-2 and BIO-3 will be required to reduce project impacts to less than significant.	**Mitigation Measure BIO-2** Prior to disturbance of the on-site agricultural irrigation ditches, the Project Manager shall initiate coordination with the ACOE under CWA Section 404 so that a jurisdictional determination regarding the ditches can be made. If the ACOE determines that any of the ditches are jurisdictional, appropriate authorizations under the Nationwide Permit Program will be implemented. The Project Manager will also seek authorization from the RWQCB under CWA Section 401, if required. **Mitigation Measure BIO-3** Prior to disturbance of the on-site agricultural irrigation ditches, the Project Manager shall initiate coordination with the CDFW under Section 1602 of the California Fish and Game Code so that a jurisdictional determination regarding the ditches can be made. If the CDFW determines that any of the ditches are jurisdictional, a Streambed Alteration Agreement may be required.	
Cumulative Biological Resources Impacts	**Less than Significant Impact.** Cumulative impacts are incremental effects of an individual project when combined with effects of past, current, and potential future projects. Because the project site is active agricultural land with very little quality habitat surrounding the site, cumulative impacts to biological resources are not anticipated.	No mitigation is required.	Less than Significant Impact
3.5 Cultural and Tribal Cultural Resources			
Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	**Less than Significant Impact.** The project site lacks any buildings or structures and is currently used for agriculture row crops. The records search and NAHC sacred lands search did not identify any known historical resources within or adjacent to the project APE. One historical resource (P-56-151357) and one potential historical resource (P-56-153056) have been recorded in the study area outside of the APE. However, neither resource is anticipated to be indirectly impacted by the Project due to their distance from the APE. As a result, the proposed	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	project would not cause a substantial adverse change in the significance of a known historic resource as defined in Section 15064.5 of the CEQA Guidelines and no mitigation is required.		
Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	**Potentially Significant Impact.** The records search, NAHC sacred land search, and tribal outreach did not identify any archaeological sites within or adjacent to the project APE. Based on a previous geotechnical study (Koury Geotechnical Services, Inc. 2014; Earth Systems Southern California 2017), the project APE is overlain with approximately 0-24 inches of fill soil (agricultural) consisting of silty sand to sandy silt, and the surface soils have been altered by previous agricultural related ground disturbance (disked and plowed) to a depth of approximately 0-30 inches (plow zone). Surface soils consist of silty sand to sandy silt, sandy lean clay, and fine silty sand underlain by alluvial soils. Due to the fill soils mixed by previous agricultural disturbance covering the site and the lack of native soil surface visibility, an archaeological survey was not conducted of the APE. However, the project site is located in an active depositional setting, and buried archaeological (prehistoric or historic) materials may be present in previously undisturbed native soils beneath the fill soils. Disturbance of these intact buried resources would be a significant impact. Incorporation of Mitigation Measures CUL-1 (Worker Environmental Awareness Training) and CUL-2 (Archaeological Monitoring), below, would avoid this significant potential impact on archaeological resources.	**Mitigation Measure CUL-1** **Worker Environmental Awareness Training:** Prior to any proposed construction ground disturbing activities within the Project APE, the District Project Manager will require the construction contractor to provide for all non-cultural resources personnel to be briefed, by a qualified project archaeologist (retained on-call by construction contractor) about the potential and procedures for an inadvertent discovery of prehistoric and historic archaeological resources. In addition, the training will include established procedures for temporarily halting or redirecting work in the event of a discovery, identification and evaluation procedures for finds, and a discussion on the importance of, and the legal basis for, the protection of archaeological resources. Personnel will be given a training brochure/handout regarding identification of cultural resources, protocols for inadvertent discoveries, and contact procedures in the event of a discovery. **Mitigation Measure CUL-2** **Archaeological Monitoring Plan and Monitoring:** If proposed project construction ground disturbing activities will reach depths containing undisturbed native soils (below 24 inches), the qualified project archaeologist will prepare an archaeological monitoring plan and a qualified archaeological monitor and Native American monitor (if requested) will be present on-site during ground disturbing activities that occur within native soils. If any cultural resources are identified by the monitor(s) during ground disturbing activities, the resource will be treated as an inadvertent discovery and the protocols outlined in the monitoring plan will be adhered to. In general, if cultural resources are encountered during ground disturbing activities in native soils, the archaeological monitor will stop work within 100-feet of the find in order to assess its	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
		significance. Construction activities can continue outside the established 100-foot radius exclusion zone. Work may not resume within the 100 feet exclusion zone until the Project Archaeologist can evaluate the significance of the find and complete any necessary recordation and evaluation of the find (may include recording, testing and/or data recovery efforts) in consultation with the Oxnard School District. Construction will not proceed within the 100-foot area around the discovery until the appropriate approvals are obtained. Mr. Patrick Tumamait of the Barbareno Ventureno Band of Mission Indians, requested to be notified in the event of an inadvertent discovery. If requested by interested Tribes, a Native American Monitor will also be present during construction ground disturbing activities. A final report documenting the results of the monitoring program will be prepared by the qualified project archaeologist.	
Would the project disturb any human remains, including those interred outside of formal cemeteries?	**Potentially Significant Impact.** There are no known human remains or burials within the project APE. The record search nor the NAHC sacred land file search identified any known burials or recorded human remains. Nonetheless, as with archaeological resources, it is possible that previously unknown human burials or remains could be disturbed on site during project construction. As discussed above, human occupation within the Oxnard Plain has been documented to at least 5000 years ago and likely include the project APE. California state law requires all project excavation activities to halt if human remains are encountered and the County Corner must be notified. Any discovery of human remains on the project site would be treated in accordance with PRC Section 5097.98 and Section 7050.5 of the State Health and Safety Code. Pursuant to State HSC § 7050.5, if human remains and/or cultural items defined by the Health and Safety Code, Section §7050.5, are inadvertently discovered during construction activities, all work within a 100-foot radius of the find or an area reasonably suspected to overlie adjacent remains (whichever is larger) will cease, the find will be flagged and protected for avoidance, and the Ventura County Coroner will be contacted immediately. The remains must be securely protected and project personnel must ensure confidentiality of the find on a need-to-know basis and ensure that the remains are treated with dignity, not touched, moved, photographed, discussed on social media sources (e.g., Facebook, Twitter), or further disturbed. If the remains are found to be Native American as defined by Health and Safety Code, Section 7050.5, the coroner will contact the	**Mitigation Measure CUL-1** **Worker Environmental Awareness Training:** Prior to any proposed construction ground disturbing activities within the Project APE, the District Project Manager will require the construction contractor to provide for all non-cultural resources personnel to be briefed, by a qualified project archaeologist (retained on-call by construction contractor) about the potential and procedures for an inadvertent discovery of prehistoric and historic archaeological resources. In addition, the training will include established procedures for temporarily halting or redirecting work in the event of a discovery, identification and evaluation procedures for finds, and a discussion on the importance of, and the legal basis for, the protection of archaeological resources. Personnel will be given a training brochure/handout regarding identification of cultural resources, protocols for inadvertent discoveries, and contact procedures in the event of a discovery.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	NAHC by telephone within 24 hours. The NAHC shall immediately notify the person it believes to be the MLD as stipulated by California PRC Section 5097.98. The MLD(s), with the permission of the landowner and/or authorized representative, shall inspect the site of the discovered remains and recommend treatment regarding the remains and any associated grave goods. The MLD shall complete their inspection and make their recommendations within 48 hours of notification by the NAHC. Construction will not proceed within the 100-foot area (or protected area) around the discovery until the appropriate approvals are obtained. Work may be delayed in the vicinity of the human remains up to 30 days. The specific State law/regulations regarding proper handling of previously unknown human remains encountered during construction are specified above and the project will comply with the state law/regulations to avoid significant impacts on human remains. In conjunction with the training and monitoring protocols identified in in Mitigation Measures CUL-1 and CUL-2, potential impacts to unknown human remains is less than significant.	**Mitigation Measure CUL-2** **Archaeological Monitoring Plan and Monitoring:** If proposed project construction ground disturbing activities will reach depths containing undisturbed native soils (below 24 inches), the qualified project archaeologist will prepare an archaeological monitoring plan and a qualified archaeological monitor and Native American monitor (if requested) will be present on-site during ground disturbing activities that occur within native soils. If any cultural resources are identified by the monitor(s) during ground disturbing activities, the resource will be treated as an inadvertent discovery and the protocols outlined in the monitoring plan will be adhered to. In general, if cultural resources are encountered during ground disturbing activities in native soils, the archaeological monitor will stop work within 100-feet of the find in order to assess its significance. Construction activities can continue outside the established 100-foot radius exclusion zone. Work may not resume within the 100 feet exclusion zone until the Project Archaeologist can evaluate the significance of the find and complete any necessary recordation and evaluation of the find (may include recording, testing and/or data recovery efforts) in consultation with the Oxnard School District. Construction will not proceed within the 100-foot area around the discovery until the appropriate approvals are obtained. Mr. Patrick Tumamait of the Barbareno Ventureno Band of Mission Indians, requested to be notified in the event of an inadvertent discovery. If requested by interested Tribes, a Native American Monitor will also be present during construction ground disturbing activities. A final report documenting the results of the monitoring program will be prepared by the qualified project archaeologist.	
Would the project directly or indirectly destroy a unique paleontological resource	**Potentially Significant Impact**. In Ventura County, paleontological remains, typically identified in Pleistocene-age alluvial deposits, include examples from throughout most of geological history, including the Paleozoic (600-225 million years ago), Mesozoic (225-70 million years ago) and Cenozoic (70 million years ago-present) eras. Based on the geological map of Ventura County, Oxnard quadrangle, the project site is	**Mitigation Measure CUL-3** **Paleontological Resource Impact Mitigation Program:** Prior to any ground-disturbing activities, the District Project Manager will require the construction contractor to have a	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
or site or unique geologic feature?	underlain by Holocene age (10,000 years BP to recent) alluvial fan deposits composed of soils that are predominately of clay with interbeds of sand and occasional gravel (Koury Geotechnical Services, Inc. 2014, Clahan 2003). Holocene deposits may overlie older alluvium of Pleistocene age (2.6 million years ago to 10,000 years BP). Holocene age deposits are considered to have a low sensitivity for yielding paleontological resources. In 2010, a paleontological record search of the museum collection records maintained by the Natural History Museum of Los Angeles County (NHM) was conducted for the Oxnard Airport Land Easement Acquisition Project, approximately 0.40 miles south of the project site (SWCA 2009). The record search included a one mile radius around the airport and indicated that no previously identified paleontological localities occurred within the search area, nor had any resources been reported within the same Holocene age geological unit as the current project APE (SWCA 2009). Based on the Holocene-age deposits, surficial ground disturbance is unlikely to encounter or cause a substantial adverse change in significance to a paleontological resource. However, if project ground disturbing construction depths exceed the Holocene age deposits or encounters shallow Pleistocene deposits, paleontological resources may be exposed. Paleontological resources in Ventura County include many widely dispersed outcrops of fossil bearing formations. (Ventura 2011). Incorporation of Mitigation Measure CUL-3 (Paleontological Resource Impact Mitigation Program), below, would avoid this significant potential impact on archaeological resources.	Paleontological Resource Impact Mitigation Program (PRIMP) prepared by a qualified paleontologist if project construction will exceed Holocene soils. The qualified paleontologist will also attend the worker environmental awareness program training and provide information on paleontological resources and a brochure/handout outlining procedures in the event of a paleontological find during construction. The District Project Manager will require the construction contractor to initiate implementation of the PRIMP at the beginning of ground disturbing activities. The PRIMP will address and define the following specific activities and responsibilities: • Full-time monitoring by a qualified paleontologist during all grading and excavation extending more than 10 feet (ft) below ground surface (bgs) or beyond Holocene deposits. • Spot-check monitoring by a qualified paleontologist for all grading and excavation between 5 and 10 ft bgs to determine whether older sediments with a potential to contain paleontological resources are present. • Procedures for project personnel and/or paleontological monitor to halt work and temporarily redirect construction away from an area if paleontological resources are encountered during grading or excavation in order to assess the significance of the find. • Procedures for recommendations regarding level of monitoring effort (e.g. spot check, full-time) depending upon sensitivity of soil depth, identification of finds, etc. • Procedures for handling collected material and curation. • Procedures for reporting and documenting the results of the monitoring program. • Provide brochure of environmental awareness training	

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?, and that is: *listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*	**Less than Significant Impact.** The records search, NAHC sacred lands search, and AB 52 consultation did not identify any historical resources within or adjacent to the project APE. The District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation. We received one response from Mr. Patrick Tumamait on October 9, 2017 indicating that he would like to be notified in the event of an inadvertent discovery and of any project updates or changes. As a result, it is believed the proposed project would not cause a substantial adverse change in the significance of a known historic resource as defined in PRC 5020.1 (k) and no mitigation is required.	No mitigation is required.	Less than Significant Impact
a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	**Less than Significant Impact.** The records search, NAHC sacred lands search, and AB 52 consultation between the lead agency and Mr. Morales did not identify any significant tribal cultural resources within or adjacent to the project APE. The District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation. We received one response from Mr. Patrick Tumamait on October 9, 2017 indicating that he would like to be notified in the event of an inadvertent discovery and of any project updates or changes. As a result, the proposed project is not anticipated to cause a substantial adverse change in the significance of a known historic resource as defined in PRC 5024.1 and no mitigation is required.	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Cumulative Cultural Resources Impacts	**Potentially Significant Impact.** **Cultural Resources and Tribal Resources** Based on the literature and records review (as described above), the project site is in a part of coastal California with documented prehistoric and historic occupation. The cumulative impact study area for cultural resources is coastal Ventura County and the Channel Islands (specifically, the Oxnard Plain), covering areas occupied by Native Americans through historic contact and immigrant populations (e.g. Europeans, Mexicans). Although no historic or archeological resources are documented in the project APE, unidentified buried resources may exist. Varied cultural resources are documented throughout this part of coastal California suggesting it is a highly sensitive region for archaeological resources. The proposed project would not result in impacts to previously documented archeological and historic resources or human burials, but could result in impacts to those types of resources as a result of disturbance of native soils during project construction. This type of impact would be significant. However, with implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3, those impacts would not be significant. As such, the project is not anticipated to contribute significantly to cumulative impacts on cultural resources in the region. **Paleontological Resources** Project construction excavation exceeding Holocene deposits would potentially result in the unearthing of significant paleontological resources. Those effects would be mitigated through implementation of a PRIMP as detailed in Mitigation Measure CUL-3. In addition, scientific knowledge gained based on the study and evaluation of fossils potentially removed from the cited formations/units during the construction of the project would be a beneficial effect of the project. The grading and excavation for other projects and development in areas where formations/ units with Pleistocene fossil bearing deposits occur also have the potential to result in the unearthing, removal, and possible destruction of significant paleontological resources from one or more of such fossil bearing deposits. Those effects would also be required to be mitigated through implementation of a similar project-specific PRIMP. In addition, scientific knowledge gained based on the study and evaluation of fossils potentially removed from the cited formations/units during the construction of the cumulative projects would be beneficial effects of those projects. For these reasons, potential cumulative impacts to paleontological resources would be less than significant.	Refer to Mitigation Measures CUL-1, CUL-2, and CUL-3.	Less than Significant Impact
3.6 Geology and Soils			
Would the project expose people or	**Potentially Significant Impact.** The probable maximum intensity of a seismic event which could affect would be approximately intensity IX on	**Mitigation Measure GEO-1**	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
structures to potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	the Modified Mercalli Scale (ESSC 2017). At this level of shaking it is likely that there will considerable damage in specially designed structures; some well-designed frame structures could be thrown out of plumb; and great damage could occur in substantial buildings, with partial collapse possible. This intensity could also result in buildings being shifted off foundations. In addition, there would be great damage to poorly built structures and chimneys, factory stacks, columns, monuments, and free-standing walls would be at great risk of falling beginning at the lesser Intensity Level VIII. The Geotechnical Report Site-Specific Analysis for ground motion calculated estimates of motion for a maximum considered earthquake with a moment magnitude of 7.2 on Oak Ridge fault, which occurs within 2.8-miles of the project site. The Short Period Spectral Response (Sips) was found to be 1.198 g, and the 1 Second Spectral Response (SD1) was found to be 1.312 g. Both the "site specific" and "general procedure yielded peak ground accelerations of 0.873 g. ESSC found that based upon the. Therefore, the findings of the Geotechnical Report show that there is the potential for adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. The potential risks posed by the project from strong seismic ground shaking would be less than significant impacts with mitigation incorporated. Mitigation measure GEO-1 requires that the building design for structures at the Project use geotechnical building design recommendations that are based on a site specific ground motion hazard analysis for the Project site in accordance with ASCE 7-10 (ASCE 2013) Chapter 21 as modified by Section 1803A.6 of the 2016 CBC (CBSC 2016). The site specific ground motion hazard analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA. With the implementation of Mitigation Measure GEO-1; the project would have a less than significant impact.	The building design for structures at the Project shall use geotechnical building design recommendations that are based on a site specific ground motion hazard analysis for the Project site performed in accordance with ASCE 7-10 (ASCE 2013) Chapter 21 as modified by Section 1803A.6 of the 2016 CBC (CBSC 2016). The site specific ground motion hazard analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA.	
Would the project expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	**Potentially Significant Impact.** The probable maximum intensity of a seismic event which could affect would be approximately intensity IX on the Modified Mercalli Scale (ESSC 2017). At this level of shaking it is likely that there will considerable damage in specially designed structures; some well-designed frame structures could be thrown out of plumb; and great damage could occur in substantial buildings, with partial collapse possible. This intensity could also result in buildings being shifted off foundations. In addition, there would be great damage to poorly built structures and chimneys, factory stacks, columns, monuments, and free-standing walls would be at great risk of falling beginning at the lesser Intensity Level VIII. The Geotechnical Report Site-Specific Analysis for ground motion calculated estimates of motion for a maximum considered earthquake with a moment magnitude of 7.2 on Oak Ridge fault, which occurs within 2.8-miles of the project site. The Short Period Spectral Response (Sips) was found to be 1.198 g, and the	Refer to Mitigation Measure GEO-1.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	1 Second Spectral Response (SD1) was found to be 1.312 g. Both the "site specific" and "general procedure yielded peak ground accelerations of 0.873 g. ESSC found that based upon the. Therefore, the findings of the Geotechnical Report show that there is the potential for adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. The potential risks posed by the project from strong seismic ground shaking would be less than significant impacts with mitigation incorporated. Mitigation measure GEO-1 requires that the building design for structures at the Project use geotechnical building design recommendations that are based on a site specific ground motion hazard analysis for the Project site in accordance with ASCE 7-10 (ASCE 2013) Chapter 21 as modified by Section 1803A.6 of the 2016 CBC (CBSC 2016). The site specific ground motion hazard analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA. With the implementation of Mitigation Measure GEO-1; the project would have a less than significant impact.		
Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	**Potentially Significant Impact.** Earth Systems Southern California determined that there is no risk from off-site landslide, but liquefaction and differential settlements, ranging up to about 2.0 inches, and potential lateral spreading could occur, up to about 1.3 feet. Therefore there is a potential that the project would expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure. The potential risks posed by the project from a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse would be less than significant impacts with mitigation incorporated. If Mitigation Measure GEO-2 is implemented it would reduce the potential risks posed by liquefaction, differential settlements, and lateral spreading to a less than significant impact.	**Mitigation Measure GEO-2** The building design for structures at the Project shall use geotechnical building design recommendations that are based on a site specific evaluation of the liquefaction potential performed in accordance with the 2013 CBC (CBSC 2016) and the methods in the Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117A (CGS 2008). The site specific liquefaction potential analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA.	Less than Significant Impact
Would the project result in substantial soil erosion or loss of topsoil?	**Potentially Significant Impact.** Soil erosion would potentially occur during construction activities, including site grading, structure assembly, and utility extension. With the implementation of Mitigation Measure GEO-3, this impact would be reduced to a less than significant level with standard erosion mitigation measures, including the use of hay bales and other erosion control devices as determined by site-specific conditions, limiting construction to the dry season, soil wetting, and adherence to applicable regulatory guidelines and standards. These measures would also reduce potential air quality impacts and sedimentation. Once the project is completed, no additional loss of topsoil or erosion would occur as there would be no exposed soils on the project site.	**Mitigation Measure GEO-3** Potential soil erosion that would occur during construction activities, including site grading, structure assembly, and utility extension shall be reduced to a less than significant level with standard erosion mitigation measures, including the use of hay bales and other erosion control devices as determined by site-specific conditions, limiting construction to the dry season, and soil wetting, applied as required under applicable regulatory guidelines and standards.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	**Potentially Significant Impact.** Soil testing documented the ESSC Geotechnical Report (ESSC 2017) indicated that shallow subsurface soils (at depths of 0 to 5 feet below ground surface [bgs]) are in the low expansion range (have a UBC Expansion Index [EI] between 21 and 50). Section 10803.2 of the 1994 UBC mandates that "special [foundation] design consideration" be employed if the EI is greater than 20 (UBC Table 18-1-B). The potential risks posed by the project from expansive soils would be less than significant impacts with mitigation incorporated. Mitigation Measure GEO-4 requires that special foundation design procedures in the building design for structures at the Project use the geotechnical building foundation design recommendations in the 2017 ESSE Geotechnical Report (ESSC 2017) that are based on a site specific evaluation of the expansive soils potential. The site specific expansive soil analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA. With the implementation of Mitigation Measure GEO-4; the project would have a less than significant impact.	**Mitigation Measure GEO-4** Special foundation design procedures in the building design for structures at the Project use the geotechnical building foundation design recommendations in the 2017 ESSE Geotechnical Report (ESSC 2017) that are based on a site specific evaluation of the expansive soils potential. The site specific expansive soil analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA.	Less than Significant Impact
Cumulative Cultural Resources Impacts	**Potentially Significant Impact.** The proposed project would result in a less than significant contribution to cumulative impacts on soils and geology. The proposed project and all new building projects within the surrounding study area (City and the County) would be required to comply with the applicable State and local requirements, including, but not limited to, the CBC, and would be required to implement recommendations of a site-specific geotechnical report. Therefore, the project specific impacts, as well as the impacts associated with other projects, would be reduced to a less than significant level. Seismic impacts are a regional issue and are also addressed through compliance with applicable codes and design standards. For these reasons, the project's contribution to cumulative geotechnical and soil impacts is less than significant.	Refer to Mitigation Measures GEO-1, GEO-2, GEO-3, and GEO-4.	Less than Significant Impact
3.7 Greenhouse Gas Emissions			
Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	**Less than Significant Impact.** The proposed project would generate GHGs during construction and operation activities. GHG emissions generated by the proposed project would not exceed the SCAQMD threshold of 10,000 MT of CO_2e. Therefore project impacts are considered less than significant.	No mitigation is required.	Less than Significant Impact
Would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the	**Less than Significant Impact.** GHG emissions generated by the proposed project would not exceed the SCAQMD threshold of 10,000 MT of CO_2e. Neither, construction nor operation of the proposed project is expected to conflict with any applicable plan, policy or regulation of any agency adopted for the purposed of reducing the emissions of	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
emissions of greenhouse gases?	greenhouse gases. Therefore project impacts are considered less than significant.		
Cumulative Greenhouse Gas Emissions Impacts	**Less than Significant Impact.** The proposed project would contribute GHGs which would add to GHG emitted locally and globally. However, the GHG emissions from the proposed project would not exceed the SCAQMD interim threshold of 10,000 MT per year of CO_2e and therefore cumulative project impacts are considered less than significant.	No mitigation is required.	Less than Significant Impact
3.8 Hazards and Hazardous Materials			
Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	**Potentially Significant Impact.** The proposed project would not create a significant hazard to the public or the environment involving the likely release of hazardous materials. The proposed project would not handle or generate large quantities of hazardous materials. Potential hazardous materials used onsite include those needed during short term temporary construction activities such as architectural coatings and sealants. During long term operations, small quantities of potential hazardous materials stored at the school would include cleaners (e.g., disinfectants, bleach) and office supplies (e.g., toner). As is standard for schools, these materials would be kept in cabinets or supply rooms and therefore, would not be considered a hazard to students, staff, or the public. The project site is located within 1,500 feet of a high pressure natural gas pipeline and a high volume water pipeline. There is a 10-inch high pressure natural gas pipeline operated by the Southern California Gas Company approximately 1,000 feet south of the proposed project along the south shoulder of Teal Club Road, approximately parallel to the roadway (Ninyo & Moore 2014; Tetra Tech 2017). A high volume municipal water main (12-inch diameter and greater) operated by the City of Oxnard was also identified in the Right of Way beneath Doris Avenue (Tetra Tech 2017). California Code of Regulations (CCR) Title 5, Education Section 14010(h), requires that new school sites shall not be located within 1,500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional. A Pipeline Risk Assessment was performed by JHE in August 2017 to evaluate whether the 10-inch diameter SCGC natural gas pipeline or City of Oxnard high volume water pipeline could pose and unacceptable safety hazard to the project site (JHE 2017). The risk analysis was prepared in accordance with guidelines set forth in the February 2007, California Department of Education (CDE) Guidance Protocol for School Site Pipeline Risk Analysis (CDE Protocol) (CDE 2007). The Pipeline Risk Assessment for the natural gas pipeline indicated that the estimated annual individual risk associated with the SCGC 10-inch diameter high-pressure natural gas distribution pipeline is 8.6x10-10, well	**Mitigation Measure HAZ-1** Project development plans shall take the presence of the high-volume municipal water distribution pipeline into consideration with the goal of minimizing student and staff use of areas within 25 feet of the pipeline alignment. Land within this area shall be considered for low average occupancy level uses, such as parking lots, or designated as landscaped “buffer” areas. **Mitigation Measure HAZ-2** All emergency plan(s) that are prepared for the educational facilities shall identify the presence of the high-pressure natural gas pipeline and the high-volume municipal water distribution pipeline and include an emergency contact list with phone numbers to be used in the event of an incident.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	below the CDE risk threshold for new school facility sites of 1x10-6. Therefore, the population risk indicator for the project site is zero for the high-pressure natural gas pipeline and the high-pressure natural gas pipeline is not considered to pose an unacceptable safety hazard for school facility development at the proposed educational facilities site (JHE 2017). The high-volume water pipeline risk analysis indicated that in the unlikely event of failure of the City of Oxnard municipal water distribution pipeline located within the Doris Avenue right-of way, portions of the project site could be subject to physical impact and sheet flow runoff. This east-west trending pipeline is located approximately 5 feet north of the northern boundary of the project site. Physical impacts would be greatest within approximately 25 feet of the pipeline alignment. Released water would be expected to flow across much of the project site. However, the depth of water would not be expected to exceed 0.5 to 1.0 feet and potential inundation at the project site is not, therefore, considered to pose a significant safety hazard. JHE recommended that site development plans take the presence of the high-volume municipal water distribution pipeline into consideration with the goal of minimizing student and staff use of areas within 25 feet of the pipeline alignment. The conceptual site plan is consistent with this recommendation with the nearest structure (Administrative Building) located 37 feet from Doris Avenue. Nonetheless, Mitigation Measure HAZ-1 has been added that requires areas in closest proximity to the high-volume water pipeline to be considered for low average occupancy level uses, such as parking lots, or designated as landscaped “buffer” areas. This mitigation measure was added to ensure that final project design maintains an adequate setback distance from the high pressure water pipeline. To provide an added degree of risk management, Mitigation Measure HAZ-2 has been added that requires any emergency plan documents that are prepared for the educational facilities to identify the presence of the high-pressure natural gas pipeline and the high-volume municipal water distribution pipeline and include an emergency contact list with phone numbers to be used in the event of an incident. With implementation of mitigation measures HAZ-1 and HAZ-2 project impact would be less than significant.		
Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an	**Potentially Significant Impact.** *Pesticide Hazards* Historical and current use of the property have been for agriculture. Agricultural uses may potentially represent an environmental concern, as the use of pesticides on the property may result in residual pesticides in the surface soils. Based on the fact that future development of the property includes planned school sites, large areas of the site are	**Mitigation Measure HAZ-3** A Land Use Covenant shall be prepared, approved by DTSC, recorded with the County of Ventura Recorder’s Office and implemented in accordance with DTSC requirements. This Land Use Covenant will insure that the project site’s	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
existing or proposed school?	scheduled to be disturbed by demolition, grading, and reconstruction. These activities may result in the completion of ingestion, inhalation, and dermal exposure pathways via wind-blown dust, soil carried to different parts of the site by heavy equipment, and adhesion to site worker clothing. A Screening Health Risk Assessment was performed as part of the PEA to estimate non-carcinogenic and carcinogenic human health risks posed by OCP and arsenic concentrations in soil in accordance with EPA and DTSC guidance (ATC 2017a). The PEA Screening Health Risk Assessment for human health effects involves identifying potential chemicals of concern, and comparing a calculated dose for these chemicals to health-based levels developed by EPA and DTSC. For the PEA screening evaluation, the Screening Health Risk Assessment evaluated potential exposures, doses, and risks for four potential onsite receptors, including hypothetical resident, future school worker, future student, and construction worker exposure scenarios. For this analysis, the Screening Health Risk Assessment was performed utilizing data obtained from the December 2016 site assessment. Exposure to chemicals can only occur if there is a complete pathway by which chemicals in site soil, water, or air can be contacted by humans. Therefore, the evaluation of exposure pathways is the first step in the human health screening evaluation. Potential dose and risk are then calculated based on an evaluation of potential exposure concentrations of chemicals of concern, and the toxicity of the chemicals. Following development, it is anticipated that only limited portions of the site would be exposed and available for contact by future students and school workers. The potential for direct contact with soil under anticipated future site conditions is expected to be minimal. Consistent with agency guidance for baseline risk assessments, it was assumed that the site will be uncovered and that bare soils will be available for contact for the purpose of the screening human health evaluation. Consequently, children attending the school, certain school staff, and workers engaged in construction activities could potentially be exposed to site chemicals through incidental ingestion, dermal contact, and inhalation of vapors and particulates from chemicals in soil. Chemicals of Potential Concern (COPCs) include constituents that are present in soil that may result in adverse health effects under the defined conditions of exposure. The PEA sampling activities included analysis for arsenic, a naturally-occurring element that may also be associated with historical arsenic based pesticides, and organochlorine pesticides (OCPs). The Screening Health Risk Assessment concluded that the estimated upper-bound hazard indices for non-carcinogenic human health risk are 0.2 for the hypothetical future site resident, 0.014 for the site worker, 0.067 for the construction worker, and 0.019 for the student. The results of the Screening Health Risk Assessment indicated that the	future use is restricted to non-residential purposes. **Mitigation Measure HAZ-4** During grading and project construction activities the DTSC approved SMP shall be implemented to the satisfaction of DTSC.	

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	presence of OCPs in soil is not expected to result in adverse, non-cancer health impacts to any of the potential receptors evaluated. Estimates of potential cumulative upper-bound lifetime incremental cancer risks ranged from 6.3x10-6 for the hypothetical future resident to 2.6x10-7 for the construction worker scenarios. The lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of 1x10-6 typically utilized by DTSC to determine whether a removal action is warranted to protect human health for unrestricted land uses. Upper-bound lifetime incremental cancer risk estimates for the school site receptors are 1.3x10-6 for the site worker, 2.6x10-7 for the construction worker, and 6.9x10-7 for the student. The lifetime incremental cancer risk estimates are consistent with of below the DTSC's 1x10-6 point of departure for the site worker, site student, and construction worker. Based on the results of the Screening Health Risk Assessment, the concentrations of OCPs, including toxaphene, detected in soil samples collected during this investigation would pose a significant risk to the hypothetical future resident but do not present a significant risk to future site workers, students or construction workers. While no residential uses are proposed as part of the project, the Screening Health Risk Assessment did indicate that the lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of 1 x 10-6 utilized by DTSC. In the event that unrestricted (residential) use of the property is desired, consideration should be given to performing removal or remedial actions designed to reduce the concentrations of toxaphene in soil to levels that are suitable for residential use. In a letter dated May 4, 2017, DTSC approved the PEA report requiring that a Land Use Covenant (LUC) be implemented to limit the project site's future use to non-residential purposes and a Soil Management Plan (SMP) be prepared to protect site workers during grading operations (DTSC 2017a). A SMP was prepared, dated May 17, 2017 (ATC 2017b), that should be implemented during grading activities at the project site. DTSC approved the SMP in a letter dated June 14, 2017 (DTSC 2017b). Mitigation Measure HAZ-3 has been incorporated to ensure that the LUC be prepared and implemented under DTSC oversight to the satisfaction of DTSC. Mitigation Measure HAZ-4 has been incorporated to ensure that the SMP is implemented to the satisfaction of DTSC. With compliance with Mitigation Measures HAZ-3 and HAZ-4, the project impact would be less than significant. *Potential Soil Gas Hazard* The PEA found levels of methane in soil gas that would not result in significant impacts to any receptors for the proposed project (ATC 2017a). The maximum detection of methane in soil gas (15.26 ppmv) fell at a level far below the LEL. Therefore, soil gas emissions from the		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	underlying oil field or nearby high pressure natural gas pipelines do not pose a significant impact to the project site. Therefore, project impact would be less than significant.		
Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	**Less than Significant Impact.** The project site is not located on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Therefore, no project impact would result.	No mitigation is required.	Less than Significant Impact
Would the project be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	**Significant Adverse Impact.** The proposed project lies within the Oxnard Airport SOI and the site's southern and northern boundaries lie approximately 1,800 feet and 2,700 feet, respectively, from the runway centerline. Decisions regarding development projects near airports should not be taken lightly as aircraft accidents can have disastrous implications. Consequently, agencies at federal, state and local levels have developed various criteria to help guide local planning agencies in their decision-making (Heliplanners 2017). The project site does not lie within the areas addressed by planning standards published by the FAA in its Airport Design advisory circular. Caltrans Aeronautics Division recommended exploring other sites further from the runway, but does not recommend against the proposed site based on their evaluation of existing conditions. The California Airport Land Use Planning Handbook discourages schools within the Traffic Pattern Zone, but does not prohibit them. The handbook's recommendations within specific zones are not meant to override local Airport Land Use Commission findings. The Ventura County Transportation Commission (VCTC) acts as the County's Airport Land Use Commission (ALUC) per state law. The VCTC is charged with reviewing land use proposals within certain planning boundaries, with the goal of promoting compatibility between airport operations and nearby land uses. These boundaries are defined in the Commission's Airport Comprehensive Land Use Plan (CLUP) for Ventura County. The project site lies within the Traffic Pattern Zone (TPZ) defined by the CLUP. According to the CLUP adopted land use compatibility standards in safety zones for civilian airports (CLUP Table 6B), schools are an unacceptable use in the TPZ. The VCTC, acting as the Airport Land Use Commission for Ventura County has the responsibility of	No mitigation is feasible for airport hazards. **Mitigation Measure HAZ-5 is** for an obstruction evaluation. Prior to completion of final design, plans shall be submitted to the FAA for an obstruction evaluation to determine if buildings and other elements (including construction activities) would penetrate the FAR Part 77-specified "notice surface."	Significant Unavoidable Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	making an official finding of consistency or inconsistency. In a letter addressed to Caltrans Division of Aeronautics, dated July 23, 2014, the VCTC found the proposed project to be inconsistent with the CLUP, and stated concerns related to the students' safety in the event of an aircraft accident on site. The County of Ventura Department of Airports also found the school site to be unacceptable as proposed, referencing CLUP considerations, noise, and safety. (August 8, 2014) Should the School District choose to pursue the site, the Department of Airports requests that an avigation easement be granted as a condition of development. They requested that the easement require parent notification of proximity to the airport and the associated traffic pattern, noise, and safety hazards therein. OSD is tentatively agreeable to granting such an easement subject to the District's formal legal review and concurrence. An analysis of imaginary surfaces defined in FAR Part 77 indicates that the proposed structures within the Doris Avenue/Patterson Road Education Facilities Project would likely comply with all relevant criteria and would not be considered obstructions or hazards to aviation. However, the project must be submitted to the FAA for an obstruction evaluation prior to construction because buildings and other elements would penetrate the FAR Part 77-specified "notice surface", which represents a threshold level for FAA review. This can normally be done as a blanket application covering the entire proposed development, provided structural heights are known (or covered from a conservative "worst case" perspective). Attention should be given to locations and heights of trees (at maturity) and powerlines, light standards, etc. once that information is available. Proactive measures can normally be taken to ensure that these items will not violate FAR Part 77 criteria. Mitigation Measure HAZ-5 has thereby been added to ensure compliance with FAR Part 77 requirements. An aircraft accident can occur at any time and at any place. An accident within or near the project site could involve an aircraft taking off from or landing at Oxnard Airport or it could involve an aircraft enroute between two other airports, with no connection to Oxnard Airport. There is no way to completely guard against such occurrences. We can, however, assess the relative probability of an accident occurring within a specific area. One method of estimating aircraft accident potential within or immediately adjacent to the project site resulted in a probability of an occurrence every 462 years. However, there are no "standards" that specifically address this issue. Only local decision-makers can determine if this level of probability is acceptable to a proposed school within the Oxnard community. The City of Oxnard CEQA Guidelines does identify a risk matrix for upset hazards. Based on this criteria, criticality classifications of upset hazards from an accident could range from negligible to disastrous. A probability		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	of an occurrence every 462 years would have a frequency classification of unlikely (Between once in 100 and once in 10,000 years). An event that could result in no injuries or a few minor injuries would be classified less than significant. An event that could result in up to 10 severe injuries or greater would be classified as significant. (Oxnard 2017). In order to account for the "worst case scenario" project impact from airport hazards would therefore be considered potentially significant and unavoidable.		
Cumulative Hazards and Hazardous Materials Impacts	**Significant Adverse Impact.** The proposed project would result in a less than significant contribution to cumulative impacts on hazardous materials. The proposed project and all new building projects within the surrounding study area (City and the County) would be required to comply with the applicable State and local requirements, including, but not limited to, the DTSC, CDE, FAR, Caltrans DOA, Ventura County, and the City of Oxnard, and would be required to implement recommendations of the site-specific PEA Report and associated DTSC approval letters, and the PRA Report. The proposed project would contribute to the cumulative effect of reduction in potential emergency landing areas surrounding Oxnard Airport. However, lands north and west of the airport are devoted to agricultural or open space uses within the San Buenaventura-Oxnard Greenbelt, which is protected from future development. Those lands would therefore remain available for emergency landings if needed. As noted above, the City of Oxnard CEQA Guidelines does identify a risk matrix for upset hazards. An event that could result in up to 10 severe injuries or greater would be classified as significant. (Oxnard 2017). Therefore, in order to account for the "worst case scenario" project impact from airport hazards would therefore be considered potentially significant and unavoidable.	No mitigation is feasible for airport hazards.	Significant Unavoidable Impact
3.9 Hydrology and Water Quality			
Would the project violate any water quality standards or waste discharge requirements?	Construction would disturb approximately 25 acres. During construction, pollutants of concern include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Additionally, excavated soil would be exposed, so there would be an increased potential for soil erosion compared to existing conditions. Lastly, chemicals, petroleum products (such as paints, solvents, and fuels), and concrete-related waste could spill or leak and have the potential to be transported via storm runoff into downstream receiving waters (ultimately the Pacific Ocean). Since the project will disturb greater than one acre of land, the project must comply with the Construction General Permit. Pursuant to the Construction General Permit, the project a site-specific SWPPP must be prepared that details construction BMPs for use during construction activities. Construction	**Mitigation Measure HYDRO-1** If perched groundwater is encountered during construction, the OSD shall apply for coverage under the Los Angeles RWQCB's Groundwater Discharge Permit, and adhere to the permit provisions therein.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	BMPs would include, but not be limited to, erosion and sediment controls designed to minimize erosion and retain sediment on site, and good housekeeping BMPs intended to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. Prior to terminating coverage under the Construction General Permit, the project site must be stabilized and not pose any additional sediment discharge risk than it did prior to the commencement of construction activity. The proposed project includes a mix of landscaping and hardscape, which will prevent any increase risk of sediment discharge. Due to the depth to groundwater (14-21 feet bgs) on-site, it is not anticipated that the groundwater table would be encountered during excavation. However, perched groundwater may be encountered in localized areas during excavation and may require dewatering. Groundwater may contain high levels of total dissolved solids and other constituents that could be introduced to surface waters. Any groundwater dewatering performed during excavation would be completed in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit. This permit requires testing and treatment (as necessary) of groundwater prior to its discharge off-site. If perched groundwater is encountered during construction, under Mitigation Measure HYDRO-1, the OSD shall apply for coverage under the Los Angeles RWQCB's Groundwater Discharge Permit, and adhere to the permit provisions therein to ensure that the project would not violate any water quality standards or waste discharge requirements. During operation of the proposed project (new elementary school, middle school, District administrative center), pollutants of concern include sediments, nutrients, metals, pesticides, organic materials/oxygen-demanding substances, oil and grease/organics associated with petroleum, bacteria and viruses, and trash and debris (gross solids and floatables). Additionally, the proposed project would result in a permanent increase in impervious surface area of 13.96 ac. An increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. Prior to terminating coverage under the Construction General Permit and pursuant to the Ventura County TGM (2015), the project site must implement storm water control measures that treat post-construction runoff (i.e., water quality, flow, and volume). Storm water control measures that would be incorporated into the design of the proposed project to treat storm water runoff include a dry extended detention basin coupled with hydrodynamic separation devices to target pollutants of concern for the project site (Phoenix Civil Engineering, Inc. [Phoenix] 2017). The Ventura County TGM describes dry extended detention basins as having outlets designed to detain the stormwater quality design volume for 36 to 48 hours to allow sediment particles and associated pollutants to settle and be removed. Dry extended detention		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	basins do not have a permanent pool and are designed to drain completely between storm events (2015). The Ventura County TGM describes hydrodynamic separation devices as devices that remove trash, debris, and coarse sediment from incoming stormwater flows using screening, gravity settling, and centrifugal forces. Hydrodynamic separation devices can achieve significant removal of suspended sediments and attached pollutants with less space as compared to wet vaults and other settling devices. Hydrodynamic devices can remove trash, debris, and other coarse solids down to particles the size of sand. Several types of hydrodynamic separation devices can also remove floating oils and grease using sorbent media (2015). The southern portion of the Site is planned to be soccer fields totaling 6.7 acres. The anticipated project design includes depressing the soccer fields 8-inches below the surrounding grade, or conversely an 8-inch tall earthen berm would be constructed along the western, eastern and southern boundaries to collect and detain Site stormwater runoff. At that depth, the soccer fields would collect 195,640 cubic feet (4.5-acre feet) of runoff, which could be detained for up to two days. Stormwater runoff in excess of this capacity would be released to the existing agriculture ditch or concrete pipe system recommended in the 2003 Drainage System Master Plan (Phoenix 2017). Preliminary calculations performed by Phoenix indicate that 5-acre feet of runoff would be generated by a 100-year storm event (2017). The project site could detain that volume with only 0.5-acre feet of runoff discharged offsite. The proposed parking lots would drain to the dry extended detention basins sited within the soccer fields. Runoff from the parking lots would be filtered by hydrodynamic separation devices to remove trash, debris and oil/petroleum products prior to its discharge to the dry extended detention basins. Each parking lot will have one hydrodynamic separation device for treating its runoff (Phoenix 2017). Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017). All stormwater control measures will be designed according to the requirements of the Ventura County TGM (2015) and would target pollutants of concern from the project site. The project would connect to the existing sanitary sewer main which conveys domestic wastewater to the Oxnard Wastewater Treatment Plant (OWTP). The OWTP, owned and operated by the City of Oxnard, is a secondary treatment facility located at 6001 South Perkins Road, Oxnard, California (Oxnard Public Works 2015). The OWTP treats and discharges wastewater pursuant to National Pollutant Discharge Elimination System Order No. R4-2013-0094, adopted by the Los Angeles RWQCB on June 6, 2013. The new elementary and middle school, and District administrative center would generate domestic wastewater from restroom and food service facilities, as well as from science labs, which would be		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	treated by the OWTP. The curriculum associated with the science labs would not generate and/or discharge any hazardous wastes to the sanitary sewer. With compliance with existing regulations including implementation of storm water BMPs that target pollutants of concern in runoff from the project site, implementation of mitigation measure HYDRO-1, and connection to the OWTP, the potential for violation of water quality standards or waste discharge requirements and degradation of water quality would be less than significant.		
Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	**Less than Significant Impact.** During construction, it is not anticipated that the groundwater table, which is 14-21 feet bgs, would be encountered during excavation. However, perched groundwater may be encountered in localized areas during excavation and may require dewatering. Any groundwater dewatering performed during excavation would be temporary, not result in a substantial volume removed, and completed in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit. Grading and construction activities would compact soil, and construction of structures would increase impervious area, which can decrease infiltration during construction. However, construction activities would be temporary, and the reduction in infiltration would not be substantial relative to Semi-Perched Zone or the UAS and LAS that are the principal groundwater sources for the Oxnard Plain Groundwater Basin. The UAS and LAS are recharged through infiltration in the Oxnard Forebay area, located approximately two miles northeast of the proposed project area. Therefore, construction of the proposed project would not substantially deplete groundwater or interfere with groundwater recharge such that there would be net deficit in aquifer volume or a lowering of the local groundwater table level. Construction impacts related to groundwater supplies would be less than significant, and no mitigation is required. The City of Oxnard would provide water for the proposed project. The City of Oxnard obtains water from local groundwater, groundwater from the United Water Conservation District (UWCD), and imported water from Calleguas Municipal Water District (CMWD). The City of Oxnard's historical water supply has fluctuated between 26,919 and 28,826-acre feet per year or an upper limit of 25 million gallons per day (Phoenix 2017). The projected water supplies in the City of Oxnard 2015 Urban Water Management Plan are 40,341-acre feet for 2020, 54,341-acre feet for 2025, 2030, 2035, and 2040 (MNS Engineers, Inc. 2016). The City of Oxnard 2030 Master Plan indicates that the City has already exceeded the reduction limits established by the State of California 2010 Urban Water Management Plan (UWMP) assuming the mandated 132 gallons per capita per day (gpcd) value was used. The use of the mandated consumption value for planning purposes was conservative	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	(City of Oxnard 2011). The proposed school project would comprise approximately 178,678 square feet (sq. ft.) of building and structures, including joint-use facilities to support a district office, and 220 parking spaces for 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. A variety of play fields and recreational areas would accommodate the recreational needs of the K-8 students onsite (Tetra Tech 2017). The OSD institutes a standard educational schedule, resulting in approximately 181 school days. Applying an average demand factor of 5.4 gallons per student per school day (Mays 2001), the project would require an additional 1,857,060 gallons of water annually (5.7 acre-feet/year - AFY) (Tetra Tech 2017). It is assumed that the projection of 5.4 gallons per student per school day includes irrigation. It is total water demand (Phoenix 2017). The City of Oxnard 2030 Master Plan uses a demand of 1,500 gallons per day per acre as the planning level consumption for school sites. This is based on the average water consumption of school sites located in the City and increased to account for future fluctuations. Because this value is considered conservative (it equates to three times the amount of demand compared to the Initial Study figure), it was used to estimate project water consumption in the Water Resources System Analysis Report prepared for the project site (Phoenix 2017). Water for the proposed project would be supplied by the City of Oxnard from an existing 12-inch diameter potable water pipeline that is located within Doris Avenue that extends west from Ventura Avenue to the intersection of Doris Avenue and Patterson Road. It supplies water to the residential tract to the north of the project. The daily flow rates associated with the operation of the proposed project are approximately 37,500 gallons per day (1,500 gpd/ac x 25 ac) that would be consumed as follows; • School site is 13 acres of buildings/hardscape (1,500 gpd/ac x 13 ac = 19,500 gallons per day); and • Irrigation uses constitute 12 acres (1,500 gpd/ac x 12 ac = 18,000 gallons per day). That equates to approximately 2,450 gallons per hour (19,500 gallons/8 hours) assuming an 8-hour day for school occupancy and that the irrigation activities will occur during an 8-hour period at night. The school will be sufficiently supplied by the existing 12-inch diameter water pipeline for this flow rate. Therefore, water supply demand impacts related to groundwater supplies would be less than significant, and no mitigation is required.		
Would the project substantially alter the existing drainage pattern	**Less than Significant Impact**. No perennial or ephemeral water bodies are located on or close to the site; therefore, the project would not alter the course of a stream or river. During construction activities, the project	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?	site would be graded and excavated, exposing soil and increasing the potential for soil erosion compared to existing conditions. During a storm event, soil erosion and sedimentation could occur at an accelerated rate. For example, excavation activities result in soil stockpiles, which has the potential to be washed into storm drains, blown off-site by wind, or tracked off site by heavy equipment. In addition, construction activities would compact soil, and construction of structures would increase the impervious area, which can increase runoff during construction. Since the project will disturb greater than one acre of land, the project must comply with the Construction General Permit. Pursuant to the Construction General Permit, a site-specific SWPPP must be prepared that details construction BMPs for use during construction activities. Construction BMPs would include, but not be limited to, erosion and sediment controls designed to minimize substantial erosion or siltation. Prior to terminating coverage under the Construction General Permit, the project site must be stabilized and not pose any additional sediment discharge risk than it did prior to the commencement of construction activity. The proposed project includes a mix of landscaping and hardscape, which will prevent any increase risk of sediment discharge. Implementation of the site-specific SWPPP during construction activities would reduce the potential for erosion and siltation to less than significant levels. Currently, storm water flows from the Site discharge to an open unlined drainage ditch that runs west to Victoria Avenue along the north side of Teal Club Road, before discharging to the West Fifth Street Drain. The West Fifth Street Drain ultimately discharges to the Edison Canal which is an intake canal to the Mandalay Generating Station owned by NRG Energy. The proposed on-site uses (new elementary school, middle school, District administrative center) would change on-site drainage patterns by adding impervious surface areas, including buildings and parking lots, and constructing drainage structures. The proposed project is anticipated to install curb and gutter improvements along the north and south sides of the parcel. There would be an access road on the east side of the project site and that paved road is anticipated to have curb and gutter along the west side. These curb and gutter facilities would route stormwater run-on around the site. Additionally, the 2003 Drainage System Master Plan recommended improvements in the area of the Project including storm drainage piping on the east side of Patterson Road from Doris Avenue to Teal Club Road. The proposed facilities are a 30-inch diameter reinforced concrete pipe extending approximately to the southern boundary of the proposed project, and a 36-inch diameter reinforced concrete pipe extending to approximately 250 feet from the intersection with Teal Club Road. At Teal Club Road, the storm drainage system would transition to a 42-inch diameter reinforced concrete pipe. These facilities have not been constructed (Phoenix 2017).		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	The proposed project would result in a permanent increase in impervious surface area of 13.96 ac. An increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. Prior to terminating coverage under the Construction General Permit and pursuant to the Ventura County TGM (2015), the project site must implement storm water control measures that treat post-construction runoff (i.e., water quality, flow, and volume). Storm water control measures that would be incorporated into the design of the proposed project to treat storm water runoff include a dry extended detention basin coupled with hydrodynamic separation devices to target pollutants of concern for the project site (Phoenix 2017). Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017). Through a combination of these stormwater control measures, both on-site and off-site flooding will be controlled. These stormwater controls would also prevent on-site and off-site erosion and siltation. There are no on-site streams or rivers; therefore, the project would not alter the course of a stream or river. Although the existing drainage pattern of the site would be substantially altered, the proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation or flooding on- or off-site with compliance with existing regulations. Operational impacts related to on- or off-site erosion, siltation, and flooding would be less than significant, and no mitigation is required.		
Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	**Less than Significant Impact.** During construction, the proposed project has the potential to introduce pollutants into the storm water drainage system from erosion, siltation, and accidental spills. Additionally, grading and construction activities would compact soil, and construction of buildings and parking lots would increase impervious area, which will increase runoff during construction. Lastly, dewatering of perched groundwater could introduce groundwater containing high levels of total dissolved solids and other constituents to surface waters. Since the project would disturb greater than one acre of land the project must comply with the Construction General Permit. Pursuant to the Construction General Permit, a site-specific SWPPP must be prepared that details construction BMPs for use during construction activities. Construction BMPs would be implemented to reduce impacts to water quality, including impacts associated with erosion, siltation, spills, and increased runoff. Additionally, any groundwater dewatering would be performed according to the Los Angeles RWQCB's Groundwater Discharge Permit, which would require testing and treatment, as necessary. The potential volume of groundwater discharged during construction can't be estimated at this time, but would not be substantial and is not anticipated to exceed the capacity of downstream storm water	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	drainage systems. Compliance with the Construction General Permit and Groundwater Discharge Permit requirements would reduce the potential for off-site discharge of substantial additional sources of polluted runoff to less than significant levels. Furthermore, compliance with these permits would also prevent the discharge of runoff in excess of existing and planned storm water drainage systems to less than significant levels. The proposed on-site uses (new elementary school, middle school, District administrative center) would increase impervious surface area and runoff from the Site, but the proposed on-site dry extended detention basin would be designed to conform with the standards in the Ventura County TMG, thereby reducing the effective impervious area of the Site to no more than 5 percent of the project area (Phoenix 2017). Additionally, the proposed project anticipates having to install new 30-inch and 36-inch diameter storm drainage piping infrastructure along Patterson Road from the Site to the existing Teal Club Road facility as documented in the City of Oxnard Drainage System Master Plan. Off-site discharges would be less than the capacity of anticipated storm drainage piping along Patterson Road (Phoenix 2017). Lastly, the project includes basins and hydrodynamic separation devices to treat storm water runoff from the Site during operation. Therefore, with implementation of BMPs, operational impacts related to exceedance of the capacity of and providing additional sources of polluted runoff to storm water drainage systems would be less than significant.		
Would the project otherwise substantially degrade water quality?	**Less than Significant Impact.** There are no project elements, which have not already been considered in the previous analyses that would substantially degrade water quality. Construction activities would adhere to requirements of the Construction General Permit, including development of a site-specific SWPPP and implementation of BMPs that target potential pollutants and additional runoff generated by construction activities. Potential groundwater dewatering activities will comply with the Groundwater Dewatering Permit, which directs testing and treatment (as necessary) of groundwater prior to its discharge off-site. Post-construction storm water and wastewater would be treated by on-site drainage controls and the OWTP, respectively. Therefore, with compliance with existing regulations project impact would be less than significant.	No mitigation is required.	Less than Significant Impact
Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?	**Less than Significant Impact.** FIRM Panel 06111C0905E (FEMA 2010) indicates that the project area is within shaded Zone X, an area with a moderate risk of flooding, typically between the limits of the 100-year and 500-year floods. This zone is also used to “designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile” (FEMA, 2012). Because the project area is outside the 100-year flood zone, buildings and residents	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	onsite would not be placed within a flood hazard area. Additionally, the project would not involve placing structures that would impede or redirect flood flows within a 100-year flood hazard area. Therefore, the proposed project would not place within a 100-year flood hazard area structures that would impede or redirect flow and project impact would be less than significant.		
Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	**Potentially Significant Impact.** In Ventura County, disaster coordination and planning is the responsibility of the Venture County Sheriff's Department OES. Within California's emergency management organizational structure, each county serves as an Operational Area. In this role, Sheriff's OES acts as an agent between Cal OES and the cities (including the City of Oxnard), special districts and unincorporated areas of Ventura County. OES is responsible for countywide disaster planning, mitigation, response and recovery activities. The OES serves as the depository for the County's Dam Inundation Maps and is charged with ongoing maintenance of the County's Dam Failure Response Plan which was adopted by the Board of Supervisors on September 13, 1983. The Dam Failure Response Plan was currently updated by the OES during 2013 (County of Ventura 2013). With compliance with Mitigation Measure HYDRO-2, that requires OSD to develop and implement a Site-specific flooding evacuation plan to be implemented in conjunction with the County of Ventura OES Dam Failure Response Plan, project impacts would be less than significant.	**Mitigation Measure HYDRO-2** The OSD shall develop and implement a site evacuation plan to be implemented in conjunction with the County of Ventura OES Dam Failure Response Plan.	Less than Significant Impact
Cumulative Hydrology and Water Quality Impacts	The proposed project is within the City of Oxnard's sphere of influence and the development of the project area was accounted for in the City's 2030 General Plan. The proposed project would increase impermeable surface area in the City. The proposed project and other incremental development would potentially increase peak flood flows, alter drainage patterns, reduce groundwater recharge, and increase pollutants in the regional stormwater. These effects could occur during construction and operation of planned or pending projects. The proposed project and each of the cumulative projects would be subject to California, Ventura County, and the City of Oxnard requirements including the State of California Construction General Permit (CGP), the NPDES and MS4 Permit, the 2011 Ventura County Technical Guidance Manual for Stormwater Quality Control Measures. In addition, Los Angeles RWQCB Groundwater Discharge Permit requirements would be imposed for construction dewatering. Each project would be required to develop a SWPPP and Storm Water Pollution Control Plan and would be evaluated individually to determine appropriate BMPs to minimize impacts to surface water quality. Thus, the project's contribution to cumulative impacts to hydrology and surface water quality would be less than significant.		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
3.10 Land Use Planning			
Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	**Less Than Significant Impact.** The District would process a General Plan Amendment (GPA), Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257). With the approval of the GPA, Pre-Zone, and Annexation, the proposed project would be consistent with the General Plan and zoning land use designations. The *Airport Comprehensive Land Use Plan (CLUP) for Ventura County* adopted land use compatibility standards in safety zones for civilian airports (Table 6B), establishes land uses within each of the three safety zones at Oxnard Airport. Schools, under the subcategory of Public/Institutional land uses, are classified as "Unacceptable" within the Traffic Pattern Zone. As required by Public Utilities Code Section 21675, the proposed project would be submitted to the ALUC for review. If the commission determines that the proposed project is inconsistent with the CLUP, OSD would be notified. OSD after a public hearing, can propose to overrule the commission by a two-thirds vote if it makes specific findings that the proposed project is consistent with the purpose of this article. Therefore, in order to be constructed, the proposed project would require either a finding of consistency by the ALUC with the CLUP or OSD would need to overrule the commission by a two-thirds vote with applicable findings. The proposed project would require annexation into the City of Oxnard. Annexation of the project area to the City would require LAFCo approval of several changes of organization, collectively called reorganization. As part of the reorganization process, sphere of influence amendments will also be needed. The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed project will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with LAFCo. Upon approval of the reorganization and sphere amendments by LAFCo, and a 30-day reconsideration period, the reorganization will be recorded and the site will be annexed into the City of Oxnard and the Calleguas Water District and eligible for all public services.	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Cumulative Land Use	**Less than Significant Impact.** The proposed project, and future projects, would be required to comply with applicable land use regulations in order to be granted needed discretionary land use approvals for construction and operation. The project site is located within an area that was planned for future development in the City of Oxnard 2030 General Plan and within the CURB. The proposed project is a similar use to what was proposed in the 2030 General Plan and includes the necessary land use actions as part of the project to bring the project in compliance with City of Oxnard General Plan and zoning land use designations. Aside from the impacts associated with agricultural conversion, project contribution to a cumulative land use impact would thereby be considered less than significant.	No mitigation is required.	Less than Significant Impact
3.11 Noise			
Would the project expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	**Less Than Significant Impact.** The City of Oxnard General Plan Noise Element identifies land use compatibility standard for noise-sensitive land uses as a CNEL of 55 dBA to 70 dBA as conditionally acceptable. No ambient noise monitoring data have been identified for the Project vicinity, but existing land use patterns and street patterns indicate within the City of Oxnard's Noise Element that the existing ambient noise levels should be below the CNEL standard of 65 dBA at the project site and adjacent properties. The construction of the proposed school site would have only a minimal impact on daily traffic volumes in the project vicinity, and thus would have minimal impact on traffic noise conditions. The City of Oxnard's Code of Ordinances Chapter 7 Section 7-185 limits noise propagation to residential land uses from stationary equipment during the daytime period (7:00 am to 10:00 pm) to 55 dBA Leq and during the nighttime period (10:00 pm to 7:00 am) to 50 dBA Leq. The Project consists of the construction and operation of a new elementary, middle school, and District administrative center on a 25 acre site. This proposed facility will include twelve new buildings, which include rooftop HVAC units. The classrooms would be designed and constructed to have a Community Noise Equivalent Level of 45 dB or less. The HVAC units will be surrounded by a parapet wall. According to the manufacturers, the sound power levels for the packaged air conditioning units are 89 dBA. Given the elevated rooftop height for the mechanical equipment and assuming the rooftop mechanical equipment operates simultaneously, the noise levels from the operation of all the rooftop mechanical equipment would range from 46 dBA Leq at the single family residential homes located to the northwest near the intersection of Doris Avenue and Patterson Avenue, to 49 dBA Leq at the single family residential homes located directly north across Doris Avenue. Existing classrooms are located directly north adjacent to the proposed classroom building. The noise levels generated by the proposed Project will comply	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	with the City of Oxnard's General Plan and Code of Ordinances. Therefore, project impact is less than significant.		
Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?	**Less Than Significant Impact.** Operation of the school would not generate vibration; however, construction of the classroom buildings and site grading as well as infrastructure improvements and utility connections would require the use of equipment that could generate vibration. Possible sources of vibration may include bulldozers, dump trucks, backhoes, rollers, and other construction equipment that produces vibration. No blasting will be required at the project site. Project construction activities would occur within approximately 50 feet from the nearest signal family residence. According to FTA guidelines, a vibration level of 78 VdB (Vibration Velocity Level) is the threshold of perceptibility for humans. For a significant impact to occur, vibration levels must exceed 80 VdB during infrequent events (Federal Transit Administration 1995). Based on the levels published by the FTA (Federal Transit Administration 2006) and the type of equipment proposed for use at the proposed Project, coupled with the distance to the existing identified noise sensitive receptors, analysis shows that the vibration levels maybe perceptible at the nearest sensitive receptors, but will be below the maximum vibration level of 80 VdB. This vibration level is considered acceptable for impacts to sensitive receptors. Therefore, project impact is less than significant impact.	No mitigation is required.	Less than Significant Impact
Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	**Less Than Significant Impact.** The dominant noise sources in the vicinity of the proposed Project site is traffic noise associated with Doris Avenue and North Patterson Road. Based on existing traffic volumes, noise impacts to adjacent residences range from 57 dBA CNEL to 64 dBA CNEL. The Project would result in an increase in traffic along Doris Avenue and North Patterson Road during the arrival and departure of students. The Project traffic analysis identifies an increase of 3,600 Average Daily Trips (ADT). Doris Avenue ADT will increase with 53 percent (1,900 ADT) of the Project related ADT, and North Patterson Road ADT will increase with 47 percent (1,700 ADT) of the Project related ADT. This increase in ADT represents an increase of less than 2 dBA at the residences adjacent to the proposed project. According to the CEQA guidelines, an increase in the overall ambient community noise level of less than 2 dBA is considered to be a less than significant impact. The Project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the Project site. Oxnard Airport is an active general aviation/small scheduled service airport with approximately 169 based aircraft and approximately 74,157 operations for calendar year 2016 (Ventura County 2017). The Oxnard Airport Noise Contour map within the City of Oxnard Noise Element to the General Plan shows that the project site is located just outside of the 60 dBA CNEL contour. Therefore, the noise impact levels	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	from the Oxnard Airport to the project site will be below 60 dBA CNEL and with typical educational facility construction with windows closed, interior noise levels from aircraft operations are expected to achieve 45 dBA CNEL or less, which achieves both the State and City interior noise requirements. Therefore, noise impacts from the Oxnard Airport are considered to be less than significant. This proposed facility will include 12 new buildings, which include rooftop heating, ventilation, and air conditioning (HVAC) units. The HVAC units will be surrounded by a parapet wall. The noise levels from the operation of all the rooftop mechanical equipment would range from 46 dBA Leq at the single family residential homes located to the northwest neat the intersection of Doris Avenue and Patterson Avenue, to 49 dBA Leq at the single family residential homes located directly north across Doris Avenue. Based on the existing noise levels generated by vehicle traffic, the noise impacts from the rooftop mechanical equipment would result in an increase of less than 1 dBA to the ambient noise levels at the adjacent residential property lines. Since the proposed Project is shown to only increase the overall ambient community noise level by less than one dBA, project impact would be less than significant impact.		
Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	**Potentially Significant Impact.** Construction of the proposed K-5 and 6-8 schools are planned to start in 2019. All project construction activities including those for the Administrative Facilities are anticipated to be completed by the start of the 2021-2022 school year. The Project construction activities are anticipated to occur in phases and include site preparation, grading, building construction, paving, architectural coating, and landscaping. These construction activities would require a variety of equipment. Typical construction equipment would not be expected to generate noise levels above 90 dBA at 50 feet, and most equipment types would typically generate noise levels of less than 85 dBA at 50 feet. The highest noise levels during construction are normally generated during site grading and foundation work. Grading equipment would be the loudest equipment used at the site. This equipment is expected to generate a maximum instantaneous noise level (Lmax) of up to 75 - 80 dBA at the single family homes located at a distance of 100 feet. This would be loud enough to temporarily interfere with speech communication outdoors and indoors with the windows open. Project construction would occur between the hours of 7:00 a.m. and 3:30 p.m., Monday through Friday. Project construction will also implement standard noise reduction measures. Due to the infrequent nature of loud construction activities at the site, the limited hours of construction, and the implementation mitigation measure N-1, the temporary increase in noise due to construction is considered to be a less than significant impact.	**Mitigation Measure N-1** Construction noise levels fluctuate depending on the construction phase, equipment type and duration of use; distance between noise source and sensitive receptor; and the presence or absence of barriers between noise source and receptors. Therefore, the Project proponent should require construction contractors to limit standard construction activities as follows: • Equipment and trucks used for Project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. In addition, the time allowed for equipment and trucks to idle will be limited to the extent practicable. • Stationary noise sources shall be located as far from adjacent receptors as possible and shall be muffled and enclosed within temporary sheds, incorporate insulation barriers or other measures to the extent feasible.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	Infrastructure improvements and utility connections are expected to occur as part of the proposed project. These include roadway improvements and site required utility connections. Roadway improvements include the widening of both Doris Avenue and Patterson Road as well as traffic signing and striping. Electrical and water lines are located on the south side of Doris Avenue and sewer lines are located down the center of Patterson Road. The final locations of the utility connections were not known at the time of this study. However, construction for both the roadway improvements and utility connections are expected to occur on the south portion of Doris Avenue and along Patterson Road south of Doris Avenue. These construction operations could occur within 50 feet of single family residential home and could result in noise levels (Lmax) of up to 80 - 85 dBA. These construction operations would incorporate mitigation measures N-1 to reduce the construction noise levels. Therefore, the increase in noise due to the infrastructure and utility related activities is considered to be less than significant.	• Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible. This could achieve a reduction of 5 dBA. Quieter procedures shall be used such as drilling rather that impact equipment whenever feasible. • Heavy construction equipment operations should be limited during the school period when classrooms are being utilized in the adjacent building. • When heavy construction activities are located within 75 feet of a residential structure deploy a temporary portable sound barrier between the construction activities and nearest sensitive receptor.	
Would the project be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	**Less Than Significant Impact.** The Project site is located within the Oxnard Airport sphere of influence (SOI). The airport runway midfield point is located approximately 1,800 feet south of the Project site. Oxnard Airport is an active general aviation/small scheduled service airport with approximately 169 based aircraft and approximately 74,157 operations for calendar year 2016 (Ventura County 2017). The Oxnard Airport Noise Contour map within the City of Oxnard Noise Element to the General Plan shows that the project site is just outside of the 60 dBA CNEL contour. The noise impact levels from the Oxnard Airport to the project site will be below 60 dBA CNEL and is consider acceptable for the proposed land use based on the land use compatibility within the City of Oxnard General Plan Noise Element. Therefore, noise impacts from the Oxnard Airport are considered less than significant.	No mitigation is required.	Less than Significant Impact
Would the project expose non-human species to excessive noise?	**No Impact.** As indicated in section 3.4, Biological Resources, no candidate, sensitive, or special-status wildlife or plant species in any local or regional plans, policies, or regulations, or regulated by the CDFW or USFWS were observed during the site visit in July 2017. Additionally, no	No mitigation is required.	No impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	suitable habitat for these species was found within or directly adjacent to the project site. Therefore, the proposed project would not expose non-human species to excessive noise levels.		
Cumulative Noise Impacts	**Less than Significant Impact.** Cumulative projects include the effects of existing, current and reasonability foreseeable future projects. The reasonability foreseeable future projects within the vicinity of the proposed project include the Teal Club Specific Plan. Buildout of the City's SOI area including the project site, was accounted for in the City's 2030 General Plan Program EIR (SCH 2007041024) that concluded that General Plan buildout could result in some noise related impacts that would be significant and unavoidable (Oxnard 2009). These impacts include exposing a variety of noise sensitive land uses to traffic noise, railroad noise, and/or excessive groundborne vibration or groundborne noise levels. The 2030 General Plan EIR also concluded that other potential noise impacts could be mitigated through the implementation of regulatory controls and measures present in the City Noise Ordinance and other policies (Oxnard 2017). The proposed project is a similar land use development scenario to what was anticipated in the 2030 General Plan under buildout conditions for the project site. As noted above, the proposed Project is shown to only increase the overall ambient community noise level by less than two dBA and would not expose persons to or generate excessive groundborne vibration or groundborne noise. Therefore, project cumulative impact would be less than significant.	No mitigation is required.	Less than Significant Impact
3.12 Population			
Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	**Less than Significant Impact.** The City of Oxnard has identified the requirement for identifying public facility service areas for existing and planned schools (City of Oxnard 2011). The construction and operation of the educational facilities is not a housing project. The project would generate a minor number of jobs that may be filled by the existing labor pool or from outside sources. The student population would be part of the existing and projected growth impact would be less than for the city. In general, K-12 schools accommodate growth as a result of other land use decisions in the City such as the construction of new homes. The project site is within the City of Oxnard SOI and is adjacent to a fully developed residential development to the north. Buildout of this SOI was accounted for in the City's 2030 General Plan. The school facilities would require utility improvements to connect the site as well as internal improvements. As these facilities would accommodate existing and projected growth and the requirement for local schools, an indirect impact related to growth inducement would not occur. Therefore, project significant	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Cumulative Population Impacts	**Less than Significant Impact.** The proposed project would not add a substantial number of new jobs. The students and staff attending the school facilities are included in existing and forecasted population growth for the City of Oxnard. The proposed project would support existing and future students and infrastructure improvements would not indirectly cause an increase in population growth. Therefore, project contribution for a cumulative impact would be less than significant.	No mitigation is required.	Less than Significant Impact
3.13 Public Services			
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: *Fire Protection?* *Police Protection?*	**Less than Significant Impact**. Fire Protection The proposed project includes reorganization that would include annexation into the City of Oxnard and detachment from the Ventura County Fire Protection District. Oxnard Fire Department provides fire protection to the City. The proposed project would be designed and constructed to meet required fire standards that would include adequate emergency vehicle access. Construction would comply with the Occupational Safety and Health Administration (OSHA) and Fire and Building Codes. Operation of the school facility is anticipated to generate a typical range of service calls including fire suppression, emergency medical and emergency rescue requests for service. Fire station 1 located at 491 South “K” Street is within 1.7 miles and fire station 4 located at 230 West Vineyard Avenue within 3.2 miles of the project area are close enough to provide fire protection services in within a reasonable response time. The Oxnard Fire Department has provided an estimate that the response time from Fire Station 1 to the corner of Doric Avenue and Patterson Road is approximately 2-minutes, 27-seconds. The response from Fire Station 4 to the corner of Doris Avenue and Patterson Road is approximately 4-minutes 22-seconds (Oxnard Fire Department 2017).Therefore, with compliance with existing regulations, project impact on fire protection services would be less than significant. Police Protection The District and its program manager shall direct the contractor to properly fence the site during construction of the school facilities. The fence will help to reduce the potential for materials and equipment to be targets of theft that could result in a need for increased police services during construction. During operation, the school facilities would be within the service boundary of the Oxnard Police Department. The school facilities are proposed to accommodate both existing and anticipated future enrollment. Public funds such as property taxes would be used to cover the incremental costs associated with providing police services for future enrollment at the facilities. The project would not require the expansion of	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	existing police facilities or the construction of new facilities. As a result, the proposed project would result in a less than significant impact related to police protection during construction and operation of the proposed project.		
Cumulative Public Services Impacts	**Less than Significant Impact**. Fire Protection The project area would be annexed into the City of Oxnard. As a result, the area for cumulative analysis for fire protection is the City of Oxnard. The proposed project would cause an incremental increase demand on fire protection services. Consistent with General Plan Policies ISC-1.1, ISC-1.2, ISC-1.3 and ISC-1.4, as development in the area occurs, impact fees specific to fire protection would be required and available for allocation by the City of Oxnard to the City of Oxnard Fire Department to ensure adequate levels of service (City of Oxnard 2011). Police Protection The project area would be annexed into the City of Oxnard. As a result, the area for cumulative analysis for police protection is the City of Oxnard. The proposed project would cause an incremental increase demand on police protection and would add both students, employees and increased traffic that could hinder emergency response. As development in the area occurs, impact fees specific to police protection would be required and available for allocation by the City of Oxnard to the City of Oxnard Police Department to ensure adequate levels of service (City of Oxnard 2011).	No mitigation is required.	Less than Significant Impact
3.14 Transportation and Traffic			
Would the project conflict with an applicable plan, ordinance or policy establishing measures of Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets,	**Potentially Significant Impact. Existing Plus Project Traffic Impacts** Traffic impacts were analyzed based on the existing plus project condition in an effort to determine whether the additional trips generated by the proposed project would result in significant impacts to the study intersections. The Intersection Capacity Utilization/Delay for the existing plus project traffic conditions have been calculated are shown in Table 3 in the TIAR. Existing plus project morning and evening peak hour intersection turning movements are shown on Figures 20 and 21 in the TIAR. The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for existing plus project traffic conditions, except for the following three study intersections: Victoria Avenue (NS) at: Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for existing plus project traffic conditions. Therefore, Mitigation Measures TRAF-1,	**Mitigation Measure TRAF-1** **Victoria Avenue (NS) at Doris Avenue (EW).** The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department for intersection improvements at Victoria Avenue (NS) at Doris Avenue (EW) based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2020 school development. **Mitigation Measure TRAF-2** **Victoria Avenue (NS) at Teal Club Road (EW).** The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department for intersection improvements at	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
highways and freeways, pedestrian and bicycle paths, and mass transit?	TRAF-2, and TRAF-3 have been added to reduce potentially significant traffic impacts to a less than a significant level. According to the City of Oxnard criteria, Level of Service C during the peak hours is considered the worst acceptable Level of Service for an intersection. A project causes a significant impact if it contributes 0.02 or more to the Intersection Capacity Utilization value at an intersection operating at Level of Service C or worse during the peak hours. If the addition of project traffic volumes increases by 0.02 or more at an intersection operating at Level of Service C or worse, it should be mitigated to the Level of Service identified without the addition of the project volumes. The project trips significantly impact the following three study intersections for existing plus project traffic conditions as shown in Table 4 in the TIAR: Victoria Avenue (NS) at: Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7. Traffic signals are projected to be warranted at the following two intersections for the existing plus project traffic conditions as shown in Appendix D in the TIAR: Victoria Avenue (NS) at Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7. Therefore, Mitigation Measures TRAF-2 and TRAF-4 have been added to reduce potentially significant traffic impacts to a less than a significant level. **Opening Year (2020) Traffic Impacts** The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Opening Year (2020) without project traffic conditions, except for the following three study intersections as shown in Table 5 in the TIAR: Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year (2020) without project traffic conditions. Therefore, Mitigation Measures TRAF-1 and TRAF-2 have been added to reduce potentially significant traffic impacts to a less than a significant level. **Opening Year (2020) With Project Traffic Impacts** The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Opening Year (2020) with project traffic conditions, except for the following three study intersections as shown in Table 6 in the TIAR: Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year (2020) with project traffic conditions. Therefore,	Victoria (NS) at Teal Club Road (EW) based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2020 school development. **Mitigation Measure TRAF-3** **Patterson Road (NS) at Doris Avenue (EW).** Implement improvements on Patterson Road between Doris Avenue and Teal Club Road to widen this roadway segment to local arterial standards. The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2025 Phase 2 Teal Club development. **Mitigation Measure TRAF-4** **Patterson Road (NS) at Doris Avenue (EW).** The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2020 school development.	

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	Mitigation Measures TRAF-1 and TRAF-2 have been added to reduce potentially significant traffic impacts to a less than a significant level. The project trips significantly impact the following two study intersections for Opening Year (2020) with project traffic conditions as shown in Table 7 in the TIAR: Victoria Avenue (NS) at Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3. **Interim Year (2021) Traffic Impacts** The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Interim Year (2021) without project traffic conditions, except for the following four study intersections as shown in Table 8 in the TIAR: Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2, Teal Club Road (EW) – #3 and 5th Street (EW) – #4. With improvements, these four study intersections are projected to operate within acceptable Levels of Service during the peak hours for Interim Year (2021) without project traffic conditions. Therefore, Mitigation Measures TRAF-1 and TRAF-2 have been added to reduce potentially significant traffic impacts to a less than a significant level. **Interim Year (2021) With Project Traffic Impacts** The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Interim Year (2021) with project traffic conditions, except for the following six study intersections as shown in Table 9 in the TIAR: Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2, Teal Club Road (EW) – #3, and 5th Street – #4 and Patterson Road (NS) at: Doris Avenue (EW) – #7 and Teal Club Road (EW) – #10. With improvements, these six study intersections are projected to operate within acceptable Levels of Service during the peak hours for Interim Year (2021) with project traffic conditions. Therefore, Mitigation Measures TRAF-1, TRAF-2, and TRAF-3 have been added to reduce potentially significant traffic impacts to a less than a significant level. The project trips significantly impact the following five study intersections for Interim Year (2021) with project traffic conditions as shown in Table 10 in the TIAR: Victoria Avenue (NS) at: Doris Avenue (EW) – #2, Teal Club Road (EW) – #3, and 5th Street – #4 and Patterson Road (NS) at: Doris Avenue (EW) – #7 and Teal Club Road (EW) – #10. **Alternative Transportation (Public Transit, Bicycle, and Pedestrian)** The study area is currently served by Gold Coast Transit Routes 19, 20, and 21. Routes 19 and 20 travel along Gonzales Road, Victoria Avenue, and 5th Street. Route 21 travels along Victoria Avenue. Gold Coast Transit would continue to provide bus service to the study area with the proposed project. In addition, OSD provides school buses to transport students to and from school. The new schools would also be designed to include bicycle racks for students and staff who chose to bike to school.		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	Currently, there are sidewalks along the northern side of Doris Avenue. Sidewalk improvements adjacent to the educational facilities are anticipated as part of the proposed project which would result in a beneficial impact by improving pedestrian facilities in the area. Therefore, project impacts on public transit, bicycle, or pedestrian facilities would be less than significant. **Parking** A total of 220 parking spaces are proposed for the proposed project and will meet City of Oxnard parking rate requirements. A District Office is proposed on the northwest corner of the site with 62 parking stalls provided to the south and east of the building. Access to this parking area would be provided from Doris Avenue. A parking lot with 42 spaces would be provided adjacent to the elementary school buildings to the north with access provided from Doris Avenue and an additional 20 parking spaces would be provided within the drop-off and pick-up area to the west. Access to the elementary school drop-off and pick-up area would be from Patterson Road with traffic following in a single direction exiting on Doris Avenue. Approximately 96 parking stalls would be provided adjacent to the middle school buildings to the east. The bus drop-off and pick-up area for the middle school would be from Doris Avenue. An additional drop-off and pickup area and parking lot would be provided to the east of the middle school buildings with access provided from a new road. The proposed new access road is expected to terminate at the southernmost access to the parking lot for the school. Based on a proposed parking supply of 220 spaces, adequate parking would be provided for the District office, elementary school, and middle school. Incorporation of Mitigation Measures TRAF-1, TRAF-2, TRAF-3, and TRAF-4 would reduce all potentially significant impacts related to transportation and traffic to a less than significant level.		
Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**Less than Significant Impact**. The proposed project would be designed and constructed to meet required standards. Sight distance at the project accesses would comply with standard California Department of Transportation and City of Oxnard sight distance standards. The final grading, landscaping, and street improvement plans would demonstrate that sight distance standards are met. Such plans would be reviewed by the City and approved as consistent with this measure prior to issuance of the grading permits. No slope or object over 30 inches would be in the line of sight area. Per the TIAR, there would be no increase in hazards due to a design feature or incompatible uses. Therefore, with compliance with existing regulations, project impact would be less than significant and no mitigation is required.	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Would the project result in inadequate emergency access?	**Less than Significant Impact.** The proposed project would not restrict or reduce emergency access to the project site. The proposed project would be designed and constructed to meet required standards including adequate emergency access. All driveways would be designed according to City standards to facilitate emergency vehicle access. As part of standard development procedures, site plans would be submitted for review and approval to ensure adequate emergency access prior to construction. Therefore, with compliance with existing requirements, project impact would be less than significant and no mitigation is required.	No mitigation is required.	Less than Significant Impact
Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	**Less than Significant Impact.** The proposed project would be designed and constructed to meet required standards including adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. The study area is currently served by Gold Coast Transit Routes 19, 20, and 21. Routes 19 and 20 travel along Gonzales Road, Victoria Avenue, and 5th Street. Route 21 travels along Victoria Avenue. Gold Coast Transit would continue to provide bus service to the study area with the proposed project. In addition, OSD provides school buses to transport students to and from school. Due to the fact that existing Gold Coast Transit routes in the vicinity of the proposed project are operating within capacity and additional ridership resulting from project implementation could be accommodated, no significant impacts to public transportation services are anticipated. Patterson Road currently provides an existing Bicycle Facility – Class II (north of Doris Avenue) and is proposed to provide a recommended Bicycle Facility – Class II (south of Doris Avenue). Doris Avenue is proposed to provide a recommended Bicycle Facility - Class II (east of Patterson Road). Figure 10 in the TIAR identifies the proposed bicycle and pedestrian facilities from the City of Oxnard Bicycle & Pedestrian Facilities Master Plan (February 2011). The educational facilities would also be designed to include bicycle racks for students and staff who chose to bicycle to school. Currently, there are sidewalks along the northern side of Doris Avenue. Sidewalk improvements adjacent to the educational facilities are anticipated as part of the proposed project which would result in a beneficial impact by improving pedestrian facilities in the area. This would allow students and staff to safely walk to/from the educational facilities and the surrounding neighborhood. Therefore, project impact on public transit, bicycle, or pedestrian facilities would be less than significant and no mitigation is required.	No mitigation is required.	Less than Significant Impact
Cumulative Transportation and Traffic Impacts	**Potentially Significant Impact.** The Opening Year (2020) traffic volumes were obtained from The Teal Club Specific Plan – EIR Traffic Impact Study (Stantec 2014). It should be noted that the project site is located within the Teal Club Specific Plan; however, the proposed project has	Refer to Mitigation Measures TRAF-1, TRAF-2, TRAF-3 and TRAF-4.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	been "conservatively" added to the traffic volume forecasts. The traffic volumes were calculated based on the straight line growth from the existing traffic volumes to the Year 2030 traffic volumes obtained from the OTM. The Interim Year (2021) traffic volumes were obtained from The Teal Club Specific Plan – EIR Traffic Impact Study (Stantec 2014). It should be noted that the project site is located within the Teal Club Specific Plan; however, the proposed project has been "conservatively" added to the traffic volume forecasts. The traffic volumes were calculated based on the straight line growth from the existing traffic volumes to the Year 2030 traffic volumes obtained from the OTM. The cumulative impacts and mitigation measures for the Existing Plus Project Traffic Conditions, Opening Year (2020) With Project Traffic Conditions and Interim Year (2021) With Project Traffic Conditions are discussed in Section 3.14.2.5. The County of Ventura also administers a traffic impact mitigation fee program to address the cumulative adverse impacts of development on the County's road network. As the City of Oxnard currently has a reciprocal agreement with the County, the Oxnard School District would be required to pay both City and County of Ventura traffic mitigation fees to mitigate for project related contributions to the City and regional road network.		
3.15 Utilities and Service Systems			
Would the project exceed wastewater treatment requirements of the applicable regional water quality control board?	**Less than Significant Impact.** The proposed project would generate an estimated 5,130 gallons of domestic wastewater per day with an approximate flow rate of 10.7 gpm. The domestic wastewater would flow to the OWTP, where it would be treated pursuant to the Los Angeles RWQCB requirements. The OWTP has a current capacity of 31.7 mgd with average daily flows of approximately 24.0 mgd. Therefore the OWTP has sufficient treatment capabilities to address domestic wastewater from the proposed project. The proposed project would not exceed wastewater treatment requirements of the applicable regional water quality control board and project impact would be less than significant.	No mitigation is required.	Less than Significant Impact
Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	**Less than Significant Impact.** The City of Oxnard 2030 Master Plan uses a demand of 1,500 gallons per day per acre as the planning level consumption for school sites. This is based on the average water consumption of school sites located in the City and increased to account for future fluctuations. Water for the proposed project would be supplied by the City of Oxnard from an existing 12 inch diameter potable water pipeline that is located within Doris Avenue that extends west from Ventura Avenue to the intersection of Doris Avenue and Patterson Road. It supplies water to the residential tract to the north of the project. The daily flow rates associated with the operation of the proposed project are	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	approximately 37,500 gallons per day (1,500 gpd/ac x 25 ac) that would be consumed as follows; • School site is 13 acres of buildings/hardscape (1,500 gpd/ac x 13 ac = 19,500 gallons per day [gpd]); and • Irrigation uses constitute 12 acres (1,500 gpd/ac x 12 ac = 18,000 gpd). That equates to approximately 2,450 gallons per hour (19,500 gallons/8 hours) assuming an 8 hour day for school occupancy and that the irrigation activities will occur during an 8 hour period at night. The school would be sufficiently supplied by the existing 12 inch diameter water pipeline for this flow rate. No additional pipeline improvements are needed for the potable water system (Phoenix 2017). Project Memorandum (PM) 2.3 of the City of Oxnard, Public Works Integrated Master Plan (Master Plan) (Carollo Engineers 2015) describes the impacts to the City's water distribution system associated with the projected fire flow demands city-wide. For fire flow for the proposed school, the Master Plan assumed that the facility will be constructed using fire sprinklers. Table B105.1 in the California Building Code (CBC, 2016) indicates that a fire flow of 3,000 gallons per minute for 3 hours is required for a building with construction Type IIA (commonly found in new school buildings). A 3,000 gpm flow rate yields a velocity of 8.5 feet per second (fps). Although this is slightly more than the recommended maximum of 7 fps, the duration is short. Therefore, the existing pipeline is adequate for the potable water and firefighting demands of the school. No additional offsite pipeline infrastructure is required to meet the fire demands of the proposed project (Phoenix 2017). The proposed project has the capability of taking recycled water from the City's Phase 1A backbone system pipeline located along N. Ventura Road for irrigation use. The pipeline originates at the Advanced Water Purification Facility (APWF) in the southern area of Oxnard that extends to the River Park development at the north end of the City. PM 4.2 of the Master Plan (Carollo Engineers 2015), indicates that the backbone pipeline as 14.5 inches in diameter. The OSD could offset the irrigation demand of the project by extending the recycled water infrastructure to the project site, requiring a pipeline approximately 3,300 feet long. An 8 inch diameter pipeline would be required to meet the proposed project irrigation demands (Phoenix 2017; Carollo Engineers 2015). The project site is approximately 25 acres in size with irrigated areas accounting for approximately 12.8 acres or 48% of the site area. The irrigation demands for existing and future developments are identified in the Master Plan (Carollo Engineers 2015) with magnitudes greater than the proposed project. Assuming a 50% indoor/50% outdoor use split, the irrigation demand would be 750 gpd/ac (1,500 gpd/ac listed in the Master Plan for schools divided by 2), which equates to a potential		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	recycled water demand for the school site of 3.5 AFY (3 irrigation days per week for 40 weeks – assumed due to mild climate over 12.8 acres converted to AFY). This would require a recycled water pipeline extension from N. Ventura Ave to the project site to serve recycled water to the irrigation system. This would reduce the proposed project potable water demand by 61% (3.5/5.7 AFY) (Phoenix 2017; Carollo Engineers 2015). The OWTP has a current capacity to treated 31.7 mgd of wastewater with average daily flows of approximately 24.0 mgd. The City anticipates expansion of the plant to 39.7 mgd by 2020. There currently is and will be sufficient capacity to accommodate the wastewater flows from the proposed school project, as well as from other planned developments (Kennedy/Jenks Consultants, 2007). Therefore, the City of Oxnard has adequate capacity to serve the additional wastewater flow that is anticipated from the proposed project and project impact would be less than significant.		
Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	**Less than Significant Impact.** The 2003 Drainage System Master Plan identified the necessary storm drain infrastructure needed to serve the Teal Club Specific Plan area that includes the project site. This was prior to the implementation of the MS4 requirements in the late 2000s. Those requirements further restricted developments from direct discharge of storm water without treatment and/or detention or retention onsite (Phoenix 2017). The 2003 Drainage System Master Plan recommended improvements in the area of the project Site including storm drainage piping on the east side of Patterson Road from Doris Avenue to Teal Club Road. The proposed facilities are a 30 inch diameter reinforced concrete pipe extending approximately to the southern boundary of the proposed project, and a 36 inch diameter reinforced concrete pipe extending to approximately 250 feet from the intersection with Teal Club Road. At Teal Club Road, the storm drainage system would transition to a 42 inch diameter reinforced concrete pipe. These facilities have not been constructed (Phoenix 2017). The proposed project would incorporate the requirements of the Ventura County TGM (2015), including the detention of the anticipated storm flows generated from certain storm events as well as proprietary filtration systems as part of the post construction best management practices. Onsite hydrodynamic treatment systems will treat the storm water prior to discharge to the offsite system. The proposed project anticipates having to install the identified storm drainage piping infrastructure along Patterson Road from the Project site to the existing Teal Club Road facility. The proposed 25 acre project site would include approximately 12.8 acres of pervious areas (48 percent of the site area, with the remainder	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	comprised of hardscape (pavement, parking lots, and structures). Curb and gutter improvements would be installed along the north and south sides of the project site. A paved access road would be installed along on the east side of the project site with curb and gutter along the west side. These improvements would route storm water around the parcel from adjacent areas. Post construction BMPs would be employed to manage the storm flows generated by the hardscape project areas. Storm water improvement at the project site would be designed in accordance with the Ventura County TGM (2015). BMPs such as a dry extended detention basin coupled with hydrodynamic separation devices for the parking lot areas will be used (Phoenix 2017). The following 24 hour rainfall events for the project site area are listed in the 2017 Ventura County Hydrology Manual: • 10 year = 4.01 inches; • 25 year = 4.81 inches; • 50 year = 5.39 inches; and • 100 year = 5.97 inches (Phoenix 2017). Soccer fields occupying an area of 6.7 acres are planned for the southern portion of the project site. The soccer fields would be constructed to collect and detain the storm runoff from the project area by being depressed 8 inches below the surrounding grade or conversely an 8 inch tall earthen berm would be constructed along the western, eastern and southern boundaries. The soccer field area would capable of collecting 195,640 cubic feet (4.5 acre feet) of runoff. This runoff could be detained for up to two days and then the remainder released to the existing agriculture ditch or concrete pipe system recommended in the 2003 Drainage System Master Plan. Preliminary calculations indicate that 5 acre feet of runoff would be generated by a 100 year storm event. The project site could detain that volume with only 0.5 acre feet of runoff discharged off-site (Phoenix 2017). The parking lot areas would drain to the soccer field detention areas. Storm water runoff from the parking lot areas would be filtered to collect the trash, debris and oil/petroleum products out of the runoff prior to discharge onto the soccer field detention areas. Each parking lot area would have an individual device for treating storm water runoff from that specific area. The hydrodynamic filter systems will be identified as part of the project design efforts. Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017). Since buildout of the project site was anticipated in the 2003 Drainage System Master Plan and would fulfill the requirements of MS4, the proposed project would not result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	which could cause significant environmental effects and project impact would be less than significant.		
Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	**Less than Significant Impact**. The City of Oxnard would provide water for the proposed project as part of annexation to the City. The City of Oxnard obtains water from local groundwater, groundwater from the UWCD, and imported water from CMWD. The City of Oxnard's historical water supply has fluctuated between 26,919 and 28,826 acre feet per year or an upper limit of 25 million gallons per day (Phoenix 2017). The projected water supplies in the City of Oxnard 2015 Urban Water Management Plan are 40,341 acre feet for 2020, and 54,341 acre feet for 2025, 2030, 2035, and 2040 (MNS Engineers, Inc., 2016). The CMWD is a wholesale supplier of water to the City of Oxnard. CMWD purchases water from the Metropolitan Water District of Southern California (MWD). Through annexation to the City of Oxnard, the project would be annexed to CWMD and therefore to the MWD as well, and MWD's approval of the annexation is required (CMWD 2016). Land on which the proposed projects would be built is not presently within the boundaries of CMWD or MWD. The Administrative Codes of both agencies state that water delivered by their systems may be used only within their respective service area boundaries. CMWD purchases all of its potable water from MWD. MWD supplies water from the Colorado River and the State Water Project for municipal, industrial and agricultural uses within its service area. Annexation to CMWD and MWD of the land under consideration is necessary to allow annexation to and water service by the City of Oxnard (CMWD 2017). Annexation procedures for MWD are defined in Section 3500 of the Metropolitan Water District Act, which are also observed by CMWD. In addition, annexations to CMWD are subject to Part 8 of CMWD's Administrative Code. Annexation is also subject to approval by the Ventura Local Agency Formation Commission and any terms and conditions the Commission may apply. Pursuant to Section 56017 of Part 1, Chapter 2, of the Cortese/Knox/Hertzberg Local Government Reorganization Act of 2000, annexation means the annexation, inclusion, attachment, or addition of territory to a city or district. This action will require amendment of the Spheres of Influence of CMWD and MWD (CMWD 2017). CMWD and MWD have in place Water Standby Charges. In the course of annexation, such charges will be fixed for the subject property. Water Standby Charges are assessed to pay for the benefits that properties receive from the projects and facilities provided by CMWD and MWD, whether or not they receive water from CMWD and MWD (CMWD 2017). This administrative change in water service areas would have a less than significant impact (CMWD 2017).	No mitigation is required	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	The City of Oxnard 2030 Master Plan indicates that the City has already exceeded the reduction limits established by the State of California 2010 Urban Water Management Plan (UWMP) assuming the mandated 132 gallons per capita per day (gpcd) value was used. The use of the mandated consumption value for planning purposes was conservative (City of Oxnard 2011). The project site is currently in active agriculture use and is planted with row crops. The estimated annual water demand for property with similar agricultural use is approximately 3.2 AFY per acre (Milner-Villa, 2014). The proposed project is 25 acres. Therefore, the estimated current agricultural water demand for the project site is 80 AFY. This current demand is served by private wells located on the property. The City of Oxnard 2030 Master Plan uses a demand of 1,500 gallons per day per acre as the planning level consumption for school sites. This is based on the average water consumption of school sites located in the City and increased to account for future fluctuations. The daily flow rates associated with the operation of the proposed project are approximately 37,500 gallons per day (1,500 gpd/ac x 25 ac) that would be consumed as follows: • School site is 13 acres of buildings/hardscape (1,500 gpd/ac x 13 ac = 19,500 gpd); and • Irrigation uses constitute 12 acres (1,500 gpd/ac x 12 ac = 18,000 gpd) (Phoenix 2017). Using the City of Oxnard 2030 Master Plan assumptions presented above and assuming a standard school year education schedule of 181 days, the school site building/hardscape water usage would be 19,500 gpd x 181 days per year = 3,529,500 gallons per year (10.8 AFY). Assuming that the irrigated areas of the school required irrigation 3 days per week for 40 weeks per year, the irrigated area water usage would be 18,000 gpd x 3 days/week x 40 weeks/year = 2,160,000 gallons per year (6.6 AFY). The total estimated annual project water usage would be 17.4 AFY, which is 22 percent of the current estimated water demand under agricultural land use of 80 AFY. The City of Oxnard's Water Neutrality Policy was first established in 2008 and reaffirmed in 2011. The Water Neutrality Policy requires that all new development approved within the City must offset the water demand associated with the project with a supplemental water supply. As noted above, "new development" includes all planned (anticipated in the 2030 General Plan) and any unplanned future development occurring in the City. Under the policy, a development can be water neutral by meeting its projected demand through: existing FCGMA groundwater allocations that are transferred to the City; contributing to increased efficiency by funding water conservation or recycled water retrofit projects; providing additional water supplies; or any		

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
	combination of these options. While this City policy has not been codified, it has been applied to every development project approved since 2008. The City of Oxnard's Water Neutrality Policy would require the OSD to demonstrate access to water supplies that meets or exceeds projected demands. The proposed project would achieve neutrality through contributing water rights, water supplies, or financial or physical offsets to the City of Oxnard that would ensure adequate water supply to address Project water demands. This may be achieved through transfers of FCGMA groundwater allocations to the City of Oxnard through agricultural conversion, contributing to expansions of the City's recycled water system through physical or financial contributions, and participation in water conservation projects that produce measurable sustainable water savings. Non-potable water demands, to be met with City recycled water, would be separate. A primary goal is to ensure that the proposed project water supplies consist of 100 percent local and sustainable sources including local groundwater and recycled water. The OSD anticipates compliance with the City's Water Neutrality Policy. The OSD will transfer groundwater allocations to the City upon final approval of the project. The FCGMA Ordinance Code allows an allocation of 2 acre-feet per year per acre for converting historical agricultural groundwater allocations to municipal allocations (FCGMA Ordinance Code, Section 5.3.3). In addition, the conversion rate of 2 acre-feet per year is also subject to a reduction of 25% as per FCGMA Ordinance Code, Section 5.4. Therefore, the applicant will transfer approximately 37.5 AFY to the City (25 ac project area x 2 AFY/ac x 0.75). This transfer of historical groundwater extraction allocations is greater than the total estimated annual project water demand (i.e., 17.4 AFY). Therefore, the project would have sufficient water supplies available to serve the project from existing entitlements and resources the project impact would be less than significant.		
Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	**Less than Significant Impact**. The OWTP has a current capacity to treated 31.7 mgd of wastewater with average daily flows of approximately 24.0 mgd. The City anticipates expansion of the plant to 39.7 mgd by 2020. There would be sufficient capacity to accommodate the wastewater flows from the proposed project, as well as from other planned developments (Kennedy/Jenks Consultants, 2007). Therefore, project impact would be less than significant.	No mitigation is required.	Less than Significant Impact

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Impact After Mitigation
Cumulative Utilities and Service Systems Impacts	**Less than Significant Impact.** The analysis provided is cumulative in nature and considers the demand for water from existing and future development in the City. The planned sources of water supply would be sufficient to accommodate projected citywide demand; therefore the cumulative impacts to water supply would not be significant. Additionally, the proposed project and all future development projects in the City will be required to comply with standard water conservation requirements of the City, State, and California Building Code. These include the use of low-flush toilets and urinals, compliance with statewide efficiency standards for shower heads and faucets, and insulation of pipes to reduce water used before hot water reaches equipment or fixtures. The contribution of the proposed project would not be cumulatively considerable. The demands on the OWTP would continue to increase with construction of cumulative projects. The plant currently has the capacity to accommodate up to 31.7 mgd (with 7.7 mgd of available capacity) and treatment plant upgrades that would not generate additional capacity are currently in the planning process. Therefore, the current capacity of the OWTP is sufficient to serve planned and pending development. The City general fund monies and wastewater treatment connection fees provide revenue for the necessary replacement and improvements to the wastewater treatment plant. Therefore, cumulative impacts relating to the local wastewater system are considered less than significant.	No mitigation is required.	Less than Significant Impact

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APPENDICES

ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
%	Percent
AB	Assembly Bill
ACOE	Army Corps of Engineers
ADT	Average Daily Trips
af/yr	acre-feet per year
AHLRA	Aircraft Hazard and Land Use Risk Assessment
ALUC	Airport Land Use Commission
amsl	Above Mean Sea Level
AP	Alquist-Priolo
APAC	Agricultural Policy Advisory Committee
APE	Area of Potential Effect
APWF	Advanced Water Purification Facility
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASCE	American Society of Civil Engineers
ATC	ATC Group Services
bgs	Below Ground Surface
BMP	Best Management Practice
BP	Before Present
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
CAD	Computer-aided Drafting
Cadna	Computer Aided Noise Abatement
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
CALGREEN	California Green Building Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
CARB	California Air Resources Board
CBB	City Buffer Boundary
CBC	California Building Code
CBSC	California Building Standards Commission
CCAA	California Clean Air Act

Acronyms/Abbreviations	Definition
CCR	California Code of Regulations
Cd	Camarillo Loam
CD	Community Development
CDC	California Department of Conservation
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFW	Caldwell Flores Winters, Inc.
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	Methane
CLUP	Comprehensive Land Use Plan
CMA	Congestion Management Authority
CMP	Congestion Management Program
CMWD	Calleguas Municipal Water District
CNCRC	California Noise Compatibility Regulations and Guidelines
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
COPC	Chemicals of Potential Concern
C-R	Community Reserve
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CURB	City Urban Growth Boundary
CWA	Clean Water Act
dBA	A-weighted Decibels
DDW	Division of Drinking Water
DOGGR	Division of Oil, Gas, and Geothermal Resources
DOT	Department of Transportation
DSA	Division of the State Architect
DTSC	Department of Toxic Substances Control

Acronyms/Abbreviations	Definition
DWR	Department of Water Resources
EI	Expansion Index
EIR	Environmental Impact Report
EPA	(United States) Environmental Protection Agency
EPRCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
ESSC	Earth Systems Southern California, Inc.
EW	East West
FAR	Federal Aviation Regulations
FCGMA	Fox Canyon Groundwater Management Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
ft	Foot or Feet
FTA	Federal Transit Administration
GHG	Green House Gas
GPA	General Plan Amendment
gpcd	gallons per capita per day
gpd	gallons per day
GREAT	Groundwater Resource Encroachment and Treatment
GWP	global warming potential
HA	Hydrologic Area
H_2S	hydrogen sulfide
HAZWOPER	Hazardous Waste Operations Emergency Response
Heliplanners	Heliplanners, Inc.
HFC	hydrofluorocarbon
HIA	acute hazard index
HIC	chronic hazard index
HIC8	8-hr chronic hazard index
HSA	Hydrologic Sub-Area
HSWA	Hazardous and Solid Waste Amendments Act
HU	Hydrologic Unit
HVAC	Heating, Ventilation, and Air Conditioning
ICS	Infrastructure and Community Services
ILS	instrument landing system

Acronyms/Abbreviations	Definition
IS	Initial Study
JHE	J House Environmental, Inc.
KA	Kunzman Associates
LADWP	Los Angeles Department of Water and Power
LAFCo	Local Agency Formation Commission
LAS	Lower Aquifer System
lb/day	pounds per day
LCC	Land Capability Classification
LEL	Lower Explosive Limit
Leq	Equivalent Continuous Sound Level
LESA	Land Evaluation and Site Assessment
LID	low impact development
LIM	Land Inventory and Monitoring
Lmax	maximum instantaneous noise level
LOS	Level of Service
LSA	LSA Associates, Inc.
LUC	Land Use Covenant
m^3	cubic meter
MBTA	Migratory Bird Treaty Act
MCE	Maximum Considered Earthquake
µg	microgram
mg	milligram
mgd	million gallons per day
mg/kg	milligrams per kilogram
MICR	maximum individual cancer risk
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MRR	mandatory reporting regulation
MSL	Mean Sea Level
MWD	Metropolitan Water District
MWELO	Model Water Efficiency Landscape Ordinance
N2O	Nitrous Oxide
NAAQS	National Ambient Air Quality standards
NAHC	Native American Heritage Commission

Acronyms/Abbreviations	Definition
NE	Northeast
NF_3	nitrogen triflouride
NHM	Natural History Museum
NO_2	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrogen oxides (nitrogen oxide and nitrogen dioxide)
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NS	North South
NWI	National Wetlands Inventory
O_3	Ozone
OCP	organochlorine pesticide
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OMC	Oxnard Municipal Code
OPD	Oxnard Police Department
OPR	Office of Planning and Research
OSD	Oxnard School District
OSHA	Occupational Safety and Health Administration
OTM	Oxnard Traffic Model
OWTP	Oxnard Wastewater Treatment Plant
Pb	Lead
PEA	Preliminary Endangerment Assessment
Phoenix	Phoenix Civil Engineering, Inc.
PM	Project Memorandum
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppb	Parts Per Billion
ppm	Parts Per Million
ppmv	parts per million by volume
PRC	Public Resources Code
PRIMP	Paleontological Resource Impact Mitigation Program
psig	per square inch gauge

Acronyms/Abbreviations	Definition
RAC	Risk Assessment Calculator
RCRA	Resources Conservation and Recovery Act
RSL	Regional Screening Level
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
RZ	Pre-Zone
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SB18	State Senate Bill 18
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCC	South Central Coast
SCCIC	South Central Coastal Information Center
SCGC	Southern California Gas Company
SCS	Sustainable Community Strategy
SDS	Safety Data Sheet
SDWA	Safe Drinking Water Act
SF_6	sulfur hexafluoride
SHMA	Seismic Hazard Mapping Act
SHRA	Screening Health Risk Assessment
SIP	State Implementation Plan
SO_4	Sulfates
SOAR	Save Open Space and Agricultural Resources
SOI	Sphere of Influence
SO_x	sulfur dioxide
sq. ft.	square feet
SWP	State Water Project
SWPCP	Stormwater Pollution Control Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
T-BACT	Best Available Control Technology for Toxics
Tetra Tech	Tetra Tech, Inc.
TGM	Technical Guidance Manual
TIAR	Traffic Impact Analysis Report
TMDL	Total Maximum Daily Load

Acronyms/Abbreviations	Definition
tpy	tons per year
TPZ	Traffic Pattern Zone
UAS	Upper Aquifer System
UBC	Uniform Building Code
URM	Unreinforced Masonry
USDA	U.S. Department of Agriculture
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
UWCD	United Water Conservation District
UWMP	Urban Water Management Plan
V/C	Volume to Capacity
VCA	Voluntary Cleanup Agreement
VCAPCD	Ventura County Air Pollution Control District
VCTC	Ventura County Transportation Commission
VCWPD	Ventura County Watershed Protection District
VdB	Vibration Velocity Level
VOC	volatile organic compound
ZOI	Zone of Influence

1.0 INTRODUCTION

1.1 EIR TYPE, PURPOSE, AND INTENDED USE

This Draft Project Environmental Impact Report (EIR) was prepared by Oxnard School District (OSD or the District) to evaluate potential impacts from all phases of project planning, implementation, and operation for the proposed Doris Avenue and Patterson Road Educational Facilities Project (proposed project). The OSD proposes to construct and operate joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. As lead Agency for the California Environmental Quality Act (CEQA), the District has prepared this Draft EIR in compliance with the State CEQA Guidelines and City of Oxnard CEQA Guidelines (Oxnard 2017).

CEQA requires agencies to consider the environmental impacts of a proposed project for which they have discretionary authority before taking action on the project. An EIR is an informational document required to be prepared when a proposed project may have a significant impact on the environment. The information contained in an EIR includes summarized technical data, maps, plot plans, diagrams, and similar relevant information with sufficient detail to permit an assessment of significant environmental impacts by reviewing agencies and members of the public. Per State CEQA Guidelines Section 15002, the basic purposes of CEQA are to:

1. Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities;
2. Identify the ways in which environmental damage can be avoided or significantly reduced;
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

This EIR serves as a public disclosure document explaining the effects of the proposed project on the environment, alternatives to the project, and ways to minimize adverse effects and to increase beneficial effects. The EIR will be used by OSD and responsible and trustee agencies with jurisdiction over portions of the project prior to deciding whether to approve or permit project components.

1.2 SCOPE OF EIR

The content of this EIR was established based on the findings in the Initial Study (IS) and input received from agencies and individuals during the public scoping process. Topics discussed in detail in this EIR include: Aesthetics, Agriculture, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Geology and Soils, Green House Gases (GHGs), Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use Planning, Noise, Population, Public Services, Transportation and Traffic, and Utilities and Service Systems.

Initial Study

The District prepared an IS for all phases of project planning, implementation, and operation of the proposed project that is included as part of Appendix A. The IS helped focus the EIR on the effects determined to be potentially significant, identified effects determined not to be significant, and provided an explanation for determination of impacts found not to be significant. Based on the environmental review contained in the IS, OSD determined that implementation of the proposed project may have a significant effect on the environment and that an EIR is required. Topics identified in the IS as potentially significant and requiring additional environmental review in the EIR include the following:

- Aesthetics
- Agriculture
- Air Quality
- Biological Resources
- Cultural & Tribal Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use Planning
- Noise
- Population
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

Notice of Preparation and Public Scoping Meeting

The District issued a Notice of Preparation (NOP) of an Environmental Impact Report and Notice of Public Scoping Meeting for the Doris Avenue Patterson Road Educational Facilities Project on May 10, 2017. The NOP was filed with the Office of Planning and Research (OPR) and the Ventura County Clerk for public posting. The NOP and IS were also posted on the District's website and available for public review during normal business hours at the District office. The NOP/IS 30-day public review period was from May 10, 2017 to June 9, 2017.

OSD conducted a public scoping meeting for the proposed project on May 22, 2017. The purpose of the scoping meeting was to receive public comment and input regarding the appropriate scope and content of the EIR. A summary of comments received during the public scoping meeting are summarized in Table 1-1.

Table 1-1. Public Scoping Meeting Comments: May 22, 2017

Speaker	Affiliated organization (if applicable)	Comments
Dennis Hardgrave	Owner Representative, Borchard Property	• We have an alternative site plan that we will provide and will also be submitting written comments. • In general, we feel our proposed site plan (with different school locations on-site) would be better for neighborhood compatibility and circulation (traffic and walking routes). It would also allow for potential shared use of the playfields with the City. • We would like the trip generation factor for the proposed project when available.
Isidro Figueroa	City of Oxnard	• The EIR should include a review of the Airport Comprehensive Land Use Plan. • The City will be submitting written comments.

* Note: Additional written comments were not received during the public scoping period from Dennis Hardgrave/Owner Rep. of Borchard property or from the City of Oxnard.

Comment letters received by OSD from agencies and individuals in response to the NOP are identified in Table 1-2. Appendix A of this EIR includes the NOP, IS, Scoping Meeting Materials, and copies of the comment letters received.

Table 1-2. Comment Letters Received in Response to IS/NOP

Name	Agency (if applicable)
Cy Johnson, Development Programs Administrator	Calleguas Municipal Water District
Scott Morgan, Director, State Clearinghouse	Governor's Office of Planning and Research
Frank Lienert, Associate Governmental Program Analyst	Native American Heritage Commission
Ms. Romero	Individual
Paul Giacobbe	Individual
Kim Hayashi	Individual
Philip Crimmins, Aviation Environmental Specialist	California Department of Transportation Division of Aeronautics
Denice Thomas, Manager Planning Programs Section	Resource Management Agency County of Ventura
Anitha Balan, Engineering Manager II	County of Ventura, Public Works Agency, Transportation Department
Todd McNamee, Director of Airports	County of Ventura Department of Airports
Kimball Loeb, Groundwater Manager	Fox Canyon Groundwater Management Agency
Chares Anthony, Senior Planner	Ventura County Planning Division
Susan Bonucchi, Summerfield Tract Resident	Individual
Sergio Vargas, Deputy Director	Ventura County Watershed Protection District
Alicia Stratton	Ventura county Air Pollution Control District
Alma Quezada, Groundwater Specialist	County of Ventura, Public Works Agency
Steve DeGeorge, Director of Planning	Ventura County Transportation Commission
Andrea Ozdy, Analyst	Ventura Local Agency Formation Commission
Dianna Watson, IGR/CEQA Branch Chief	California Department of Transportation, District & Regional Planning
Carol Dreager	Individual

Known Areas of Controversy

Areas of controversy include known issues or concerns raised by agencies and the public regarding the proposed project. Known issues of concern to OSD are based on preliminary agency consultation, public scoping meeting comments, and comment letters received in response to the NOP (Appendix A). The general key areas of known controversy and the location where the issue is addressed in the EIR are provided in Table 1-3.

Table 1-3. General Areas of Known Controversy

Area of Concern	EIR Section Where Topic is Addressed
Site location near airport	Section 3.8 Hazards and Hazardous Materials
Aircraft hazard	Section 3.8 Hazards and Hazardous Materials
Airport related noise	Section 3.11 Noise
Agricultural conversion and compatibility	Section 3.2 Agriculture
Air quality	Section 3.3 Air Quality
Community character	Section 3.1 Aesthetics
Traffic and traffic safety	Section 3.14 Transportation and Traffic
Water supply and demand	Section 3.9 Hydrology and Water Quality Section 3.15 Utilities and Service Systems

Issues Found Not To Be Significant

Per *State CEQA Guidelines Section 15143*, the EIR shall focus on the significant effects on the environment. Effects dismissed in an IS as clearly insignificant and unlikely to occur need not be discussed further in the EIR unless the Lead Agency subsequently receives information inconsistent with the finding in the IS.

Table 1-4 identifies the CEQA checklist questions found not to be significant in the IS and identifies checklist questions found not to be significant in the IS but included in the detailed EIR analysis based on new information, including public scoping comments received.

Table 1-4. CEQA Checklist Questions Found Not to be Significant in the IS

Resource Topic	IS Checklist Topic Found Not to be Significant in IS and Discussed Only in Appendix A of this EIR*	IS Checklist Topic Found Not to be Significant in IS but Included in Detailed EIR Discussion Based on New Information
Aesthetics	• Scenic Vista • State Scenic Highways	
Agriculture & Forest Resources	• Conflict or cause rezoning of forest or timberland. • Loss or conversion of forest land	
Biological Resources	• Riparian habitat or other sensitive natural community • Local policies or ordinances protecting biological resources • Provisions of an adopted habitat conservation plan or natural community conservation	• Effect on federally protected waters of the U.S. or protected waters of the state • Movement of native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
Cultural Resources		• Human remains
Geology and Soils	• Rupture of a known earthquake fault • Landslides • Geologic unit or soil that is unstable • Septic tanks	

Table 1-4 (Continued). CEQA Checklist Questions Found Not to be Significant in the IS

Resource Topic	IS Checklist Topic Found Not to be Significant in IS and Discussed Only in Appendix A of this EIR*	IS Checklist Topic Found Not to be Significant in IS but Included in Detailed EIR Discussion Based on New Information
Hazards and Hazardous Materials	• Routine transport, use, or disposal of hazardous materials • Safety hazard near private airstrip • Implementation of emergency response plan or emergency evacuation plan • Wildland fire	• Reasonably foreseeable upset and accident conditions
Hydrology and Water Quality	• Housing within a 100-year flood hazard area • Inundation by seiche, tsunami, or mudflow	
Land Use Planning	• Physically divide an established community • Conflict with habitat conservation plan or natural community conservation plan	
Mineral Resources	• Loss of known mineral resource of value to region or state • Loss of locally important mineral resource recovery site	
Noise	• Excessive noise levels in the vicinity of a private airstrip	
Population and Housing	• Displace substantial number of existing housing units • Displace substantial number of people requiring replacement housing	
Public Services	• Adverse impacts on public school • Adverse impacts on public parks • Adverse impacts on other public facilities	
Recreation	• Increased use of existing parks	
Traffic/Transportation	• Change in air traffic patterns	
Utilities and Service Systems	• Landfill capacity • Statutes and regulations related to solid waste	

* Refer to the IS (Appendix A of this EIR) for discussion of impact determination.

1.3 EIR ORGANIZATION

This EIR has been prepared in accordance with *California State CEQA Guidelines* and includes the required content as discussed in Article 9, commencing with Section 15120 of these Guidelines. The format of the EIR is organized into sections so the reader can easily locate information about the project and its specific areas.

Executive Summary. This section contains a brief summary of the proposed actions and its consequence in clear and concise language. The summary identifies each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; areas of controversy known to the Lead Agency, including issues raised by agencies and the public; and issues to be resolved including the choice among alternatives and whether or how to mitigate significant effects.

Section 1: Introduction. Describes the EIR type, purpose, and intent. It includes a discussion of the scope of the EIR, organization, and draft public review period.

Section 2: Project Description and Environmental Setting. Describes the project background and objectives; project location and site characteristics; project description; and intended uses of the EIR including, a list of agencies that are expected to use the EIR in their decision making, list of required permits and approval, and list of related environmental review and consultation requirements.

Section 3: Environmental Analysis. Analysis in this Section is discussed by individual resource topics. This section includes a discussion of the physical environmental conditions (baseline conditions) and regulatory settings, methodology, significance thresholds, potential project direct, in-direct, and cumulative impacts, and any mitigation measures needed to reduce project impacts.

Section 4: Other CEQA Considerations. Describes issues required by CEQA that are not included in other sections. This section includes a discussion of significant irreversible environmental change, growth-inducing impacts, and environmental effects which cannot be avoided.

Section 5: Alternatives Analysis. Describes the alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects.

Section 6: References. Includes the sources used to prepare this EIR, including organizations and persons consulted.

Section 7: Report Preparation. Includes the individuals involved in preparing this EIR.

Appendices. Includes supporting data for contents of this EIR.

1.4 PUBLIC REVIEW OF DRAFT EIR

This Draft EIR is available for public review and comment during a 45-day public review period beginning on December 4, 2017 and ending on January 17, 2018 at 5:00 PM. The DEIR is available for public review at:

- OSD District Office at 1051 South A Street, Oxnard, California 93030, during normal business hours.
- OSD's website at: http://www.oxnardsd.org
- City of Oxnard Downtown Main Library at 251 South A Street, Oxnard, California 93030

All interested parties are invited to submit written comments on the DEIR; please submit your comments to:

Mr. David Fateh, Director of Facilities
Oxnard School District
1051 South A Street
Oxnard, California 93030
Public Meeting

Comments can also be provided at the public meeting. An agenda item has been added to the regular school board meeting to receive oral comments on the Draft EIR on Wednesday December 6, 2017 at 7:00 PM, at 1051 South A Street, Oxnard, California 93030.

2.0 PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

2.1 MASTER CONSTRUCT AND IMPLEMENTATION PROGRAM

The Oxnard School District has a Master Construct and Implementation Program ("Program") for school facilities that integrates efforts associated with the implementation of Measure "R" and Measure "D". Both measures have been integrated to work in tandem by adopting common programmatic goals and facilities specifications, building upon the sources and uses of funds already allocated by the District, and interlacing scheduling, sequencing, and cash flow requirements to leverage proposed improvements (CFW 2017).

All Phase 1 Measure "R" facility improvements are either completed, under construction, or approved by the Division of the State Architect (DSA). Completed efforts include the acquisition of the Seabridge K-5 elementary school site, kindergarten and science lab upgrades to 22 classrooms across eight school sites, and the opening of the new Harrington K-5 campus. Projects under construction include continued reconstruction efforts for the new Lemonwood K-8 and Elm K-5 schools, and the construction of the 6-8 addition to Marshall.

In January 2017, the District launched Measure "D" projects with the planned reconstruction of McKinna and Rose Avenue K-5 elementary schools, the construction of a new Seabridge K-5 school, and the proposed new Doris/Patterson-site for a new K-5 elementary and grade 6-8 middle school (CFW 2017). The District studied a number of potential school sites and other alternatives and determined that the proposed site at the corner of Doris Avenue and Patterson Road to be one that is best available. A copy of the Potential New School Sites Study is provided in Appendix B.

In addition to the proposed project, details of the status of OSD major ongoing facility projects are summarized below:

- The reconstructed Lemonwood K-8 includes a new 2-story classroom building, multipurpose room, administration/library building, and kindergarten building. Construction of these facilities has reached an estimated 66% completion overall, continuing to progress on schedule. The classroom building and multipurpose building are almost complete and planned for an early 2018 occupancy. Construction of the administration/library and kindergarten building are then set to begin with an overall project completion scheduled for early 2019.
- Construction of the Elm K-5 project commenced in February 2017. Utility distribution, foundation work and framing of the walls and roofs for the buildings have been completed. Waterproofing is in place to protect the wood framing from rain during winter months. The project remains on schedule for completion in the second half of the 2018-2019 school year.
- Construction for the new Marshall twelve classroom building began in September 2017 and is underway. The major underground work, including utilities installation is anticipated for December 2017 completion.
- The Harrington Early Childhood Development Center/Kindergarten Annex project provides four preschool classrooms with the flexibility to accommodate transitional kindergarten. Construction began in September 2017, consisting of partial demolition of Building C, followed by the coordination of underground utilities and excavation and foundation pours. Completion of this project will complete all phases of work for the Harrington-site.
- Design plans for the McKinna reconstruction project were submitted to the Division of State Architect (DSA) in October 2017. Design activities for the new Seabridge K-5 school and Rose Avenue reconstruction continue with DSA submittal scheduled for early 2018.
- Design activities for the new kindergarten/flex classroom projects at McAuliffe, Ritchen, Brekke, and Ramona have moved forward including the selection of the design professionals, modular contractor, and

lease leaseback firm for the site work. Final siting of the buildings at each campus were completed and design activities are underway. The projects are planned to be completed in time for occupancy for the 2018-19 school year.

2.2 PROJECT OBJECTIVES

The objectives of the proposed project include the following:

- Accommodate existing and projected future student enrollment within the District
- Provide new facilities that meet the District's educational specifications
- Provide a new K-5 school to accommodate 700 students in permanent classroom facilities
- Provide a new 6-8 school to accommodate 1,200 students in permanent classroom facilities
- Build and maintain school facilities that reflect the wise and efficient use of limited land resources
- Provide new District administrative facilities

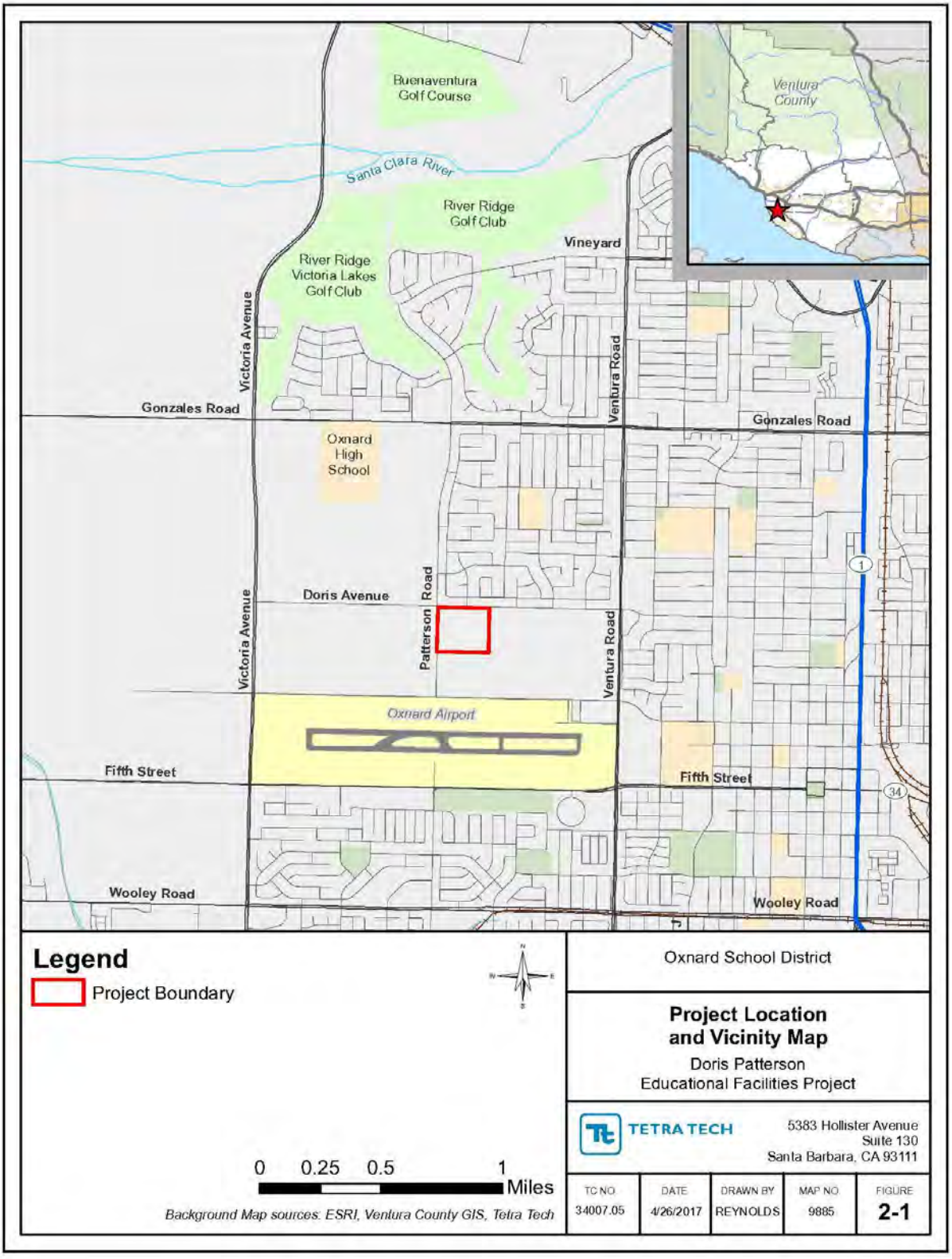
2.3 PROJECT LOCATION

The project site is located in unincorporated Ventura County, California and is within the Ventura County Save Open-Space and Agricultural Resources (SOAR) boundary. The project site is also within the City of Oxnard's Sphere of Influence (SOI) and City Urban Restriction Boundary (CURB). A Project Location and Vicinity Map is provided as Figure 2-1. The Site comprises a portion of Lot 158, in the City of Oxnard, County of Ventura, State of California as shown on the Map of Patterson Ranch, recorded in Book 8, Page 1 of Maps in the office of the Ventura County Recorder (Portion of APN: 183-0-070-090). The project site consists of 1,088,824.84 square feet (approximately 25 acres).

The project site has a Ventura County General Plan land use designation of agricultural-urban reserve and a zoning designation of agricultural exclusive (AE-40). Since the project site is also within the SOI of the City of Oxnard, the City of Oxnard General Plan identified land use designations for the site. The City of Oxnard General Plan land use designations for the project site include public/semi-public, open space, and park.

The project area is relatively flat and is currently used for agriculture. It is surrounded by adjacent agricultural uses to the south, east, and west. The agricultural land to the west is located within the Ventura-Oxnard Greenbelt. Located to the north of the project site is a residential neighborhood. Access to the project site is provided by North Patterson Road to the west and Doris Avenue to the north.

The project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the project site. Oxnard Airport is an active general aviation/small scheduled service airport and the project site is located within Safety Zone 6, identified as the Traffic Pattern Zone (Caltrans 2014).


Buenaventura Golf Course
Santa Clara River
River Ridge Golf Club
River Ridge Victoria Lakes Golf Club
Vineyard
Victoria Avenue
Ventura Road
Gonzales Road
Oxnard High School
Doris Avenue
Patterson Road
Oxnard Airport
Fifth Street
Wooley Road
Ventura County
Legend
Project Boundary
0 0.25 0.5 1 Miles
Background Map sources: ESRI, Ventura County GIS, Tetra Tech
Oxnard School District
Project Location and Vicinity Map
Doris Patterson Educational Facilities Project
TETRA TECH
5383 Hollister Avenue Suite 130 Santa Barbara, CA 93111
TC NO 34007.05
DATE 4/26/2017
DRAWN BY REYNOLDS
MAP NO 9885
FIGURE 2-1

2.4 PROJECT DESCRIPTION

The OSD proposes to construct and operate a new elementary (K-5), middle school (6-8) and District administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road. The new schools are needed to accommodate existing and anticipated future enrollment in the District. The project site is located within unincorporated Ventura County and within the City of Oxnard SOI area.

Parcel Boundary

Pursuant to Government Code Section 66428(a)(2), and in compliance with City of Oxnard Municipal Code Section 15-11, under a statutory exemption in the Subdivision Map Act, a tentative map is not required for property transferred to or from a government agency proceeding under Government Code section 66428(a)(2).

Reorganization

The proposed project would require annexation into the City of Oxnard (City). Annexation of the project area to the City would require Ventura Local Agency Formation Commission (LAFCo) approval of several changes of organization, collectively called reorganization. The following LAFCo actions would be necessary components of the reorganization:

- Annexation to the City of Oxnard
- Annexation to the Calleguas Municipal Water District
- Annexation into Metropolitan Water District of Southern California
- Detachment from Oxnard Drainage District 1
- Detachment from the Ventura County Resource Conservation District
- Detachment from the Ventura County Fire Protection District
- Detachment from Ventura County Service Area No. 32
- Detachment from Ventura County Service Area No. 33

As part of the reorganization process, sphere of influence amendments will also be needed. Anticipated amendments include the following:

- Amendment of the City of Oxnard's sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Calleguas Municipal Water District sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Oxnard Drainage District No. 1 sphere of influence to remove the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Ventura County Service Area No. 33 sphere of influence to remove the entire proposal area.

The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257). The projects will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with LAFCo. Upon approval of the reorganization and sphere amendments by LAFCo, and a 30-day reconsideration period, the reorganization will be recorded and the site will be annexed into the City of Oxnard and the Calleguas Water District and eligible for all public services.

School Facilities

The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the

educational and recreational needs of K-8 students- on-site. In total, the proposed project would comprise approximately 178,678 square feet (sq. ft.) of building and structures and provide 220 parking spaces on-site. In addition, the proposed project includes a variety of playfields and recreational areas to accommodate the recreational needs of the K-8 student's on-site. These facilities include a separate playground for the kindergarten with play structures and open space. There will be lower and upper grade play areas with hard courts for tether ball, basketball and volley ball and motor skill development as well as play structures. Grass fields will be used for kickball, soccer, softball, track and field challenges and general play. The elementary school will have a multi-purpose room for some indoor recreational activities during inclement weather and potential after hours community use. An additional drop-off area for the playfield area is provides along Patterson Road. A conceptual site plan is shown in Figure 2-2.

A two-story 24,868 sq. ft. District Office is proposed on the northwest corner of the site with 62 parking stalls provided to the south and east of the building. Access to this parking area would be provided from Doris Avenue. An elementary school drop-off and pick-up area would separate the district office space from the elementary school buildings. Access to the elementary school drop-off and pick-up area would be from Patterson Road with traffic following in a single direction exiting on Doris Avenue. The elementary school buildings are clustered together to the east of the District office area with primary access provided from Patterson Road. These buildings are anticipated to include:

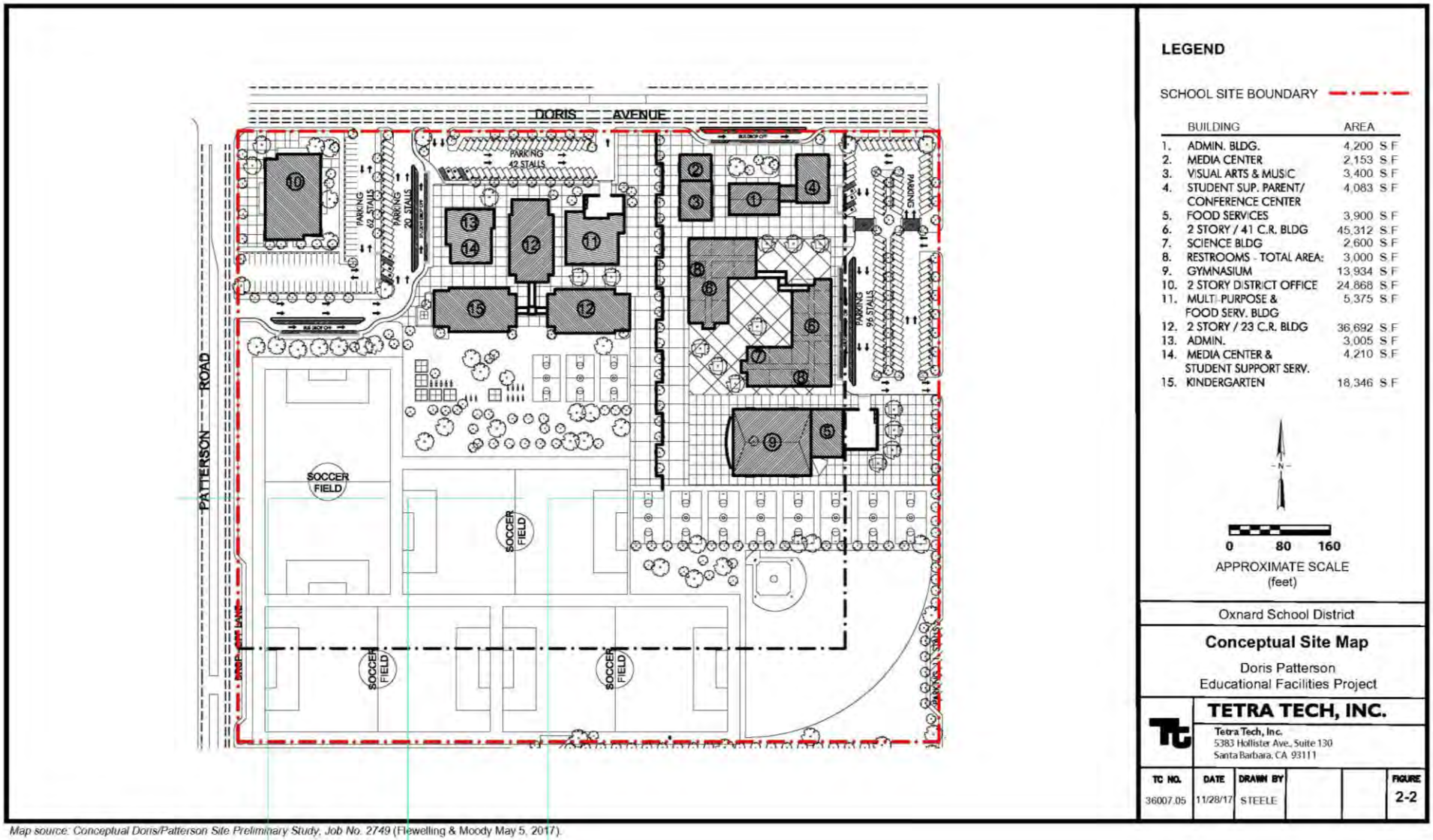
- Multi-Purpose & Food Services (8,975 sq. ft.)
- Two-Story / 23 Classroom Building (36,692 sq. ft.)
- Administration Building (3,005 sq. ft.)
- Media Center & Student Support Services (4,210 sq. ft.)
- Kindergarten (18,346 sq. ft.)

A parking lot with 42 spaces is provided adjacent to the elementary school buildings to the north with access provided from Doris Avenue and an additional 20 parking spaces are provided within the drop-off and pick-up area to the west.

The middle school buildings are located near the northeast corner of the site and are anticipated to include:

- Administration Building (4,200 sq. ft.)
- Media Center (2,153 sq. ft.)
- Visual Arts & Music (3,400 sq. ft.)
- Student Support/Conference Center (4,083 sq. ft.)
- Food Services (3,900 sq. ft.)
- Two-Story/ 41 Classroom Building (45,312 sq. ft.)
- Two-Story Science Building (2,600 sq. ft.)
- Two-Story Restrooms (3,000 sq. ft.)
- Gymnasium (13,934 sq. ft.)

Approximately 96 parking stalls would be provided adjacent to the middle school buildings to the east. The bus drop-off and pick-up area for the middle school would be from Doris Avenue. An additional drop-off and pick-up area and parking lot would be provided to the east of the middle school buildings with access provided from a new road. The proposed new access road is expected to terminate at the southernmost access to the parking lot for the school.



Map source: Conceptual Doris/Patterson Site Preliminary Study, Job No. 2749 (Flewelling & Moody May 5, 2017).

Project Design Features

Noise

Classrooms would be designed and constructed to have a Community Noise Equivalent Level of 45dB or less. The exterior mechanical equipment is anticipated to be located on roofs in a protected manner such as a parapet.

Landscaping

The project site will have a drought tolerant landscape that meets the 2009 Model Water Efficiency Landscape Ordinance (MWELO) regulations adopted by the Department of Water Resources (DWR).

Lighting

The proposed project will include necessary lighting for adequate nighttime safety and security. Campus lights will be shielded and directed downward to the extent feasible. No lighted playfields are proposed.

There are existing street lights located on the north side of Doris Avenue at the intersections of Patterson Road and at the intersection of Daffodil Way. Those facilities will most likely remain in effect; however, the proposed project would install street lighting on the proposed project frontage and the City may require additional lighting to be installed on Patterson Road and Doris Avenue in the project area. The proposed access road from Doris Avenue to Teal Club Road will also include street lighting.

Stormwater Drainage

The proposed project would install curb and gutter improvements along the north and south sides of the project site. There would be an access road on the east side of the project site and that paved road shall have curb and gutter along the west side. These facilities would route non-project site stormwater around the parcel. The proposed project improvements would include post construction best management practices (BMPs) to manage the storm flows generated by the hardscape portion of the project. The existing agricultural site conditions shall be considered similar to the proposed landscaped areas on the project site plan. Site improvements intended to deal with the proposed project stormwater shall be designed in accordance with the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures, Manual Update 2011. It is intended to utilize BMPs such as a dry extended detention basin (TCM-1) coupled with hydrodynamic separation devices (PT-1) for the parking lot areas. The groundwater is anticipated to be relatively close to the surface so infiltration BMPs such as dry wells may not be preferable (Phoenix 2017).

The southern portion of the project site are soccer fields totaling approximately 6.7 acres of the parcel. As part of this project, those areas would be depressed 8 inches below the surrounding grade (or conversely an 8 inch tall earthen berm would be constructed along the western, eastern and southern boundaries to collect and detain the storm runoff from the Project. At that depth, this area would collect 195,640 cubic feet (4.5 acre feet) of runoff. This runoff could be detained for up to two days and then the remainder released to the existing agriculture ditch or concrete pipe system recommended in the 2003 Master Plan of Drainage. Preliminary calculations indicate that 5 acre feet of runoff would be generated by a 100 year storm event. The project site could detain that volume with only 0.5 acre feet of runoff (Phoenix 2017).

The parking lot areas would drain to the south field detention areas. The parking lot areas would be filtered to collect the trash, debris and oil/petroleum products out of the runoff prior to discharge onto the field detention areas. The proprietary hydrodynamic filter systems have not been identified at this time, but will be part of the design efforts. Each parking lot will have one device for treating that specific area. Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017).

Transportation/Circulation

A new access road is proposed to the east of the project site as shown on the conceptual site plan (Figure 2-2) The City will dictate the final route for the access road. The sidewalks on the north side of Doris Avenue are a 4-foot-wide meandering walk. The sidewalks on the south side of the street due to the pedestrian traffic will most likely need to be wider (6- or 8-feet) and will have the width dictated by the City. On Patterson Road, the sidewalk will match Doris Avenue. While the educational facilities would be contained within the 25-acre project site; the City may require the sidewalk be extended to at least the project boundary.

Utility Connections

The project site is currently undeveloped and used for agriculture. Utility connections will need to be extended to the site, including water, sewer, gas, electric, data/telecommunications, and recycled water.

- On the west side of the proposed site (Patterson Road) there are existing 15- and 8-inch diameter wastewater pipelines. Teal Club Road has a 21-inch diameter sewer pipeline that collects flow and transports it to the west where it heads south on Victoria Avenue. There are no wastewater facilities located in Doris Avenue. The City's Master Plan shows that there are no capacity issues in the Teal Club Road trunk sewer pipeline or the pipelines located in Patterson Road. Discussion with the City Public Works Department during design will determine if the 8- or 15-inch diameter pipeline is connected to for serving the project site. The addition of the proposed project is assumed to not cause capacity improvements in the existing collection system (Phoenix 2017). There is an existing 12-inch diameter potable water pipeline that is located on Doris Avenue across the frontage of the proposed site.
- Power facilities are located on Doris Avenue and a portion of Patterson Road as underground facilities. South of the first aerial pole on Patterson Road, the power facilities are aerial.
- Gas facilities are not present on Doris Avenue or Patterson Road according to the record drawings received from the Gas Company.
- Recycled water pipelines are not present in Doris Avenue or Patterson Road; however, the City may require installation of a mainline. The proposed project would be designed with "purple pipe" for recycled water so that the proposed project can connect if recycled water becomes available.
- Telecommunication facilities exist on Patterson Road and in the development to the north (across Doris Avenue).

Project Construction

Construction of the proposed K-5 and 6-8 schools are planned to start in 2019. All project construction activities including those for the Administrative Facilities are anticipated to be completed by the start of the 2021-2022 school year. The Project construction activities are anticipated to occur in phases and include site preparation, grading, building construction, paving, architectural coating, and landscaping.

Anticipated construction equipment includes graders/compactors, backhoes, watering trucks, trucks carrying required fill or spoils would be used for the grading portion of the project(s). During the building construction phases, material delivery trucks, including tractor trailers, would be bringing raw and finished materials and equipment. Paving for parking areas and hardcourts are expected to be asphalt. Concrete for foundations floor slabs and walkways and plazas shall be delivered via concrete mixing vehicles. Back hoes and forklifts and small cranes are also anticipated to move materials around the site or assist in placing in the facilities.

The size of the construction crews for either the elementary or middle school will vary day by day. Typical days have an average of 20 personnel on-site, while peak personal levels may reach over 50 depending on activities and the project schedule. Personnel working on the project site will park on-site. Contractor field personnel for each school or office would typically include a project superintendent, assistant superintendent, and a clerk. A project manager may also be assigned to be on-site for a portion of each work day. One project inspector is expected to be on-site for each facility. Specialty inspectors would be on-site for various activities such as welding

or masonry. Periodically architects, engineers, public agency and District staff would be on-site to review progress (typically weekly).

Employees

The District Administrative Facility would have approximately 113 staff (CFW 2015). The approximate number of employees for each school was estimated based on the educational specifications approved by the Board. The K-5 elementary school is anticipated to have approximately 52 employees. This includes 7 administrative staff (including a psychologist and nurse), 30 teachers, 6 aides, 1 library staff, 1 technology teacher, 4 cafeteria workers, 2 janitors, and 1 grounds staff. The 6-8 middle school is anticipated to have approximately 74 employees. This includes 7 administrative staff (this also includes a psychologist and nurse), 50 teachers, 4 aides, 2 library workers, 1 technology teacher, 6 cafeteria workers, 3 janitors, and 1 grounds staff.

2.5 REQUIRED PERMITS AND APPROVALS

This EIR will be used by OSD and responsible and trustee agencies with jurisdiction over portions of the project prior to deciding whether to approve or permit project components. A public agency, other than the lead agency, that has discretionary approval power over a project is known as a "responsible agency" as defined by CEQA Guidelines Section 15381. The City of Oxnard, LAFCo, Ventura County Airport Land Use Commission, Calleguas Municipal Water District, and MWD are responsible agencies. Anticipated discretionary actions for the proposed project are identified in Table 2-1.

Table 2-1. Discretionary Actions

Agency/Organization	Role	Action
Oxnard School District	Lead Agency	• Approve Project (Educational Specifications, Design/Construction Funding and Associated Contract Approvals)
City of Oxnard	Responsible Agency	• Initiate Reorganization • GPA and Pre-Zone
LAFCo	Responsible Agency	• Approval of Reorganization
Ventura County Airport Land Use Commission	Responsible Agency	• Finding of Consistency or Inconsistency with the Airport Comprehensive Land Use Plan
Calleguas Municipal Water District (CMWD) & Municipal Water District	Responsible Agencies	• MWD Formal Terms • CMWD Approval of Annexation (accept MWD Formal Terms and LAFCo Conditions)

In addition to discretionary actions, additional state, regional and/or local government permits may be required to develop the proposed project, whether or not they are explicitly listed in Table 2-2.

Table 2-2. Non-Discretionary Permits/Approvals

Agency	Permit/Approval
City of Oxnard	Local roadway modifications and water connections
California Department of Education	Approval of construction plans and allocation of construction funding
Fox Canyon Groundwater Management Agency	Approval of water allocation transfer
California Department of Fish and Wildlife	Jurisdictional determination; if needed, Streambed Alteration Agreement
California Department of Toxic Substance Control	Approval of Land Use Covenant
Division of the State Architect	Approval of construction plans and grading permit
Federal Aviation Administration	Obstruction evaluation
State Water Resources Control Board	Stormwater Construction General Permit
Los Angeles Regional Water Quality Control Board	If needed, authorization under Clean Water Act Section 401 If needed; Groundwater Discharge Permit
U.S. Army Corps of Engineers	Jurisdictional determination; if needed, authorizations under the Nationwide Permit Program

3.0 ENVIRONMENTAL ANALYSIS

For each impact identified, a statement of the level of significance of the impact is included. These levels of significance are defined as follows.

- No Impact: No adverse changes in the environment would result.
- Less Than Significant Impact: No substantial adverse change in the environment would result.
- Less Than Significant Impact with Mitigation Incorporated: A significant adverse impact or potentially substantial adverse change in the environment that can be reduced to a less than significant level with the incorporation of mitigation measures.
- Significant Impact: A substantial or potentially substantial adverse change in the environment that cannot be mitigated to a level of less than significant.

3.1 AESTHETICS

This section describes the proposed project's potential to affect visual resources (aesthetics) in the project area. The visual resources to be analyzed include both natural and human-made features that make up the physical characteristics of the landscape. In general, natural resources include the landform, water, soil, and vegetation, while human-made features include physical structures, roads, etc. The analysis describes the potential aesthetic impacts of the proposed project on the existing landscape and discusses the compatibility of the proposed project with existing aesthetic setting.

As noted in the Initial Study (Appendix A), impacts associated with scenic vistas or damage to scenic resources along a scenic highway were found to have a less than significant impact and are not discussed within the EIR.

3.1.1 Environmental Setting

3.1.1.1 Existing Conditions

The visual characteristics of the City of Oxnard are made up of several natural and human-made aesthetic resources, including open spaces, beaches and coastline, agricultural areas, and low rise commercial and residential development, as well as tall buildings associated with the City's skyline (City of Oxnard 2006). Visual characteristics in the project area include a combination of rural open areas and agricultural uses, including the Ventura-Oxnard Greenbelt, and residential development. The Greenbelt areas provide an important open space quality to the City of Oxnard's SOI. The City's urban landscape is also considered an important aesthetic resource according to the City of Oxnard General Plan Draft Background Report (City of Oxnard 2006).

The project site is relatively flat and currently used for agriculture, as shown in Figure 3-1, Project Site and Adjacent Area. It is surrounded by adjacent agricultural uses to the south, east, and west. The Ventura-Oxnard Greenbelt is located to the west of the project site across Patterson Road. Located to the north of the project site, along Doris Avenue, is a residential neighborhood with one- and two-story single-family houses (Figure 3-2). A masonry wall and mature trees line Doris Avenue from Patterson Road to Ventura Road. Commercial uses and additional residential neighborhoods are located east of Ventura Road. The Oxnard Airport is located approximately 1,800 feet south of the project site.

The project site is currently used for agriculture and does not have any permanent sources of light. Light and glare sources in the vicinity of the project site include the residential homes to the north, existing street lights located on the north side of Doris Avenue at the intersections of Patterson Road and at the intersection of Daffodil Way, and vehicles traveling on adjacent roadways (Doris Avenue and Patterson Road), and the Oxnard Airport to the south.

As is discussed in the Initial Study (Appendix A), the proposed project is not located adjacent to a designated State scenic highway or eligible State scenic highway, as identified on the California Scenic Highway Mapping System (Caltrans 2017). The City, in conjunction with Ventura County and the City of Port Hueneme has selected routes for the City's Scenic Highway System (City of Oxnard 2006). These routes include:

- Patterson Road between Fifth Street and Hemlock Street and between Vineyard Avenue and Doris Avenue; and
- Doris Avenue between Victoria Avenue and Patterson Road.

The scenic route portion of Patterson Road is located to the immediate north of the project site. The scenic route portion of Doris Avenue is located to the immediate west of the project site. These routes have scenic values because of their views of the Ventura-Oxnard Greenbelt and in the distance the Los Padres National Forest mountain range.

Figure 3-1. View Looking Northeast across Site from Site Western Border

Figure 3-2. View of Adjacent Areas Looking Northeast from Site Northern Border

3.1.1.2 Regulatory Setting

Federal

No federal policies or regulations pertaining to aesthetics are applicable to the proposed project.

State

No federal policies or regulations pertaining to aesthetics are applicable to the proposed project.

Local

City of Oxnard 2030 General Plan Goals and Policies

Chapter 3, Community Development, establishes goals and policies for the distribution and intensity of land use types. The focus of this element is on revitalization of existing neighborhoods and new development within the community, and continued greenbelt and agriculture uses within the City's SOI. Applicable goals and policies specific to aesthetic resources include:

> **Goal CD-1.** A balanced community consisting of residential, commercial, and employment uses consistent with the character, capacity, and vision of the City.
>
> **CD-1.6 Public Facilities.** Enhance resident quality of life by providing adequate space for schools, libraries, parks and recreation areas, as well as space for the expansion of public facilities to support the community's vision.
>
> **CD-1.8 Natural Resource Conservation.** Promote a high quality of life within the community, incorporating the retention of natural open space areas, greenbelts, and the provision of adequate recreational facilities.
>
> **Goal CD-3.** A city of stable, safe, attractive, and revitalized neighborhoods with adequate parks, schools, infrastructure, and community identity and pride.
>
> **CD-3.4 Neighborhood Quality of Life Program.** Develop an ongoing program to assess parking, lighting, traffic safety, use and quality of alleys, public utilities, public and private lighting, housing quality, aesthetics, and related quality of life topics to identify and prioritize opportunities for neighborhood quality of life enhancement activities and sources of funding.
>
> **Goal CD-7.** Development of vibrant mixed-use urban villages characterized by a mix of land uses, transit accessibility, pedestrian orientation, and neighborhood identity.
>
> **CD-7.12 Urban Village Collocation with Schools.** Promote the collocation of parks with school facilities for the purpose of enhancing available open space and recreation.
>
> **Goal CD-9.** A high quality visual image and perception of the City.
>
> **CD-9.1 Neighborhood Identity.** Recognize, preserve, and improve the visual identity and character of existing neighborhoods. Infill development shall respect historic structures and be of compatible scale and character with historic areas.
>
> **CD-9.4 View Corridor Preservation.** Ensure that all public and private investments positively contribute to the overall character of the City by minimizing impacts on important view corridors by creating edge treatments along greenbelt areas and a landscaped buffer corridor of at least 30 feet along designated scenic corridors and other major transportation corridors.
>
> **CD-9.5 Unique Character Preservation.** Ensure that new public and private investments maintain the unique coastal and agricultural character of the City.
>
> **Goal CD-14.** Expectations of higher quality design.

CD-14.1 Design Review Process. In the evaluation of development proposals, continue to ensure that public and private development projects comply with City design policies, plans, and guidelines.

Chapter 4, Infrastructure and Community Services, sets goals and policies for traffic and circulation, long-term water supply, parks, public safety, schools, and other public and semi-public facilities and services. Applicable goals and policies specific to aesthetic resources include:

Goal ICS-2. A transportation system that supports existing, approved, and planned land uses throughout the City while maintaining a level of service "C" at designated intersections unless excepted.

ICS-2.11 Scenic Highway Preservation. Preserve and enhance the character of scenic highways, and publicly owned and utility rights-of-way.

Chapter 5, Environmental Resources, addresses the conservation, development, and use of natural resources, and also explores the managed production of resources, significant buildings and historic sites, water resources, biological, and agricultural resources. Applicable goals and policies specific to aesthetic resources include:

Goal ER-6. Protected and enhanced natural setting and scenic resources.

ER-6.1 Incorporate Views in New Development. Preserve important public views and viewsheds by ensuring that the scale, bulk and setback of new development does not significantly impede or disrupt them and ensure that important vistas and view corridors are enhanced. Require development to provide physical breaks to allow views into these vistas and view corridors.

ER-6.2 Protect and Enhance Major Scenic Resources. Protect and enhance the scenic resources of the beaches, Channel Island Harbor, windrows, farmland, the Channel Islands, and surrounding mountains.

ER-6.5 Control of Lighting and Glare. Require that all outdoor light fixtures including street lighting, externally illuminated signs, advertising displays, and billboards use low-energy, shielded light fixtures which direct light downward and, where public safety would not be compromised, encourage the use of low-pressure sodium lighting for all outdoor light fixtures.

Goal ER-9. Enhanced perceived character and quality of the City of Oxnard

ER-9.3 Residential Street Lighting. Provide residential street lighting that is appropriate in appearance, scale, and intensity for residential use.

ER-9.4 Human Scale Development. Ensure that all new development emphasizes a human, pedestrian scale and minimizes its effect on the area's sensitive visual resources.

Goal ER-10. Enhanced landscape quality with an emphasis on landscape practices, management and plant species that are appropriate to Oxnard and its coastal climate.

ER-10.1 Promote use of Native and Water Wise Plants. Promote the development of a native, drought-tolerant landscape character throughout the City that reinforces a unified and cohesive landscape character and discourage plants that are invasive or problematic in other ways as determined by the City's landscape architect.

Oxnard Municipal Code

The Oxnard Municipal Code (OMC) contains regulations governing the physical appearance of development within the City.

3.1.2 Impact Analysis

3.1.2.1 Methodology

The visual impact a project may have is qualified through the examinations of the following factors: (1) the type of visual change that will result from the project; (2) the degree to which a project's visual characteristics or elements differ from the same visual elements established in the existing landscape; 3) the project's apparent size relative to other visible landscape features; and (4) the degree to which a project features change or block views of scenic resources. Landscapes with similar characteristics to a proposed project's features indicate a landscape more capable of accepting those project characteristics than a landscape where those elements are absent. This analysis examines the existing visual character of the project site and surrounding area against the proposed project, analyzing the nature of the anticipated change.

3.1.2.2 Significance Thresholds

The thresholds for aesthetic resource impacts used in this analysis are consistent with Appendix G of the CEQA Guidelines.

- *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within view from a state scenic highway, or route identified as scenic by the County of Ventura or City of Oxnard?*
- *Would the project substantially degrade the existing visual character or quality of the site and its surroundings?*
- *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

3.1.2.3 Project Impacts

Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within view from a state scenic highway, or route identified as scenic by the County of Ventura or City of Oxnard?

The scenic route portions of Patterson Road and Doris Avenue are located to the immediate north and west, respectively, of the project site. Views of the Los Padres mountain range from the scenic route portions of Patterson Road and Doris Avenue would remain unobstructed.

Views of the Ventura-Oxnard Greenbelt would primarily be from travelers on local roadways in the vicinity of the project site including Patterson Road and Doris Avenue. These are short duration viewers. Development of the proposed project would occur on the southeast corner of Doris Avenue and Patterson Road. Therefore, travelers' views of the Ventura-Oxnard Greenbelt located to the west would not be impacted on Patterson Road. On Doris Avenue, development of the project may obstruct westbound travelers' views across the site to the Ventura-Oxnard Greenbelt for a short duration in comparison to existing conditions. While this would be a visual change, it would not be a significant impact since the proposed project is located in an area planned for future development in the City of Oxnard General Plan and westbound travelers would be coming from similar developed areas. Eastbound travelers on Doris Avenue would be leaving the Ventura-Oxnard Greenbelt viewing area and traveling toward more developed urban areas in the City of Oxnard. Other viewers in the area include residents in the homes to the north of the project site. However, residents' views of the Ventura-Oxnard Greenbelt along Doris Avenue and Patterson Road are generally obstructed by an existing wall along the perimeter of the development and street trees along the northern side of Doris Avenue as shown in Figure 3-2. In addition, the proposed project will be designed to be consistent with the community character goals and policies of the City of Oxnard General Plan designed to minimize impacts to scenic resources adjacent to scenic routes. Therefore, the proposed project would have a less than significant impact on these scenic routes, and no mitigation measures are required.

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Within the immediate project vicinity, the area can be characterized by a mix of agricultural and urban residential uses. Further south of the project site, across Teal Club Road is Oxnard Airport. Implementation of the proposed project would change the visual setting of the project site from undeveloped agricultural land to a more developed landscape with new buildings and structures to support an administration building, new K-5 elementary school, and 6-8 middle school. The proposed project also includes recreational facilities including grass playfields.

Visual impacts would result from construction activities, including the presence of equipment, materials, and workers, at the project site, and along Doris Avenue and Patterson Road. These impacts would be considered short-term and temporary. Vehicles such as automobiles, pickup trucks, and dump trucks would be visible. Heavy equipment such as backhoes, graders, and excavators and workers would be visible during site clearing, grading, construction, and site cleanup. Construction equipment and activities would be seen by various viewers in proximity to the project site, including pedestrians and motorists on Doris Avenue and Patterson Road. Other viewers in the area include residents in the homes to the north of the project site. However, residents' views along Doris Avenue and Patterson road are generally obstructed by the existing wall and street trees. Therefore, project visual impacts from construction activities would be less than significant.

Development of the project site would change the visual character of the project site by introducing new buildings and structures to the area in comparison to existing conditions. The educational buildings will be located on the northern half of the project site and would be up to two stories (25 feet) tall, in keeping with the existing characteristics of the adjacent residential neighborhood to the north. Each project element (the elementary school, middle school and District administrative center) will be bordered by landscaping. The incorporation of landscaping would result in these features being the most visible elements along public street frontages. The southern half of the project site will be composed of playfields (soccer, baseball, and hardcourts). The playfields will provide a visual segue way between the developed and agricultural environment while the land located to the south of the project site remains in agricultural production.

The visual characteristics of the proposed project would be consistent with the developed areas immediately to the north and nearby to the east. The project would be consistent with the visual character of future development anticipated under the City of Oxnard General Plan for the project site area. The project would represent the continuation of existing city-wide land use patterns and proposed new development within the northeastern portions of the City of Oxnard SOI on land used for a variety of agricultural and open space uses (City of Oxnard 2011). Therefore, project impacts to visual character and quality would be less than significant and no mitigation measures are required.

Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The proposed project would introduce new lighting to the site from exterior security and street lighting and from interior window spillage. It is anticipated that the school may be used in the evening for periodic school activities. This would result in some increased light and glare from vehicles entering or leaving the site at night.

The proposed project would install street lighting on the project frontage and the City may require additional lighting to be installed on Patterson Road and Doris Avenue within the project area. The proposed project would include exterior lighting around the buildings, walkways and parking areas as needed for adequate safety and security at night. No lighted playfields are proposed. The exterior finish of the proposed buildings would not include any highly reflective surfaces aside from standard glass windows.

The proposed project would be constructed with materials and lighting that will be consistent with the lighting principles contained in the Community Design Element of the City of Oxnard General Plan (Oxnard 2011) and the Oxnard Municipal Code (Oxnard 2017), that require that all outdoor lights be designed, located, and arranged so as to reflect the light away from adjoining properties or streets. Campus lights will be shielded and directed

downward to the extent feasible to minimize glare for pedestrians and drivers and to minimize spillover light. The landscaping buffers surrounding all the parking lots will also minimize and/or block campus lighting and any headlights from vehicles traveling on the project site. While the proposed project would introduce new sources of light and glare; this change would be similar to existing light associated with the adjacent residential neighborhoods and roads. Therefore, the proposed project would not result in a substantial source of light or glare and project impact would be less than significant.

3.1.2.4 Cumulative Impacts

Through the development of the proposed project and other development contemplated for this area in the City of Oxnard General Plan, the visual character of the project area would increasingly change from agricultural to urban. The City of Oxnard 2030 General Plan Program EIR evaluated the potential environmental impacts of buildout of the 2030 General Plan, including the project area. The 2030 General Plan Program EIR found that while this development would have impacts related to scenic routes, visual character, and light and glare, these impacts would be less than significant and would not require mitigation. As the proposed project is similar to the development contemplated for the project site in the City of Oxnard General Plan, the proposed project's incremental contribution to impacts associated with visual quality would be would be less than significant.

3.1.2.5 Mitigation Measures

No mitigation required.

3.1.2.6 Level of Impact After Mitigation

Project impact is less than significant.

3.2 AGRICULTURE

This section describes the proposed project's potential to: convert Farmland of Statewide Importance, as designated by the California Department of Conservation (CDC), Division of Land Resources Protection, to non-agricultural uses; conflict with existing zoning for agricultural use; and/or individually or cumulatively result in the loss of Farmland to non-agricultural use.

As noted in the Initial Study (Appendix A), the proposed project will not conflict with: a Williamson Act contract, or existing zoning for forest land, timberland, or timberland zoned Timberland Production; nor will it result in loss of forest land or conversion of forest land to non-forest use.

3.2.1 Environmental Setting

3.2.1.1 Existing Conditions

Regional

Within Ventura County, agriculture plays a vital role in the local economy and it consistently ranks among the most profitable in California (Ventura County 2005). The temperate local climate, the availability of water and level topography, and the depth of high quality soils allows for the farming of a wide range of crops. Farms and ranches account for 190,000 acres of land in Ventura County.

Estimated gross values revenue sales of agricultural products in Ventura County increased from approximately $2.13 billion in 2014 to approximately $2.19 billion in 2015 (County of Ventura 2016). The largest increases in crop values from 2014 to 2015 were in the fruit and nut crops and vegetable groupings. The largest decreases in crop values from 2014 to 2015 were in the livestock and poultry and field crops groupings. Table 3-1 shows the 2014 and 2015 values of major crop groupings in Ventura County.

Table 3-1. 2015 Crop Grouping Values in Ventura County

Crop Grouping	Year	Value[1]
1. Fruit and Nut Crops	2015	$1,357,101,000
	2014	$1,338,004,000
2. Vegetable Crops	2015	$583,281,000
	2014	$557,614,000
3. Nursery Stock	2015	$195,817,000
	2014	$180,499,000
1. Cut Flowers	2015	$48,522,000
	2014	$47,615,000
2. Livestock and Poultry	2015	$6,878,000
	2014	$7,887,000
3. Apiary Products	2015	$2,108,000
	2014	$554,000
4. Sustainable Agriculture	2015	$3,838,000
	2014	$3,443,000
5. Field Crops	2015	$1,010,000
	2014	$1,417,000

[1] Figures are rounded off to nearest $1,000.
[2] Ventura County has approximately 95,802 acres of irrigated cropland. Total farmed acreage is 293,549 (197,747 is in Rangeland).
Source: County of Ventura, Office of Agricultural Commissioner, Ventura County's 2015 Crop & Livestock Report, December 13, 2016

The conversion of agricultural land to non-agricultural land uses is monitored by the CDC Farmland Mapping and Monitoring Program (FMMP). The conversion of important farmland in Ventura County from 2010 to 2012 is illustrated in Table 3-2.

Table 3-2. Ventura County 2010-2012 Farmland Acreage Changes

Land Use Category	Total Acreage Inventoried		2010-2012 Acreage Changes			
	2010	2012	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	42,422	41,570	1,056	204	1,260	<852>
Farmland of Statewide Importance	33,484	33,337	197	50	247	<147>
Unique Farmland	28,792	28,725	528	461	989	<67>
Farmland of Local Importance	14,989	15,168	795	974	1,769	279
Total	**119,687**	**118,800**	**2,576**	**1,689**	**4,265**	**-<887>**

Source: CDC 2015

Local Area

The City of Oxnard's Mediterranean climate, fertile topsoil, adequate water supply, and long harvest season combine to provide favorable agricultural conditions in the surrounding Oxnard plain that is the center of a regional agricultural industry (City of Oxnard 2009). The City of Oxnard contains some of the most fertile land in Ventura County. Important Farmlands account for the majority of farmland (22,960 acres) within the City of Oxnard and its SOI (City of Oxnard 2006).

The project site is under active agricultural use supported with irrigation. The CDC FMMP identifies 25 acres (or 100%) of the project site as Farmland of Statewide Importance (CDC 2017).

According to the U.S. Department of Agriculture (USDA), Soil Conservation Service, Soil Survey of the project site, 100% of the on-site soils consists of Camarillo loam (Cd) (USDA NRCS 2017). Soils are placed in grades according to their suitability for general intensive farming as indicated by their Storie Index ratings. The on-site Cd soils are designated as Grade 2 soils with a Storie Index rating of 80. Soils of Grade 2 soils are good agricultural soils, although they are not as desirable as soils in Grade 1 because of a less permeable subsoil, deep cemented layers (e.g., duripans), a gravelly or moderately fine textured surface layer, moderate or strong slopes, restricted drainage, low available water capacity, lower soil fertility, or a slight or moderate hazard of flooding.

The area immediately surrounding the proposed project site includes a mix of residential and agricultural land uses.

3.2.1.2 Regulatory Setting

Federal

No federal policies or regulations pertaining to agriculture are applicable to the proposed project.

State

Farmland Mapping and Monitoring Program (FMMP)

The goal of the FMMP is to provide consistent, timely, and accurate data to decision makers for use in planning for the present and future of California's agricultural land resources. To meet this goal, FMMP provides maps and

statistical data to the public, academia and government agencies to assist them in making informed decisions for the utilization of California's farmland (CDC 2004). FMMP was established in 1982 in response to a need for assessing of agricultural lands and informing decisions affecting conversion of these lands over time. FMMP regularly reports on the conversion of farmland and grazing lands and provides maps and maintains a database system to record and report changes in the use of agricultural lands throughout California.

Important Farmland mapping efforts were initially begun in 1975 by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), and now continued through the FMMP. The intent was to produce agricultural resource maps based on soil quality and land use across the nation. As part of this nationwide mapping effort, NRCS developed a series of definitions known as the Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production, which included physical and chemical characteristics of soils, as well as specified land use characteristics. Important Farmland Maps are derived from NRCS soil survey maps using LIM criteria (CDC 2004).

Important Farmlands

Important farmland maps are compiled by the FMMP, pursuant to the provisions of Section 65570 of the California Government Code. These maps, utilizing data from the NRCS soil survey and current land use information using eight mapping categories, represent an inventory of agricultural resources within San Bernardino County. The maps depict currently urbanized lands and a qualitative sequence of agricultural designations. Maps and statistics are produced biannually using a process which integrates aerial photo interpretation, field mapping, a computerized mapping system and public review.

Land is classified into one of eight categories (five relating to farming and three associated with nonagricultural purposes) which include: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-Up Land, and Other Land. Prime Farmland is defined as having the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date. Farmland of Statewide Importance, is land similar to prime farmland but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production of irrigated drops at some time during the two update cycles prior to the mapping date.

Local

County of Ventura Agricultural/Urban Buffer Policy

This Policy's purpose is to ensure that farming can continue even with urban neighbors. The Policy provides guidelines to reduce agricultural/urban interface conflicts and to protect the public health, safety and welfare of the citizens of Ventura County and protect the economic viability and long-term sustainability of the Ventura County agricultural industry. The Policy applies where urban structures or ongoing non-farming activities are permitted adjacent to land 1) in crop or orchard production; or 2) classified by the California Department of Conservation Important Farmland Inventory as Prime, Statewide Importance, Unique or Local Importance farmland. These guidelines apply to projects requiring discretionary approval by the county or a city where the proposed non-farming activity is abutting or on land zoned AE, OS or RA, and the farming activity is located outside a Sphere of Influence, as adopted by the LAFCo. The Agricultural Policy Advisory Committee (APAC) or the Agricultural Commissioner may grant an exemption to these policies on a case-by-case basis, where physical factors prevent or alleviate the need for compliance. Where applicable, urban developments or non-agricultural uses shall be conditioned to provide and maintain a 300-foot setback and reinforced 8-foot chain link fence with top bar on the non-agricultural property between the urban use and the agriculture, or a 150-foot buffer/setback if a vegetative screen as defined in the Policy.

Minimum standards for the vegetative screen (when required) include:

- Two staggered rows of trees and shrubs characterized by evergreen foliage that extends from the base of the plant to the crown;
- Trees and shrubs should be vigorous, drought tolerant and at least 6 feet in height at the time of installation;
- Plants should have 50 percent (%) to 75% porosity (i.e., approximately 50% to 75% of the plant is air space);
- Plant height should vary in order to capture drift within 4 feet of ground applications;
- A mature height of 15 feet or more is required for trees;
- To ensure adequate coverage, 2 staggered rows should be located 5 feet apart and consist of minimum 5 gallon plants at least 6 feet tall planted 10 feet on center;
- Recommended plants include: Toyon (*Heteromeles arbutifolia*), Sugarbush (*Rhus ovata*), Laurel sumac (*Malosma laurina*) and Italian cypress (*Cupressus sempervirens*); and
- A long-term plan shall be in place for maintaining the vegetative shelter belt.

The Policy discourages K-12 school construction within one-quarter mile of agriculture and states that for all K-12 school construction within 300 feet of agriculture:

- A public meeting by APAC is required; and
- The recommendations in *Farming Near Schools, A Community Guide for Protecting Children* (Ag Futures Alliance *2002*) shall be followed by both the farmer and the school.

County of Ventura Right-to-Farm Ordinance (Ordinance No. 4151)

This Ordinance is intended to protect the farming community from developments that would inhibit their ability to continue agricultural production. The Ordinance consists of two components, the first of which is found in the enforcement sections of the Coastal and Non-Coastal Zoning Ordinances. These sections of the code protect farmers engaged in agricultural activity from public nuisance claims. The second component requires mandatory disclosure to neighboring property owners of the potential noise, odors, dust, and spraying that may result from farming and details procedures for mediation of disputes that may arise. This section of the “Right to Farm” Ordinance puts a new purchaser of property on notice that existing agricultural operations inherently have noise, odor, and other potentially annoying activities that are associated with accepted agricultural operations

Save Open Space and Agricultural Resources

The City of Oxnard’s Save Open Space and Agricultural Resources (SOAR) initiative was adopted in 1998, establishing the City Urban Growth Boundary (CURB) to direct growth and preserve agricultural resources. The CURB, as originally adopted, defined the urban development boundary for the City of Oxnard until December 31, 2020 at which time the voters could determine whether the program should be extended, modified or expired. The SOAR initiative also established a City Buffer Boundary (CBB), which lies outside of the CURB line and is coterminous with the Oxnard Area of Interest. Generally, any significant change to the CURB line or an agricultural land use designation within the CBB requires approval of Oxnard voters. The exception to this is that the City Council could amend the CURB without seeking voter approval in order to include land for certain exempt uses, including the construction of roads, water facilities, schools, parks and other government facilities, and for development projects that have obtained a vested right as of the effective date of the Ordinance. On November 8, 2016, two SOAR extension measures were approved; Measure K extending the SOAR Ordinance until December 31, 2030 and Measure L extending the SOAR Ordinance until December 31, 2050. The project site is located within the Oxnard CURB line; therefore, voter approval is not required to allow conversion of the site to non-agricultural use.

Greenbelt Agreements

Greenbelt policies have been put into place in order to protect agricultural lands against urban encroachment. The City of Oxnard is a participant in the following two greenbelt agreements, the Oxnard-Camarillo Greenbelt Agreement and the Ventura-Oxnard Greenbelt Agreement (City of Oxnard 2006). Allowable uses within these greenbelt areas are limited to various agricultural and open space uses and other uses that are consistent with adopted general plans. The proposed project site is located outside of either of these greenbelts but is located immediately adjacent to the east boundary of the Ventura-Oxnard Greenbelt. Road and infrastructure improvements within Greenbelt Agreement areas have historically not been considered "development" nor subjected to Greenbelt Agreement policies. Also, the Greenbelt Agreement expressly allows "land uses that are consistent with the general plan". The proposed improvements to adjacent roadways such as Patterson Road, Doris Avenue, and/or Teal Club Avenue are all consistent with the City of Oxnard's adopted general plan and therefore allowed within the Ventura-Oxnard Greenbelt area near the site (Stephens 2017).

City of Oxnard 2030 General Plan Goals and Policies

- Chapter 3, Community Development, establishes goals and policies for the distribution and intensity of land use types. The focus of this element is on revitalization of existing neighborhoods and new development within the community, and continued greenbelt and agriculture uses within the City's SOI. Applicable goals and policies specific to agricultural resources include:

  Goal CD-6.1 Agricultural Buffers. Require that agricultural land uses designated for long-term protection and production be buffered from urban land uses through the use of techniques including, but not limited to, greenbelts, open space setbacks, fencing, berming, and windrows.

  Goal CD-6.2 Agricultural Preservation. Preserve agricultural land and uses within the Oxnard Planning Area unless other uses are allowed through a future CURB amendment and/or applicable exemptions.

- Chapter 5, Environmental Resources, addresses the conservation, development, and use of natural resources, and also explores the managed production of resources, significant buildings and historic sites, water resources, biological, and agricultural resources. Applicable goals and policies specific to agricultural resources include:

  Goal ER-1. Protection of natural and cultural resources, agriculture, and open spaces is well integrated with the built environment and human activities and achieves a symbiotic, mutually beneficial, sustainable relationship.

  ER-1.2 Protect Surrounding Agriculture and Open Space. Protect open space and agricultural uses around Oxnard through continued adherence to the Guidelines for Orderly Development, Ventura County Greenbelt programs, the Save Open-Space and Agricultural Resources Ordinance, and other programs or policies that may subsequently be adopted such as the SB 375 Sustainable Communities Strategy.

  Goal ER-12. A viable agricultural industry, maintained and enhanced soil resources, reduced erosion, and improved agricultural productivity.

  ER-12.11 Urban / Agriculture Buffer Zones. Ensure adequate buffers between residential and agricultural uses, such as open space, recreational facilities, utility easements, windrows, and parking areas. Adequate fencing should be provided around agricultural areas to prevent vandalism.

  ER-12.12 Rerouting Roads and Utilities around Agricultural Areas. Develop new roads and utilities around prime agricultural areas rather than through them, where feasible.

3.2.2 Impact Analysis

3.2.2.1 Methodology

In determining whether impacts to agricultural resources are significant environmental effects, the lead agency may refer to the California Agricultural Land Evaluation and Site Assessment (LESA) Model (1997) prepared by the CDC to assess impacts on agriculture and farmland. The LESA system is a point-based model that is generally used for rating the relative value of agricultural land resources. The CDC developed a LESA Model to "provide lead agencies with an optional methodology to ensure that potentially significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Recourses Code Section 21095).

The California Agricultural LESA Model is composed of six different factors. Two Land Evaluation factors are based upon measures of soil resources quality that are separately rated:

1. The USDA Land Capability Classification (LCC) Rating - The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys.
2. The Storie Index Rating - The Storie Index provides a numeric rating (based upon a 100-point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics only. Four factors that represent the inherent characteristics and qualities of the soil are considered in the index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity).

In order to assess the LCC and Storie Index factors, the soils within the project area were identified using a custom Soil Resource Report from the USDA Natural Resources Conservation Service (USDA NRCS 2017).

Four Site Assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is separately rated on a 100-point scale. The factors are then weighted relative to one another and combined, resulting in a single numeric score for a given project, with a maximum attainable score of 100 points. It is this project score that becomes the basis for making a determination of a project's potential significance, based upon a range of established scoring thresholds (CDC 1997). A LESA analysis was prepared for the proposed project.

3.2.2.2 Significance Thresholds

The thresholds for agricultural resources impacts used in this analysis are consistent with Appendix G of the CEQA Guidelines.

- *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- *Would the project conflict with existing zoning for agricultural use?*
- *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?*

3.2.2.3 Project Impacts

Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The project site is located within the SOI for the City of Oxnard and buildout of the site was accounted for as part of the 2030 General Plan. The City of Oxnard 2030 General Plan EIR found that conversion of important farmland to non-agricultural uses, was a significant and not mitigable impact at the General Plan level. A statement of overriding consideration was adopted with the 2030 General Plan that included the project area. The determination of whether a specific project would have a significant and not mitigable impact relative to the direct conversion of important farmland requires the consideration of factors unique to the specific project (City of Oxnard 2017).

The CDC FMMP identifies 25 acres or 100% of the project site as Farmland of Statewide Importance (CDC 2017).

A LESA was prepared for the proposed project that considered the six factors of the LESA Model: two Land Evaluation factors comprised of LCC and Storie Index ratings; and four Site Assessment factors comprised of project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Each of these factors is separately rated on a 100-point scale and the factors are weighted relative to one another and combined to result in a single numeric score for a given project. The maximum attainable score is 100 points.

Soils within the project area were identified using a custom Soil Resource Report (USDA NRCS 2017). The LCC and Storie Index scores generated using the LESA model are provided in Table 3-3: *Land Capability Classification and Storie Index Scores*.

Table 3-3. Land Capability Classification (LCC) and Storie Index Scores

Soil Map Unit	Project Acres	Proportion of Project Acres	LCC Grade	LCC Rating	LCC Score	Storie Index	Storie Index Score
Cd	25	100%	2	80	80	75	75

The Project Size score is based on the amount of acreage of each soil class type. For a project with 20 to 39 acres of Class 2 soils, the score is 50 points. As the proposed project contains 25 acres of Class 2 soils, the project size score is 50.

The Water Resource Availability score is based on the type of irrigation present on the project site and upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. As irrigation has been historically conducted throughout most of the project site, the Water Resource Availability score is 100.

The Surrounding Agricultural Land Use score is based on the percentage of land in agricultural use in the project's Zone of Influence (ZOI). The ZOI is the surrounding land within one quarter mile of the project site. Approximately 68.8% of the land in the proposed project's ZOI is in agricultural use. When the percentage within the ZOI is between 65 and 69%, the corresponding Surrounding Agricultural Land score is 60. No lands in the proposed project's ZOI are under a Williamson Act contract, therefore the Protected Resource Lands score is 0.

Using the LESA model, the assessed agricultural value of the project site resulted in a score of 70.25 points (see Table 3-4). As identified in the California LESA Model Scoring Thresholds, scores between 60 to 79 are considered to be significant unless either the Land Evaluation sub-score or the Site Assessment sub-score are less than 20 points. Based on the LESA Score, impacts to agricultural lands from implementation of the proposed project are considered significant.

Table 3-4.Project Land Evaluation and Site Assessment (LESA) Model Score

Factor	Factor Rating (0-100 points)	Factor Weight (Total = 100)	Weighted Factor Rating
Land Evaluation			
Land Capability Classification	80	0.25	20
Storie Index Rating	75	0.25	18.75
Land Evaluation Sub-score			*38.75*
Site Assessment			
Project Size	50	0.15	7.5
Water Resource Availability	100	0.15	15
Surrounding Agricultural Lands	60	0.15	9
Protected Resource Lands	0	0.05	0
Site Assessment Sub-score			*31.5*
Final LESA Score			**70.25**

The permanent conversion of Farmland of Statewide Importance to non-agricultural uses would result in a significant impact. While City policies encourage establishment of a farmland protection program and use of conservation easements and land banking to protect continued agricultural uses throughout the City's SOI, presently the City does not utilize a banking or fee approach to mitigate impacts to agricultural soils or lands (City of Oxnard 2009). The City also has policies and programs that support existing agricultural buffers (such as the SOAR Ordinance) in order to reduce or slow further loss of agricultural resources, however, these policies do not offset an actual loss of farmland acreage. No additional feasible mitigation measures are currently available to reduce this impact to a less than significant level, therefore this impact would remain significant and unavoidable (City of Oxnard 2009).

Would the project conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

The project site is currently located within unincorporated Ventura County and is within the Ventura County SOAR boundary. The Ventura County General Plan land use designation for the project site is agricultural-urban reserve and the zoning designation is agricultural exclusive (AE-40). Schools are prohibited within the County's AE-40 zone. However, the proposed project includes annexation into the City of Oxnard thereby the County's land use designations would no longer be applicable to the project site.

The project site is also within the City of Oxnard's SOI with a City of Oxnard General Plan land use designations of public/semi-public, open space and park. The project site is in an area planned for future development in the City of Oxnard 2030 General Plan. The proposed project includes annexation into the City of Oxnard. The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and an Annexation through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257). With the approval of the GPA, Pre-Zone, and Annexation, the proposed project would be consistent with zoning. Impacts would be less than significant and no mitigation is required.

Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

The project site is located immediately adjacent to agricultural uses to the south, east and west. The Ventura-Oxnard Greenbelt is located to the west of the project site across Patterson Road. Residential uses are located immediately to the north of the project site across Doris Avenue. Direct impacts associated with the loss of agricultural land through a conversion to a non-agricultural use are discussed above.

Indirect impacts could occur with the conversion of the project site from agricultural uses to non-agricultural uses. This type of impact is mainly due to compatibility issues with the adjacent agricultural land still in production (City of Oxnard 2009). Potential compatibility issues may include nuisance effects to a project site from noise, dust, odors, and drift of agricultural chemicals. The adjacent agriculture uses could experience restrictions on the use of agricultural chemicals, complaints regarding noise and dust, and vandalism and pilfering of crops. These conflicts could potentially result in increased costs to the agricultural operation, and encouraged conversion of additional agricultural lands (including Important Farmlands) to urban uses. The City of Oxnard 2030 General Plan contains policies intended to reduce this type of land use incompatibility including policies CD-6.1 and ER-12.11 (providing adequate agricultural buffer areas) and policy ER-12.2 (supporting right-to-farm policies).

The County of Ventura Agriculture/Urban Buffer Policy also provides guidelines to prevent and/or mitigate agricultural/urban interface compatibility issues. Per the County of Venture Agriculture/Urban Buffer Policy, a 300-foot setback from adjacent agricultural uses to new structures and sensitive uses is required on the non-agricultural property unless a vegetative screen is installed. With a vegetative screen, the buffer/setback is a minimum of 150 feet. These guidelines apply to projects requiring discretionary approval by the county or a city where the proposed non-farming activity is abutting or on land zoned AE, OS or RA, and the farming activity is located outside a Sphere of Influence, as adopted by LAFCo. However, the project site is located within the SOI for the City of Oxnard and buildout of the site was accounted for as part of the 2030 General Plan. In addition, the proposed project includes annexation into the City of Oxnard with a proposed C-R zone, thereby the County's land use designations would no longer be applicable to the project site. As such these guidelines would not apply to the proposed project.

While the County of Ventura Agriculture/Urban Buffer Policy would not apply to project, the District has designed the lay-out of the project in order to minimize compatibly issues with adjacent agricultural uses. Based on input from the Ventura County Agricultural Commissioner, the proposed project was designed to cluster the school facilities within the middle of the northern portion of the site closer to the existing residential neighborhood to the north. The orientation and location of the drop off areas, bus turnouts, and playfields in the proposed site plan were also designed as a result of consultation with the County of Ventura's Agricultural Commissioner. The southern half of the project site will be composed of playfields (soccer, baseball, and hardcourts) and bordered by a vegetative screen, providing a buffer of over 400 feet or greater between the elementary and middle school buildings and the agricultural uses to the south.

The western side of the project site will be composed of the administrative building, a parking lot, playfields (soccer, baseball, and hardcourts) and bordered by a vegetative screen. The administration building would be set back approximately 43 feet from Patterson Road and approximately 150 feet from the Ventura-Oxnard Greenbelt) across Patterson Road to the west. There would be a buffer of over 400 feet or greater between the elementary and middle school buildings and the Ventura-Oxnard Greenbelt across Patterson Road to the west.

The eastern side of the project site will be composed of a parking lot, playfields (soccer, baseball, and hardcourts) and bordered by a vegetative screen, providing a buffer of over 172 feet or greater between the administrative building, elementary school, and middle school buildings and agricultural uses to the east.

In addition, as appropriate and applicable, the District will follow recommendations in *Farming Near Schools, A Community Guide for Protecting Children* (Ag Futures Alliance 2002).

With the implementation of these policies, as appropriate, to compatibility issues impacts associated with compatibility issues conversion of the project site from agricultural uses to non-agricultural uses would be less than significant.

3.2.2.4 Cumulative Impacts

Buildout of the City would result in the conversion of up to 2,000 acres of important farmland including 1,230 acres of Farmland of Statewide Importance (City of Oxnard 2009). The cumulative loss of 4,335 acres of important farmland is expected due to development in the County of Ventura (County of Ventura 2005). The proposed project would contribute to the cumulative loss of agricultural lands within the region, specifically acres of Farmland of Statewide Importance. As discussed above, presently the City does not utilize a banking or fee approach to mitigate impacts to agricultural soils or lands (City of Oxnard 2009) and City policies and programs to reduce or slow further loss of agricultural resources do not offset an actual loss of farmland acreage. No additional feasible mitigation measures are currently available to reduce the project's contribution to this significant cumulative impact to a less than significant level, therefore this cumulative impact would remain significant and unavoidable.

3.2.2.5 Mitigation Measures

No mitigation available to reduce or replace this agricultural land within the City.

3.2.2.6 Level of Impact After Mitigation

Project impacts related to the loss of Farmland of Statewide Importance will remain significant and unavoidable.

3.3 AIR QUALITY

Air quality is defined by the concentration of various pollutants in the atmosphere. By comparing a pollutant concentration in the atmosphere to federal and/or state ambient air quality standards, the impact of its presence can be determined. This section evaluates the potential air quality impacts from construction and operation of the proposed project.

3.3.1 Environmental Setting

All of California is divided into air basins, which are served by either county air pollution control districts or multi-county air quality management districts. Air basins are delineated based on their potential for trapping air pollutants due to natural barriers such as mountains. Pollutants tend to stagnate unless dispersed into other areas by strong enough prevailing winds.

The proposed project is located within Ventura County in the South Central Coast Air Basin (SCC), which consists of Ventura County, Santa Barbara County, and San Luis Obispo County. The Ventura County Air Pollution Control District (VCAPCD) is the agency responsible for attaining federal and state clean air standards within Ventura County. The proposed project is, therefore, within the jurisdiction of the VCAPCD, which oversees the welfare of air quality of Ventura County and promotes its improvement through air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and support and implementation of measures to reduce emissions from motor vehicles.

Pollutant concentrations within Ventura County are assessed relative to both National Ambient Air Quality standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).

To determine attainment of the NAAQS and CAAQS, VCAPCD monitors air quality through a network of air monitoring stations within its boundaries. Data collected at the monitoring stations is compiled and assessed in an effort to track air quality conditions and support attainment efforts.

3.3.1.1 Existing Conditions

As of September 30, 2017, the United States Environmental Protection Agency (U.S. EPA) listed Ventura County as in attainment for all standards except the federal 8-Hour O_3 (U.S. EPA 2017). Similarly, as of June 2017, CARB lists Ventura County as in attainment for all pollutants except the 8-Hour O_3 and PM_{10} standards (CARB 2017). A summary of attainment for Ventura County is outlined in Table 3-5.

Table 3-5. Attainment Status of Ventura County

Pollutant	[1]National Attainment Status	[2]State Attainment Status
1-Hour Ozone	Not applicable	Nonattainment
8-Hour Ozone	Nonattainment – Serious	Nonattainment
$PM_{2.5}$	Unclassified/Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
Carbon Monoxide	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Sulfates	No standard	Attainment
Hydrogen Sulfide	No standard	Unclassified
Visibility Reducing Particles	No standard	Unclassified

Source: 1 U.S. Environmental Protection Agency 2017b.
2 California Air Resources Board 2017a.

3.3.1.2 Regulatory Setting

Federal

Pursuant to the Clean Air Act Amendments of 1990 (CAAA), the U.S. EPA has established the NAAQS for pollutants considered harmful to public health and the environment. The NAAQS are classified as primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air and are required to protect public health. Secondary standards specify levels of air quality required to protect public welfare, including materials, soils, vegetation, and wildlife, from any known or anticipated adverse effects (U.S. EPA 2017a). NAAQS are established for six pollutants (known as criteria pollutants): ozone (O_3), particle pollution (i.e., respirable particulate matter equal to and less than 10 microns in diameter [PM_{10}] and respirable particulate matter equal to and less than 2.5 microns in diameter [$PM_{2.5}$]), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). A summary of NAAQS is provided in Table 3-6. Under the CAAA directive, attainment and maintenance of NAAQS is required.

Criteria Air Pollutants

The following narratives provide a brief description of effects of criteria air pollutants.

Ozone at the ground level is not emitted directly into the air. Instead, it is formed from a reaction between oxides of nitrogen (NO_x) and volatile organic compounds in the presence of sunlight. NO_x is produced from the combustion of fossil fuels (e.g., diesel, gasoline, and natural gas) through various processes, including vehicles, furnaces, and boilers. VOCs are emitted from solvent and/or solvent-based products such as architectural coatings and degreasers. Ozone is harmful to health, particularly in young children, the elderly, and to populations with respiratory conditions, such as asthma.

Particulate matter is a mixture of solid particles and liquid droplets found in the air. Depending on their size, PM are classified as $PM_{2.5}$ and PM_{10}. Sources of PM include construction-sites, combustion gases, smoke, and soot. $PM_{2.5}$ is primarily responsible visibility reduction in the air. $PM_{2.5}$ relevant health effects include exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease, decline in pulmonary function or growth in children, and increased risk of premature death. PM_{10} can enter the lungs and bloodstream, causing adverse health effects.

Carbon monoxide is a colorless, odorless gas that results from combustion sources. If inhaled in large amounts, it can cause serious health problems, including dizziness, confusion, unconsciousness, and death.

Nitrogen dioxide is the primary member and used as the indicator for of the family of NO_x. NO_2 results from the burning of fuel in a variety of sources including cars, trucks and buses, power plants, and off-road equipment. NO_2 can react with other pollutants to form O_3 and PM. NO_2 can primarily affect the respiratory system in humans. Short-term exposure to high concentrations of NO_2 can aggravate existing respiratory conditions, such as asthma. Long-term exposure to NO_2 can result in the development of respiratory diseases such as asthma.

Sulfur dioxide is the primary member and used as the indicator for the family oxides of sulfur (SO_x). SO_2 results from combustion of fuels primary at power plants and other industrial facilities. SO_2 reacts with other pollutants to form fine PM. SO_2 affects the respiratory system in humans, and at high concentrations, it can damage trees and crops.

Major sources of lead in the air include ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. Areas in the vicinity of lead smelters have the highest air concentrations of lead. Lead health effects include learning disabilities, impairment of blood formation, and nerve conduction.

The U.S. EPA classifies the air quality within an area with regard to its attainment of federal primary and secondary NAAQS. Pursuant to U.S. EPA guidelines, an area with air quality better than the NAAQS for a specific pollutant is designated as being in attainment for that pollutant. Any area not meeting the NAAQS for a specific

pollutant is classified as nonattainment for that particular pollutant. Where there is a lack of data for the U.S. EPA to make a determination regarding attainment or nonattainment, the area is designated as unclassified and is treated as an attainment area until proven otherwise. Areas that were once designated as nonattainment but are currently meeting and maintaining the NAAQS are designated as maintenance areas. States with nonattainment or maintenance areas are required to prepare plans, known as State Implementation Plans (SIPs), stating how they will attain or maintain NAAQS. SIPs are a compilation of new and previously approved plans, programs, district rules, state regulations and federal controls. States and local air quality management agencies prepare SIPs for approval by the U.S. EPA.

State

At the state level, the California Air Resource Board (CARB) has also adopted air quality standards for California, known as the California Ambient Air Quality Standards (CAAQS) pursuant to the California Clean Air Act (CCAA). The CAAQS are generally more stringent than the NAAQS and include air quality standards for all criteria pollutants listed under NAAQS, plus sulfates (SO_4), hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particulate matter. The CCAA established California's air quality goals, planning mechanisms, regulatory strategies, and standards of progress aimed at meeting and/or exceeding CCAA requirements for air quality. The CCAA requires attainment of CAAQS for criteria pollutants by the earliest practicable date. A summary of CAAQS is presented in Table 3-6.

Table 3-6. National and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]	National Standards [2]	
		Concentration [3]	Primary [3,4]	Secondary [3,5]
Ozone (O_3)[6]	1 Hour	0.09 ppm (180 µg/m^3)	—	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	
Particulate Matter (PM_{10})[7]	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m^3	—	
Fine Particulate Matter ($PM_{2.5}$)[7]	24 Hour	—	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m^3	12.0 µg/m^3	15 µg/m^3
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/ m^3)	35 ppm (40 mg/m^3)	—
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
Nitrogen Dioxide (NO_2)[8]	1 Hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	—
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
Sulfur Dioxide (SO_2)[9]	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
	3 Hour	—	—	0.5 ppm (1300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)[8]	—
	Annual Arithmetic Mean	—	0.030 ppm (for certain areas)[8]	—
Lead[10,11]	30-Day Average	1.5 µg/m^3	—	—
	Calendar Quarter	—	1.5 µg/m^3 (for certain areas)[10]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m^3	

Table 3-6 (Continued). National and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]	National Standards [2]	
		Concentration [3]	Primary [3,4]	Secondary [3,5]
Visibility Reducing Particles[12]	8 Hour	See footnote 11	No National Standards	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m^3)		

Sources:

1. Table extracted from http://www.arb.ca.gov/research/aaqs/aaqs2.pdf on February 2017 with information dated May 4, 2016 (California Air Resource Board 2016).

Notes:

1. California standards for ozone, carbon monoxide, sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter (µg/m^3) is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 Torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 Torr; ppm in this table refers to parts per million (ppm) by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
7. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg /m^3 to 12.0 µg /m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg /m^3, as was the annual secondary standard of 15 µg /m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg /m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
9. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
10. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. The national standard for lead was revised on 15 October 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg /m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

m^3	cubic meter
µg	microgram
mg	milligrams
ppb	parts per billion
ppm	parts per million

Local

Operations within the City of Oxnard are subject to various rules and regulations of the VCAPCD. Table 3-7 lists some of the Rules that are applicable to the proposed project.

Table 3-7. Applicable VCAPCD Rules

Rule	Title
50	Opacity
51	Nuisance
55	Fugitive Dust
74.2	Architectural Coatings

Rule 50 regulates visible emissions from each single source using the Ringelmann Chart as a point of reference and in accordance with EPA Method 9.

Rule 51 prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 55 requires control measures for fugitive dust from active operations, open storage piles, or disturbed surface areas and prohibits activities that would cause visible dust emissions of 20%. The rule also includes provision for mitigating fugitive dust emissions (e.g., watering the site during grading, properly covering truck beds when hauling soil or other material, installing dust control measures at each vehicle egress from the site to public paved roads).

Rule 74.2 regulates the VOC content in architectural coating manufactured, distributed and used within the County of Ventura.

Additionally, City of Oxnard General Plan air quality goals and policies relevant to the proposed are provided in Table 3-8.

Table 3-8. Applicable City of Oxnard

SC-3.9	Promote Voluntary Incentive Programs	Promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional and public buildings, including continued participation in the Ventura County Regional Energy Alliance (VCREA).
SC-3.12	Encourage Natural Ventilation	Review and revise applicable planning and building policies and regulations to promote use of natural ventilation in new construction and major additions or remodeling consistent with Oxnard's temperate climate.
SC-4.1	Green Building Code Implementation	Implement the 2010 California Green Building Code as may be amended (CALGREEN) and consider recommending and/or requiring certain developments to incorporate Tier I and Tier II voluntary standards under certain conditions to be developed by the Development Services Director.

Table 3-8 (Continued). Applicable City of Oxnard

CD-8.5	Impact Mitigation	Ensure that new development avoids or mitigates impacts on air quality, traffic congestion, noise, and environmental resources to the maximum extent feasible.
ER-14.4	Emission Control Devices	Require all construction equipment to be maintained and tuned to meet appropriate EPA, CARB, and VCAPCD emissions requirements and when new emission control devices or operational modifications are found to be effective, such devices or operational modifications are required on construction equipment.
ER-14.5	Reducing Construction Impacts During Smog Season	Require that the construction period be lengthened to minimize the number of vehicles and equipment operating at the same time during smog season (May through October).
ER-14.6	Minimizing Dust and Air Emissions through Permitting Requirements	Continue to require mitigation measures as a condition of obtaining building or use permits to minimize dust and air emissions impacts from construction.
ER-14.7	Mitigation Monitoring	Ensure that projects with identified air quality impacts in their respective EIRs are subject to effective mitigation monitoring as required by AB 3180.
ER-14.10	Consultation with Ventura County Air Pollution Control District	Consult with the Ventura County Air Pollution Control District (VCAPCD) during CEQA review for projects that require air quality impact analysis and ensure that the VCAPCD is on the distribution list for all CEQA documents.
ER-14.12	Use VCAPCD Air Quality Assessment Guidelines	Use the VCAPCD Air Quality Assessment Guidelines and recommended analytical tools for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The City shall continue to cooperate with the VCAPCD in the review of development proposals.

3.3.2 Impact Analysis

3.3.2.1 Methodology

Guidance found within the Ventura County Air Quality Assessment Guidelines, the City of Oxnard CEQA Guidelines and various sources referenced throughout this air quality analysis were used in the preparation of this document. A summary of the methodology used for emissions calculations is provided below.

Construction and Operational Emissions

Emissions from construction and operation activities were calculated using California Emissions Estimator Model (CalEEMod). CalEEMod is widely accepted to provide a uniform platform to estimate potential emissions resulting from construction and operation activities of land use projects. The model takes user entered data to calculate emissions using preprogramed algorithms. The algorithms are designed to take information such as project size and length; vehicle types, operating hours, and trip lengths; and emissions mitigation criteria to

calculate emissions of criteria pollutants and greenhouse gases. Detailed CalEEMod input values and calculated air emission results for the proposed project are included in Appendix C. A summary of the activities from which the CalEEMod report was generated is also provided in Appendix C. Air emissions were compared to significance thresholds established by the VCAPCD to determine project impacts on air quality.

Screening Health Risk Assessment. To determine whether construction emissions would pose a risk to the nearby residents, a screening health risk assessment (SHRA) was conducted based on South Coast Air Quality Management District (SCAQMD) Risk Assessment Calculator (RAC), which is designed to be consistent with the Office of Environmental Health Hazard Assessment (OEHHA) 2015 Health Risk Assessment Guidance. Since the RAC is designed to assess health risks from stationary sources, construction emissions were modeled as a single source fixed at a stationary location within the project site. During the construction of the proposed project, construction equipment is expected to move around within the project site. The shortest and longest distances between the equipment and nearby residences are approximately 40 meters and 300 meters, respectively. Thus, an average distance of 170 meters was used as the distance between the modeled source and the residents. During the construction of the proposed project, various equipment units will be running (e.g., backhoes, excavators, and graders), with engines ranging between 36 to 361 horsepower. However, not all units will run at the same time or for the entire duration of the project construction phase (i.e., approximately one year and six months), but will be used as needed during the construction process. Thus, the unit with the largest engine (i.e., the engine the 361 horsepower) was used as the modeled source with modeled running time of eight hours per day running continuously for a period of two years. The selection for this engine represents the worst-case scenario. To determine risk impact to local residents, RAC calculated risks (Appendix C) were compared against the following thresholds:

- The maximum individual cancer risk (MICR) should not exceed one in a million (1x10-6) if Best Available Control Technology for Toxics (T-BACT) is not used; or ten in one million (10x10-6) if T-BACT is used. For this calculation, it was assumed that T-BACT is used since equipment with Tier 2 engines (i.e., clean engines) would be used.
- The cumulative cancer burden from all TACs emitted should not exceed 0.5.
- Neither the chronic hazard index (HIC), nor the 8-hr chronic hazard index (HIC8), nor the total acute hazard index (HIA) from all toxic air contaminants emitted should exceed 1.0 for any target organ system or an alternate hazard index level deemed to be safe.

CO Analysis

The 2003 Ventura County prescribes a carbon monoxide screening analysis for intersections that are expected to operate at level of service (LOS) E or F. The City of Oxnard General Plan prescribes a minimum acceptable LOS of C for intersections (City of Oxnard 2011). The traffic study completed for the proposed project indicates that six intersections near the proposed project would have an unacceptable LOS without mitigation measures. The Traffic Analysis also provides mitigation measures that would cause these intersections to operate at acceptable levels (Kunzman Associates, Inc. 2017). To determine the impacts that would occur as a result of congestion at the six intersections without mitigation a CO analysis was conducted using CALINE4. The CO analysis was conducted for operation of the intersections during the Interim Year (2021) Level of Service, time during which the intersections were identified to have potential unacceptable LOS. The models used to estimate emissions rates and dispersion are EMFAC and CALINE4, respectively. EMFAC is used to determine emission rates for criteria pollutants. Emissions rates of CO were, in turn, used in CALINE4 to calculate CO concentrations reaching nearby establishments and sensitive receptors. EMFAC and CALINE4 input values and results are provided in Appendix C. Concentrations of CO calculated with EMFAC are in addition to background concentrations. For Ventura County background concentration have not been measured for some time. Therefore, the background concentration of 2.3 parts per million as documented in the Ventura County Air Quality Assessment Guidelines (Ventura County 2003) were added to the CO concentrations calculated using CALINE4. CO concentrations were compared against the one-hour California standard for CO.

3.3.2.2 Significance Thresholds

3.3.2.3 Project Impacts

The following criteria for air quality are consistent with Appendix G of the CEQA Guidelines. The proposed project would result in a significant impact if it were to:

- *Conflict with or obstruct implementation of the applicable air quality plan?*
- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?*
- *Expose sensitive receptors to substantial pollutant concentrations?*
- *Create objectionable odors affecting a substantial number of people?*

Would the project conflict with or obstruct implementation of the applicable air quality plan?

The project site is located within Ventura County and within the sphere of influence of the City of Oxnard. To pursue SIP requirements and improvement of air quality in Ventura County, the VCAPCD has prepared the 2016 Air Quality Management Plan (AQMP). The AQMP presents a comprehensive list of pollution control strategies aimed at attaining Ventura County's federal 8-hour ozone standard (for which Ventura County is in nonattainment) as required by the CAAA and the VCAPCD's Triennial Assessment and Plan Update required by the California Clean Air Act of 1988. These strategies are developed, in part, based on regional population, housing, and employment projections prepared by the Southern California Association of Governments (SCAG) and reflected in local general plans. Thus, a proposed project that is inconsistent with a local general plan is also inconsistent with the AQMP. A proposed project would be inconsistent with a general plan if it resulted in a land use re-designation, causing a general plan amendment and an increase in population beyond what is budgeted.

The project site is within the City of Oxnard SOI and is adjacent to a fully developed residential development to the north. Buildout of this SOI was accounted for in the City's 2030 General Plan. The General Plan land use designations for the project site include public/semi-public, open space and park. A description of the land uses designations is provided in the General Plan as follows:

- Public/Semi-Public. Private, quasi-public, and public buildings and facilities owned by the City, County, State, Federal agencies, or other organizations that serve the general public such as a civic center, flood control channels, rail lines, community college, museum, performing arts center, community center, city yard, library, fire station, public school and /or district support facility, private and parochial school, cemetery, or hospital.
- Open Space. Lands in passive and active recreation uses, resource management, flood control management, wetlands, intended for wetlands restoration, and stormwater management facilities and buffer zones separating urban development and other sensitive resources.
- Park. Parks, beaches, regional, parks, community parks, neighborhood parks, special purpose facilities, golf courses, athletic fields, and open space areas.

The proposed project includes annexation into the City of Oxnard. The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and an Annexation through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257).

The proposed project is currently at least partially consistent with the existing General Plan land use designation Public/Semi-Public and would be consistent with the proposed School land designation if approved. The area designated as Public/Semi Public in the City of Oxnard General Plan is similar to the area that would be occupied by the proposed project structures (e.g., classrooms and offices). The only difference is that the proposed project

would be located only about 40% on the area designated Public/Semi-Public. The other approximately 60% would be located on the areas designated as Open Space and Park. The recreational facilities of the proposed project are consistent with the Open Space and Park land uses. As noted in Section 3.12 Population of this EIR, the proposed project would not induce substantial population growth into the area either directly or indirectly. The student population would be part of the existing and projected growth for the city. In general, K-12 schools accommodate growth as a result of other land use decisions in the City such as the construction of new homes. As these educational facilities would accommodate existing and projected growth and the requirement for local schools, an indirect impact related to growth inducement would not occur. The proposed project would not result in population growth above what is forecasted in the 2030 General Plan and in turn the 2016 AQMP. Therefore, the proposed project would not conflict or obstruct implementation of the applicable 2016 AQMP and project impact would be less than significant.

Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The proposed project is located within Ventura County, which is subject to the VCAPCD regulations. Pollutant concentrations within the Ventura County are assessed relative to both the federal and state ambient air quality standards. Ventura County is in attainment for all federal standards except the 8-hour O_3 standard (U.S. EPA 2017b) and all state standards except O_3 and PM_{10} standards (CARB 2017). The release of various criteria pollutants from both short-term construction and long-term operation related activities for the proposed Project are expected. The following sections provide a summary of the emissions analysis conducted for the proposed project.

Short-term Emissions. Short-term or construction emissions are typically generated by on-road (e.g., employee vehicles and vendor/delivery and water trucks) and off-road vehicles or equipment (e.g., backhoes, dozers, portable generators, and cranes). Short-term emissions end once the construction phase is complete. The proposed project's construction phase consists of site preparation; grading; construction of classrooms, physical activities structures (e.g., soccer fields), and administrative offices; paving; and application of architectural coatings to classrooms and offices. Emissions from the construction phase result primarily from mobile on-road (e.g., workers vehicles, material and equipment delivery trucks, soil haul trucks) and off-road sources (i.e., construction equipment). The construction equipment used for the proposed project would include air compressors, scrapers, cranes, forklift, excavators, pavers, rollers, rubber tired dozers, generator sets, backhoes, graders, paving equipment and welders. A summary of construction emissions is presented in Table 3-9.

Table 3-9. Project Construction Emissions of Criteria Pollutants (lb/day)

Project Phase	CO	VOCs	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Construction Emissions	40.19	104.19	51.01	0.06	9.24	5.47
Threshold Significance	None	None	None	None	None	None
Significant?	No	No	No	No	No	No

Notes:
CO carbon monoxide
NO_x nitrogen oxides (nitrogen oxide and nitrogen dioxide)
$PM_{2.5}$ particulate matter less than 2.5 microns in diameter
PM_{10} particulate matter less than 10 microns in diameter
SO_x sulfur dioxide
tpy tons per year
VOC volatile organic compound

Ventura County does not have significance thresholds for construction emissions due to the fact that construction emissions occur only on a temporary basis and do not contribute to long-term air quality impacts. Thus, emissions resulting from proposed project would not be expected to have a significant impact on the environment

and no mitigation measures would be required. However, the following Mitigation Measure AQ-1 is provided to minimize fugitive dust emissions and to ensure compliance with CARB off-road regulations in accordance with Ventura County recommendations for construction emissions exceeding the county's thresholds of significance of 25 pounds per day for NO_x and SO_x. With compliance with Mitigation Measure AQ-1, project impact would be less than significant.

Long-term Emissions. Long-term or operational emissions are emissions that result from activities conducted during the operation of a project (e.g., heating, employee commute, student drop-off and pickup, and facility upkeep). Long-term impacts to air quality would be associated with emissions from equipment used during operation of the proposed project (e.g., commercial water heaters, space heaters, and lawn mowers) and from motor vehicles associated with school employees, student drop-off and pick-up, and vendors. Other activities that would contribute emissions during the operation of the proposed project include upkeep of structures (e.g., reapplication of architectural coatings and patching of paved surfaces). Detail input parameters and emissions results are provided in Appendix C. Emissions resulting from operation of the proposed project are summarized in Table 3-10. Emissions resulting from the operation of the proposed project are below the thresholds of significance established by Ventura County to support attainment of federal standards. Therefore, the proposed project would not be expected to violate any air quality standard or contribute substantially to an existing or projected air quality violation, and would have less than significant impact on air quality.

Table 3-10. Project Operation Emissions of Criteria Pollutants (lb/day)

Project Phase	CO	VOCs	NOx	SO_x	PM_{10}	$PM_{2.5}$
Operation Emissions	75.65	13.50	17.10	0.19	14.34	4.01
Threshold of Significance	None	25	25	None	None	None
Significant?	No	No	No	No	No	No

Notes: CO carbon monoxide
lb/day pounds per day
NOx oxides of nitrogen (nitric oxide and nitrogen dioxide)
PM_{10} respirable particulate matter less than 10 microns in diameter
$PM_{2.5}$ respirable particulate matter less than 2.5 microns in diameter
SO_x oxides of sulfur (sulfur dioxide and sulfur trioxide)
VOC volatile organic compounds

As identified in Table 3-10, the proposed project would not violate an air quality standard, nor would it contribute substantially to an existing or projected air quality violation. Therefore, project impact would be less than significant.

Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

The proposed project would result in significant cumulative impacts if it exceeds daily thresholds of significance established by VCAPCD or if it incurred in an increase of emissions beyond what is planned in the City of Oxnard General Plan. Since the proposed project's long-term emissions are less than established thresholds of significance, and its land use is not anticipated to provide for increase population growth above what is forecasted in the General Plan, the proposed project would not result in a cumulative considerable net increase of any criteria pollutant for which the region is non-attainment. Therefore, the proposed project would have less than significant cumulative impacts.

Would the project expose sensitive receptors to substantial pollutant concentrations?

The project site is surrounded by residential units in the north, agricultural/open space in the east, and by agricultural land in the south and west. The proposed project is a public school that qualifies as a sensitive receptor (i.e., a facility serving populations likely to suffer adverse health effects from pollution, such as children and the elderly). The location of the project site is not expected to expose students to sources of substantial pollutant concentrations (e.g., industrial facilities emitting odorous or hazardous substances). During construction, construction activities would generate particulate matter emissions resulting from the combustion of diesel fuel by construction equipment. Since nearby residents would be potentially exposed to these emissions a screening health risk assessment was conducted to determine impacts from these emissions. Additionally, operation of the proposed project has the potential to contribute significantly to traffic volumes in the nearby roadway system. Congested intersections have the potential to result in localized high levels of CO, which results from incomplete combustion of carbon containing fuels (e.g., gasoline and diesel). CO exposure can have a significant impact on sensitive receptors. To this end, a CO analysis was conducted for intersections expected to be impacted by the implementation of the proposed project.

Screening Health Risk Assessment (SHRA). A SHRA was conducted for the proposed project and is included in Appendix C. Table 3-11 includes a summary of calculated results and their evaluation against thresholds that if exceeded by the proposed project during construction could result in a significant impact on nearby residents. As presented in Table 3-11, emissions from construction sources are not anticipated to expose sensitive receptors in the nearby residential area to substantial pollutant concentrations.

Table 3-11. Screening Health Risk Assessment

Description	MICR	Cancer Burden	HIC, HIC8, HIA
Results	Residential: 6.19×10^{-6} Commercial: 1.19×10^{-8}	1.62×10^{-2}	3.62×10^{-3}
Threshold	Residential: 10×10^{-6} Commercial: 10×10^{-6}	<0.5	<1.0
Impact	No impact	No impact	No impact

Carbon Monoxide Analysis. To determine impacts associated with CO emissions, a CO analysis was conducted for operation of the six intersections listed below operating during the Interim Year (2021) Level of Service.

Victoria Avenue (North-South) at
- Gonzalez Road (East-West) – #1
- Doris Avenue (East-West) – #2
- Teal Club Road (East-West) – #3
- 5th Street (East-West) – #4

Patterson Road (North-South) at
- Doris Avenue (East-West) – #7
- Teal Club Road (East-West) – #10

A summary of calculated CO concentrations, their comparison with the NAAQS for CO, and impact determination are provided in Table 3-12.

Table 3-12. Carbon Monoxide Analysis

Receptor Description	Carbon Monoxide Concentration (ppm)	Threshold (ppm)	Significant Impact?
Doris Patterson School	3.8	20	No
Oxnard High School	4.1	20	No
Residence on NE quadrant of Gonzalez Road and Victoria Avenue Intersection	6.4	20	No
Residence on NE quadrant of Doris Avenue and Patterson Avenue Intersection	4.1	20	No
Business on NE quadrant of 5th Street and Victoria Avenue	7	20	No
Business on SE quadrant of 5th Street and Victoria Avenue	5.8	20	No

Notes: ppm parts per million
NE northeast

Therefore, project impact would be less than significant.

Would the project create objectionable odors affecting a substantial number of people?

While the project would be adjacent to agricultural fields, the types of crops grown at these field are not anticipated to create objectionable odors in accordance with the listing for odorous land uses prescribed in the Ventura County Air Quality Guidelines. Emissions from construction equipment are not listed as odorous sources. Thus, the proposed project would not result in objectionable odors affecting a substantial number of people and project impact would be less than significant.

3.3.2.4 Cumulative Impacts

As noted above, the proposed project would not result in significant cumulative impacts since it does not exceed daily thresholds of significance established by VCAPCD or result in an increase in emissions beyond what is planned in the City of Oxnard General Plan and thereby the applicable AQMP. Project contribution toward cumulative impacts would be less than significant.

3.3.2.5 Mitigation Measures

AQ-1: During project construction the contractor shall ensure that:

- All soil excavated or graded shall be sufficiently watered to prevent excessive dust. Watering shall occur as needed with complete coverage of disturbed soil areas. Watering shall be a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations.
- All clearing, earth moving, and excavation activities shall cease during periods of winds greater than 20 miles per hour (mph) (averaged over one hour), if disturbed material is easily windblown, or when dust plumes of 20% or greater opacity impact public roads, occupied structures, or neighboring property.
- All fine material transported off-site shall be either sufficiently watered or securely covered to prevent excessive dust.
- All haul trucks shall be required to exit the site via an access point where a gravel pad or grizzly has been installed.
- Stockpiles of soil or other fine loose material shall be stabilized by watering or other appropriate method to prevent wind-blown fugitive dust.

- Once initial leveling has ceased, all inactive soil areas within the construction-site shall either be seeded and watered until plant growth is evident, treated with a dust palliative, or watered twice daily until soil has sufficiently crusted to prevent fugitive dust emission.
- On-site vehicle speed should be limited to 15 mph.
- All areas with vehicle traffic should be paved, treated with dust palliatives or watered a minimum of twice daily.
- Properly maintain and tune all internal combustion engine powered equipment;
- Require employees and subcontractors to comply with the CARB idling restrictions for compression ignition engines; and use California ultra-low sulfur diesel fuel; use construction equipment with Tier 2 engines; and use interior and exterior paint with a VOC content of 100 grams per liter.

3.3.2.6 Level of Impact After Mitigation

Mitigation Measure AQ-1 is provided to meet VCAQMD and CARB compliance requirements. The project impact would be less than significant.

3.4 BIOLOGICAL RESOURCES

This section describes existing biological resources within the proposed project site and provides an assessment of potential impacts to biological resources from implementation of the proposed project. For identified potential impacts, mitigation measures pursuant to the Federal Endangered Species Act (ESA), California ESA, and CEQA have been prescribed as applicable. The analysis provided herein is based on a review of pertinent background information for the site, including the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) data and U.S. Geological Survey (USGS) topographic maps, a project-specific biological site visit in July 2017, and the associated Initial Study that was completed prior to initiation of this DEIR.

3.4.1 Environmental Setting

3.4.1.1 Existing Conditions

The project site encompasses approximately 25 acres at the southeast corner of Doris Avenue and North Patterson Road within unincorporated Ventura County and within the City of Oxnard SOI area. The project site is currently comprised entirely of active or recently active agricultural land with heavily disturbed soils and is used for the production of row crops. No trees or naturally occurring or sensitive habitats are present within the project boundaries. Telephone poles are located at the western and southern borders of the site, which could serve as potential bird perching or nesting locations. No birds were observed utilizing these power poles and no nests were observed on or adjacent to the site during the site visit that was conducted on July 25, 2017.

One semi-wet three-foot-wide agricultural irrigation ditch was observed running along the southern site boundary. The ditch was heavily disturbed and sparsely inhabited by non-native grasses and other herbaceous weeds with predominantly bare soil. This agricultural ditch is expected to be ephemerally wet and the deepest location had less than 6 inches of water in July 2017. A smaller, dry, two-foot-wide agricultural ditch also runs along the western site border. The primary purpose of the drainage ditches is to serve as pathways for the movement and catchment of water during agricultural production; these ditches are not natural drainage features. The drainage from agricultural production is generally conveyed under unpaved access roads by small diameter culverts throughout the property, which are cumulatively directed toward a larger metal pipe culvert under Patterson Road that is outside of the project site to the southwest. If irrigation of the agricultural land ceased, the drainage ditches would not likely be able to support, transport, or shelter any water from the natural drainage of the surrounding landscape.

Land use surrounding the project site was also assessed during the biological site visit and with the use of aerial photography. Adjacent land uses to the west, south, and east are consistent with the current use of the project site and can be described as heavily disturbed agricultural land. The southern and eastern agricultural areas were in current use or being prepared for use, respectively. Residential uses comprise land north of the project site. One narrow landscaped ornamental tree stand is located approximately 80 feet north of the site, across Doris Avenue, which insulates the residential development from the road. The tree stand extends before and after the site and along the entire northern site boundary. The trees are maintained along a pedestrian sidewalk with landscaped grass below.

3.4.1.2 Regulatory Setting

Federal Regulations and Policies

Federal Endangered Species Act (ESA)

Title 16, United States Code, §1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq., designate and provide for the protection of threatened or endangered plant and animal species and their critical habitat. The ESA applies to federally-listed threatened or endangered species and their habitat, as well as designated critical habitat. The administering agency is the United States Fish and Wildlife Service (USFWS).

Federal agencies that permit, license, fund, or other authorize a project activity with potential impacts to these resources must consult with the USFWS to ensure that actions would not jeopardize any listed species or adversely affect critical habitat.

Federal Migratory Bird Treaty Act (MBTA)

Title 16, United Sates Code, §703 et seq., protects native bird species and their nests. All migratory birds and their parts (i.e., eggs, nests, and feathers) are fully protected under the MBTA. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale of any migratory bird or its parts, unless authorized under a valid permit. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (Title 50, Code of Federal Regulations, §10.13).

Section 401 of the Clean Water Act (CWA)

The Regional Water Quality Control Board (RWQCB) administers Section 401 of the CWA. Areas subject to RWQCB jurisdiction typically coincide with those of the U.S. Army Corps of Engineers (ACOE), including waters of the U.S. and wetlands. Under Section 401 of the CWA, every applicant for a federal permit or license for any activity which may result in a discharge to waters of the U.S. must obtain a State Water Quality Certification that the proposed activity will comply with state water quality standards.

Section 404 of the CWA

The ACOE regulates discharge of dredged and/or fill material into waters of the U.S. Pursuant to Title 33, Code of Federal Regulations, part 328, “waters of the U.S.” are defined as: (1) all navigable waters; (2) all interstate waters and wetlands; (3) all impoundments of waters mentioned above; (4) all tributaries to waters mentioned above; (5) the territorial seas; and (6) all wetlands adjacent to the waters defined above. Discharge of dredged and/or fill material into waters of the U.S., including wetlands, requires authorization from the ACOE pursuant to Section 404 of the CWA. The ACOE does not generally assert jurisdiction over the following features: swales, erosional features, ditches excavated wholly in uplands that do not carry a permanent flow of water, non-tidal drainage and irrigation ditches on dry land, artificially irrigated areas that would revert to upland if irrigation ceased, artificial lakes or ponds created by excavating dry land, water-filled depressions created in dry land incidental to construction activity, and waste treatment ponds or lagoons.

State Regulations and Policies

California ESA

The California ESA is administrated by the CDFW and prohibits take of plant and animal species identified as threated or endangered in the State of California by the Fish and Wildlife Commission. “Take” of a species means to hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture or kill that species. The CDFW is a trustee agency under CEQA for biological resources throughout the state. Similar to the USFWS under the Federal ESA, the CDFW requires formal consultation under the California ESA for projects that may jeopardize or result in potential impacts to the continued existence of any state-listed species or adversely modify critical habitat.

Sections 1600-1616 of the California Fish and Game Code

The CDFW regulates all diversions or obstructions of natural stream flow or substantial changes to the bed, channel, or bank of any designated river, stream, or lake, or use of any material from the streambeds. CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses and lakes characterized by the presence of a definable bed and banks and existing fish or wildlife resources. Jurisdiction often extends to adjacent habitats. Human-made water bodies, unless located where natural features were previously located or are contiguous with existing or prior natural jurisdictional areas, are generally not included under CDFW jurisdiction. A CDFW Streambed Alteration Notification is required for all activities resulting in substantial effects to streambeds and their associated riparian habitats.

3.4.2 Impact Analysis

3.4.2.1 Methodology

The analysis contained within this Draft EIR is based on a site visit conducted by Tetra Tech in July 2017 and the Initial Study prepared for the proposed project in May 2017. During preparation of the Initial Study, it was determined that the proposed project could potentially result in significant but mitigatable impacts associated with one of the criteria used in determining impact significance. This impact relates to potential adverse impacts to sensitive or special-status species. No comments were received on the biological resources portion of the Initial Study during the public review process.

The biological resources site visit was conducted from 10:30 AM to 1:30 PM on July 25, 2017. Weather conditions averaged about 72 degrees Fahrenheit throughout the survey with clear skies and 10 mile per hour winds. A query was performed on CDFW CNDDB data prior to the site visit to identify special-status and sensitive plant and wildlife species that have been documented to occur within the Oxnard quadrangle and a five quadrangle radius around the proposed project site. The site visit focused on assessing the project area for potential occurrence of special-status and sensitive species identified during the CNDDB database query and habitats that could support those species.

3.4.2.2 Significance Thresholds

The thresholds for biological resource impacts used in this analysis are consistent with Appendix G of the CEQA Guidelines.

- *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?*
- *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*
- *Would the project have a substantial adverse effect on federally protected waters of the U.S. as defined by Section 404 of the Federal CWA or protected waters of the state as defined by Section 1600 et seq. of the California Fish and Game Code (including, but not limited to, marshes, vernal pools, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means?*

3.4.2.3 Project Impacts

The environmental impact analysis is based on the determination made in the Initial Study for issues that were determined to be potentially significant. Additional issues identified during the biological site visit that occurred as part of the EIR process are also discussed as follows.

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed project site consists of an active agricultural field, and is surrounded by agricultural uses to the west, south, and east, and residential development to the north. No candidate, sensitive, or special-status wildlife or plant species in any local or regional plans, policies, or regulations, or regulated by the CDFW or USFWS were

observed during the site visit in July 2017. Additionally, no suitable habitat for these species was found within or directly adjacent to the project site.

The ornamental tree stand north of the site and the telephone poles running along the western and southern borders of the site may serve as potential perching or nesting locations for birds. A visual survey of these locations was conducted from the project site during the site visit in July 2017, and no nests were observed. Small numbers of common birds were observed in-flight over the site, including house sparrow (*Passer domesticus*), song sparrow (*Melospiza melodia*), house finch (*Carpodacus mexicanus*), American crow (*Corvus brachyrhynchos*), and turkey vultures (*Cathartes aura*). A few American crow individuals were observed in the ornamental tree stand north of the project site.

No trees or shrubs are present on the project site, and therefore would not be removed as part of the proposed project. Existing ornamental trees and shrubs north of the project site and telephone poles to the west and south may provide suitable nesting bird habitat. Doris Avenue separates the project site from the ornamental tree stand and experiences heavy vehicle traffic. While the potential for significant impacts from project activities is low, the use of heavy machinery or activities that generate significant ground disturbance may disturb nesting birds if present. With implementation of Mitigation Measure BIO-1, project impact would be reduced to less than significant.

Would the project have a substantial adverse effect on federally protected waters of the U.S. as defined by Section 404 of the Federal CWA or protected waters of the state as defined by Section 1600 et seq. of the California Fish and Game Code (including, but not limited to, marshes, vernal pools, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means?

No designated jurisdictional wetlands or wetland habitats are known to occur within or directly adjacent to the project site based on review of the CNDDB and USFWS National Wetlands Inventory (NWI) databases. Agricultural ditches were found along the western and southern site boundaries during the July 2017 site visit. Both ditches are predominantly un-vegetated and heavily disturbed. The western ditch was noted as completely dry and the southern ditch had minor ponding (less than 6 inches of water). Since the ACOE does not typically assert jurisdiction over swales, erosional features, or ditches that were excavated primarily to drain uplands that do not carry a permanent flow of water, neither a CWA Section 401 nor 404 permit is anticipated to be required. Likewise, it is not anticipated that a permit pursuant to Section 1602 of the California Fish and Game Code would be required. However, the ACOE, CDFW, and RWQCB reserve the right to regulate these waters on a case-by-case basis. Therefore, if the ditches are determined to be under the jurisdiction of one or more of these agencies and are affected by project-related activities, then Mitigation Measures BIO-2 and BIO-3 will be required to reduce project impacts to less than significant.

3.4.2.4 Cumulative Impacts

Cumulative impacts are incremental effects of an individual project when combined with effects of past, current, and potential future projects. Because the project site is active agricultural land with very little quality habitat surrounding the site, cumulative impacts to biological resources are not anticipated.

3.4.2.5 Mitigation Measures

BIO-1: Prior to construction, the general contractor shall have a preconstruction nesting bird survey conducted by a qualified biologist, prior to the use of heavy machinery or significant ground disturbance, at the ornamental tree stand north of the site and at the telephone poles west and south of the site if activities are conducted within the breeding season for birds (February 15 – September 15). If any migratory or federally or state listed species birds are found to be actively nesting within 250 feet of the designated construction area, an appropriate exclusionary buffer around the active nest shall be established by the qualified biologist. The buffer distance will be determined based on the specific nesting bird species, and would be maintained until the birds have fledged

from the nest. Active nests and buffers would be monitored initially by a qualified biologist to determine if active nests are being adversely affected by project activities.

BIO-2: Prior to disturbance of the on-site agricultural irrigation ditches, the Project Manager shall initiate coordination with the ACOE under CWA Section 404 so that a jurisdictional determination regarding the ditches can be made. If the ACOE determines that any of the ditches are jurisdictional, appropriate authorizations under the Nationwide Permit Program will be implemented. The Project Manager will also seek authorization from the RWQCB under CWA Section 401, if required.

BIO-3: Prior to disturbance of the on-site agricultural irrigation ditches, the Project Manager shall initiate coordination with the CDFW under Section 1602 of the California Fish and Game Code so that a jurisdictional determination regarding the ditches can be made. If the CDFW determines that any of the ditches are jurisdictional, a Streambed Alteration Agreement may be required.

3.4.2.6 Level of Impact After Mitigation

Based on the implementation of a nesting bird survey for heavy construction activities conducted within the bird breeding season, and coordination and/or consultation with the CDFW and ACOE for impacts to waters of the U.S., potential project impacts would be reduced to less than significant. The proposed project would not result in any other impacts to biological resources.

3.5 CULTURAL AND TRIBAL CULTURAL RESOURCES

This section identifies cultural, tribal, and paleontological resources within the project and surrounding area, evaluates potential project-related impacts on those resources, and provides mitigation measures, as applicable. Cultural resources are defined as buildings, sites, structures, districts, and or objects that have historical, architectural, archaeological, cultural, or scientific significance. Tribal cultural resources are defined as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe. Paleontological resources include fossils of plant and animal remains of scientific significance.

3.5.1 Environmental Setting

Environment

The project site is located on the Oxnard Plain of Southern California within the Transverse Range province that is characterized by the east-west trending belt of mountains and uplands. The Oxnard Plain is part of the Ventura Basin, bounded by the Santa-Ynez-Topatopa Mountains to the north, the San Gabriel fault zone to the east, with a broad, flat, plain that slopes gently from the foothills to the coastline from which the Santa Barbara Channel separates the offshore islands from the mainland (Koury Geotechnical Services, Inc. 2014). The Santa Clara River is approximately 1.87-miles north of the project site. The Santa Clara River runs in a southwest direction across the Oxnard Plain to the Pacific Ocean. Vegetation consist of the coastal live oak woodland, chaparral, and coastal sage scrub communities. The Pacific Ocean is approximately 2.67 miles to the west. Based on the Geologic Map of the Oxnard 7.5' Quadrangle, Ventura County, California, the project site is underlain by Holocene age (10,000 years before present [BP] to recent) alluvial fan deposit composed of soils that are predominantly of clay with interbeds of sand and occasional gravel (Koury Geotechnical Services, Inc. 2014; Clahan et al. 2003). Soils within the Project site area are defined as Camarillo loam and are approximately 80 inches deep and consist of a surface layer of grayish-brown, calcareous sandy loam underlain by stratified sandy loam to sandy clay loam, and fine sand (USDA 1970; USDA NRCS 2017). Based on the recent geotechnical study, the entire project site is covered by approximately 24 inches of fill consisting of sandy silt, sandy lean clay, and fine silty sand underlain by alluvium (Koury Geotechnical Services, Inc. 2014).

Ethnography

The project site is within the vicinity of the Chumash, a group that occupied the region from San Luis Obispo to Malibu Canyon on the coast and inland to the western San Joaquin Valley, and the Santa Barbara Islands (Grant 1978). The Chumash territories are historically subdivided by distinct dialects. The project site is with the southernmost Chumash group, the Ventureño that occupied most of current day Ventura County and a portion of northern Los Angeles County. The Chumash people were of a maritime culture, built ocean-worthy canoes, and exhibited rich and complex ritual, sociopolitical, and economic systems with primary villages inhabited along the coastal territory of southern California with smaller settlements inland typically along water courses and habitats with favorable resources. Chumash structures were hemispherical in shape and constructed out of willow poles, sticks, and woven layers of tule (thatched) mats (Grant 1978). Prominent village sites located along the northern and southern western portion of the Oxnard Plain include *Shisholop* and *Muwu* that severed as capitals, and *Wene'mu*. These villages served as the economic and social network links between island and inland inhabitants that were typically interconnected by marriage (Perry 2011). The Chumash inhabited the coastal and inland regions over several millennia until their aboriginal lifeways were disrupted by Spanish colonization and the Spanish Mission system and period (1769-1822), followed by the Mexican period (1822-1848), and eventual European migration (1848-present). Among the Chumash territory, five missions were established by the Spanish: San Buenaventura, Santa Barbara, Santa Ynez, La Purisima Concepcion, and San Luis Obispo (Kroeber 1925; Grant 1978).

Prehistoric Context

The cultural chronology of Southern California Santa Barbara Channel Islands and coastal inland and adjacent Transverse Ranges have been developed and contributed to by Wallace (1955, 1978), Moratto (1984), Warren (1968), Moriarty 1967, King (1981, 1990), Glassow et al. (2007), Arnold (1992, 1995), and many others. Chronological patterns are generalized in Table 3-13.

Table 3-13. A Generalized Chronology of the Santa Barbara Channel and Inland and Adjacent Transverse Ranges

Time Periods and Patterns	Date (approximate)	Characterization
Paleo Coastal	13,000-8,500 BP	This period is characterized by large, fluted points (e.g., Western Stemmed), crescents, domed scrapers, flake tools of local chert, and a lack of ground stone tools. Archaeological evidence indicates subsistence consisted of shellfish, hunting and gathering. There are very few recorded sites for this time period, most likely due to a mobile and low population.
Initial Early Period: Milling Stone Period	8500-6500 BP	This period is characterized by an expansion of the population and assemblages dominated by abundant ground stone artifacts, such as basin shaped milling slabs and well-shaped handstones (indicative of seed, nut, or agave processing), as well as hammerstones from cores, crude core tools, scrapers, plano-convex cores and bone tools, and Olivella shell bead (spire removed). Subsistence consist of shellfish, plant and seed gathering, and marine resource hunting to a lesser extent. Projectile points are typically rare in assemblages from this period, if occur typically leaf-shaped types.
Initial Early Period: Milling Stone Period-Altithermal	6500 to 5000 BP	Radiocarbon dates begin to decline possibly marking a decline in population due to environmental conditions that may have affected terrestrial and marine resources, dates begin to raise again at the end of this period.
Early Period	5000 to 3200 BP	This period is characterized by milling slabs and shaped manos and mortars (also bowl mortars) and pestles appear (possibly for use on large seeds, acorns or starch tubars), circular shell fishhooks, flaked tools, notched stone sinkers or net weights, shell beads (L-bead type), pipes, charmstones, bone whistles, large side notched and contracting stem projectile points, and quartz crystals. Subsistence included plant and seed gathering and large terrestrial and marine resources hunting. Shellfish were also collected and were an important resource. Mortuary practices (and associated grave cultural material) indicative of cultural complexity.

Table 3-13 (Continued). A Generalized Chronology of the Santa Barbara Channel and Inland and Adjacent Transverse Ranges

Time Periods and Patterns	Date (approximate)	Characterization
Middle Period: Intensive Technological and Social Developments	3200 to 800 BP	During this period technological and social developments occur. Assemblages are characterized by milling stones and handstones, stone effigies, charmstones, flaked tools, fishhooks (J and compound types), nets, *Haliotis* and *Olivella* shell beads (G-wall disc types), bone tools, ritual items, use of asphaltum, harpoons, and the introduction of the plank canoe, and the appearance of the bow and arrow (about 1400 BP), and contracting and leaf-shaped projectile points. During the latter part of this period shifts in subsistence focused on fishing and maritime economy with increased coastal settlements. Seasonal hunting and plant and seed gathering were also practiced.
Late Period (Late Prehistoric Horizon)	800 BP to contact	This period is characterized by well-made mortar and pestles (specialized “flower pot” types-shaped pestles), flaked tools, concave base projectile points (cottonwood triangular types) microblade production (triangular forms), microblade drills, production of shell beads (K: cup-callas type) with stone disc used as spacers between beads, shell bead money and exchange, fishhooks, bone and stone ornaments, ritual items, complex sociopolitical and economic system, regional differentiation and small territories, large coastal villages and smaller inland settlements near the confluence of watercourses, estuaries, lagoons, and other inland resource habitats. Intensified subsistence: plant/seed gathering (acorn important) and terrestrial and marine resources hunting and fishing. Potential growth of seed-bearing plants was promoted through selective burning. Two-thirds of the Chumash population lived near the coast. Use of shell bead money, produced mostly on the Northern Channel Islands, indicates increased importance of trade between communities to buffer local shortfalls of wild food resources. Warfare resulting from trespass in hunting-gathering-fishing territories was prevalent at the time of European contact.

Specifically, the earliest archaeological evidence for prehistoric habitation on the Oxnard Plain (within project study area) occurs during the Early Period, with most sites dating to the Middle or Late Periods. By the end of the Late Period, permanent prehistoric settlements on the Oxnard Plain were primarily located along the coastal perimeter. Occupations along the Oxnard Plain were advantageously positioned to facilitate access to travel routes and interactions between island (via plank canoe) and inland sites, and near areas that provided coastal marine, estuarine and terrestrial resources (Perry 2011). Research suggests that the Oxnard Plain was inhabited

by at least the Early Period by prehistoric people that exploited available resources in the area; however, archaeological sites are most likely buried by alluvial deposits and/or have been impacted by costal erosion and rising sea levels (Perry 2011).

Historic Context

Spanish and Mission Period (1542-1834)

The first European explores to visit the southern California coast belonged to the Spanish expedition party lead by Juan Rodriguez Cabrillo in A.D. 1542. During the following two centuries, several other Spanish, Russian, and British expeditions explored northern and southern California but no settlements were established. In 1769, the Spanish Portal Expedition, led by Father President Junipero Serra, established the first colony and mission at present day San Diego (Castillo 1978). By the summer of 1769, the first 21 California Missions were founded as a result of the Portal Expeditions, from current day San Francisco Bay area to San Diego. As noted above, several missions were established by the Spanish along the southern California coast. Within the Chumash region, the Mission Period spanned from 1772 to the secularization of the missions by 1834. The Chumash were indoctrinated into the mission system as a source of forced labor under the auspices of religious conversion.

Mexican Period (1822-1848)

In 1821, Mexico successfully revolted against the Spanish crown, achieving independence and shifting Spanish holdings in North America (including California) to Mexico. After the secularization of the missions (1834-1836), land was distributed by the Mexican government to the Mexican colonist, as large “land grants” (also known as Ranchos). During this time, the Mexican economy in Southern California shifted to ranching and agriculture (Castillo 1978). The indigenous people that survived the mission systems and conditions, were not granted any mission lands, and many either left the area or worked as ranch labors for the Mexican land owners. The Project site is within the Rancho El Rio de Santa Clara o la Colonia land grant (also known as La Colonia), no structures or features within the project site were observed on the map (Storr 1877).

American Period

After the signing of the Treaty of Guadalupe Hidalgo in 1848, California became a territory of the United States and many rancho families lost their land titles. The 1849, the California Gold Rush brought thousands of diverse immigrants to the state in search of gold and/or land to establish settlements. The increase of the immigrant population furthered decimated the indigenous population through disease, warfare, and acquisition of indigenous lands. The Project study area is within the fertile Oxnard Plain and many settlers were attracted to the agricultural possibilities of the land. By the late 1800s, several farms in Ventura County were growing agricultural crops such as corn, barley, flake, wheat, lima beans, strawberries, and beets by the turn of the century. The City of Oxnard was incorporated in 1903, initially cattle grazing occurred in the area and was soon replaced by agricultural crops that produced primarily sugar beets and other resources. Most of the agricultural land within the Oxnard Plain has been replaced by commercial and industrial use and residential subdivisions. The project site is currently used as an agricultural field.

Record Search

Identification efforts for this inventory included review of existing site records, previously conducted surveys in the area, historic maps, and homestead land patents. The record search study area include the project APE and a 1-mile radius around the project APE.

On August 18, 2017, a literature and records search was conducted of the cultural resource site and project file collection at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System, at California State University, Fullerton, California (IC File Number 17953.4033) (Appendix D). As part of this records search, the SCCIC database of survey reports and overviews as well as documented cultural resources, cultural landscapes, and ethnic resources was consulted. Additionally, the search included a review of the following publications and lists: California Office of Historic Preservation (OHP) Historic Properties

Directory/National Register of Historic Properties, OHP Archaeological Determinations of Eligibility, California Inventory of Historical Resources/California Register of Historic Resources, California Points of Historical Interest, California Historical Landmarks, ethnographic information, historical literature, historical maps, and local historic resource inventories.

The records search revealed a total of 33 previous cultural resources investigations have been conducted within the Project study area. Of these surveys, one investigation (VN-02978: linear survey) has been conducted along the road boundary of the proposed project APE and one report is a general overview. The result of the survey (VN-02978) and record search did not identify any cultural resources within or adjacent to the project APE. The SCCIC search revealed two previously recorded historic sites, 56-153056 is a historic building and 56-151357 is the Oxnard, Henry T. Historic District and incudes several historic buildings. Site 56-153056 was determined ineligible for the National Register of Historic Properties (NRHP) and remains unevaluated for the CRHR or local listing and is located approximately 0.65 mile southwest of the project APE. Resource 56-153056 is a NRHP listed district in the city of Oxnard and is over 1.3 miles from the project APE. No archaeological sites or CRHR eligible historic resources are recorded within the project's APE. All previous surveys are summarized in Table 3-14 and sites are summarized in Table 3-15.

Table 3-14. Previously Conducted Cultural Resource Investigations within the Project Study Area

IC Report #	Report Title/Description	Author/Company	Date	Proximity to APE
VN-000236	Final Report: Onshore Cultural Resources Assessment, Union Oil Company Platform Gina and Platform Gilda Project Federal Lease Ocs P-0202 and P-0216, Offshore Southern California Realignment of the Ventura Freeway (Highway 101), Ventura County	Stephen Horne/Dames & Moore	1980	Within 1 mile
VN-00459	A Cultural Resources Assessment of Portions of Camarillo and Oxnard Airports, Ventura County, California	Ronald M. Bissell/RMW Paleo Associates, Inc.	1985	Within 1 mile
VN-00470	Cultural Resources Survey and Impact Assessment for the Channel Islands Community Hospital EIR	Clay A. Singer	1985	Within 1 mile
VN-00513	Archival Search for a 31.8 Acre Parcel on the Northwest Corner of Ventura Road and Doris Avenue, Oxnard, California.	Leslie Mouriquand-Boldgett	1986	Within 1 mile
VN-00815	Report of Archaeological Reconnaissance Survey Of: Tentative Tract 4648 Oxnard, California	Roy A. Salls	1990	Within 1 mile
VN-00904	Report of Archaeological Reconnaissance Survey of Parcel 1, Tentative Parcel Map 90-5 Oxnard, California	Northridge Center for Public Archaeology, CSUN	1990	Within 1 mile
VN-00976	Cultural Resources Survey and Impact Assessment for the Proposed Realignment of the Doris Drain in the City of Oxnard, Ventura County, California	C.A. Singer & Associates, Inc.	1990	Within 1 mile
VN-00990	Cultural Resources Reconnaissance of a 20 Acre Parcel in the City of Oxnard, California.	Joan Brown/RMW Paleo Associates, Inc.	1991	Within 1 mile
VN-00991	Cultural Resources Reconnaissance of an 80 Acre Parcel in the City of Oxnard, California.	Joan Brown/RMW Paleo Associates, Inc.	1990	

Table 3-14 (Continued). Previously Conducted Cultural Resource Investigations within the Project Study Area

IC Report #	Report Title/Description	Author/Company	Date	Proximity to APE
VN-01005	Cultural Resources Reconnaissance of a 20 Acre Parcel in the City of Oxnard, California (Revised)	Joan Brown/RMW Paleo Associates, Inc.	1991	Within 1 mile
VN-01133	Cultural Resources Reconnaissance of a 51.03 Acre Parcel Located in Oxnard, Ventura County, California	Joan Brown/RMW Paleo Associates, Inc.	1992	Within 1 mile
VN-01136	Phase 1 Cultural Resources Survey 9.42 Acres Located at the SE Corner of Teal Club Road and Victoria Avenue (a.p.n. 183-0-090-575) Annexation #87-8 and Zone Change 767 Ventura County, California	MacFarlane Archaeological Consultants	1992	Within 1 mile
VN-01578	Historic Research and Review of the Mcloughlin/ Maxwell Property, Located in Both Unicorporated Ventura County (250 Acres) and the City of Oxnard (80 Acres), Ventura County, California	Jeanette A. McKenna et al.	1998	Within 1 mile
VN-01583	Phase 1 Archaeological Survey and Cultural Resources Assessment for the Northwest Golf Course Community Specific Plan Study Area, Oxnard, Ventura County, California	W & S Consultants	1997	Within 1 mile
VN-01819	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 504-11, County of Ventura, California	LSA Associates, Inc.	1999	Within 1 mile
VN-02008	NHPA Section 106 Review, Per FCC Direction of Sprint PCS Wireless Communications Facility No. Vr54x442d (lemon Grove Located at South East Corner of Victoria Avenue and Gonzales Road, Oxnard, California 93030	Michael Brandman Associates	2001	Within 1 mile
VN-02017	Nextel Mobile Radio Facilities	Earth Touches	2001	Within 1 mile
VN-02021	Negative Archaeological Survey Report: Gold Coast Plaza	Compass Rose Archaeological, Inc.	2001	Within 1 mile
VN-02404	Records Search and Field Reconnaissance Phase for the Proposed Royal Street Communications Wireless Telecommunications Site La0931 (Oxnard P.A.I.), Located at 350 South K Street, Oxnard, Ventura County, California 93030	Robert J. Wlodarski	2006	Within 1 mile
VN-02434	Archaeological Survey Report of Approximately 44,000 Linear Feet for the Recycled Water Backbone System Project, City of Oxnard, Ventura County, California	Conejo Archaeological Consultants	2006	Within 1 mile
VN-02438	Phase I Archaeological Survey for the Rancho Victoria Study Area, Oxnard, Ventura County, California	W & S Consultants	2006	Within 1 mile
VN-02465	Cultural Resources Monitoring Program at the McLaughlin House, Oxnard, Ventura County	Jeanette A. McKenna et al.	2004	Within 1 mile

Table 3-14 (Continued). Previously Conducted Cultural Resource Investigations within the Project Study Area

IC Report #	Report Title/Description	Author/Company	Date	Proximity to APE
VN-02468	Archaeological Investigation for Tentative Tract	Greenwood & Associates	2003	Within 1 mile
VN-02473	Phase I Archaeological Investigation: 2425 West 5th Street, Oxnard, CA	Compass Rose Archaeological, Inc.	2010	Within 1 mile
VN-02478	Phase I Archaeological Survey of a 47 Acres Parcel at West Fifth Street and Patterson Road, Oxnard, Ventura County California	W & S Consultants	2003	Within 1 mile
VN-02627	Native American Place names in the Vicinity of the Pacific Pipeline: Part 2: Gaviota to the San Fernando Valley: Draft	Topanga Anthropological Consultants	1993	Within 1 mile
VN-02679	A Phase I Archaeological Study for Store 07449, Located at 481 South Ventura Road City of Oxnard, County of Ventura, California	Robert J. Wlodarski	2008	Within 1 mile
VN-02796	Moorpark-Shelline-Valdez 66kV New Pole Installation/ Old Pole Removal and WO 6039-4800; 9-4857 Deteriorated Pole Replacements, Various Distribution Circuits, Ventura County, California	Compass Rose Archaeological, Inc.	2009	Within 1 mile
VN-02884	Draft Cultural Resources Survey for the Proposed Oxnard Airport Land/Easement Acquisition Project, City of Oxnard, Ventura County, California	SWCA Environmental Consultants	2009	Within 1 mile
VN-02933	Phase I Archaeological Investigation for the City of Oxnard Recycled Water Project New Alignment	Compass Rose Archaeological, Inc.	2011	Within 1 mile
VN-02978	Groundwater Recovery Enhancement and Treatment (GREAT) Program, Cultural Resources Inventory Report	CH2M Hill	2004	Linear survey within project APE (near north and west boundary)
VN-03023	Verizon Wireless-Teal Club, 3551 West 5th Street	URS	2011	Within 1 mile
VN-03054	Cultural Resource Records Search and Site Survey AT&T Site SBOV62 (36309) Oxnard Airport, 3151 West 5th Street Oxnard, Ventura County, California	ACE Environmental	2012	Within 1 mile

Table 3-15. Previously Recorded Sites within the Study Area

Primary No.	Site Type	Resource Description	Recorder/Date	NRHP or CRHR Eligibility	Proximity to APE
P-56-151357	District	Oxnard, Henry T Historic District (137 contributing historic buildings)	Cultural Heritage Board/1981 Friends of Old Oxnard/1998	NRHP Listed	1.31 mile
P-56-153056	Building	Consulado de México/Durham School Service	ACE Environmental/2012	Not Eligible NRHP	0.65 mile

Historic Map and Patent Review

The maps listed in Table 3-16 were reviewed for the project. No patents were identified within the project study area. Historic land use includes rural roads, agricultural use, rural buildings, and the Ventura County Airport. Historic to modern land use of the APE appears as undeveloped agricultural land.

Table 3-16. Reviewed Historic Maps

Map Name	Date	Author	Proximity to APE
United States Geological Survey, 15 Minute Topographical Map Hueneme	1904	USGS Staff	The project site and adjacent areas appear as undeveloped land. Oxnard is illustrated to the east.
United States Geological Survey, 7.5 Topographical Map Oxnard, Calif.	1949	USGS Staff	The project site appears vacant and no structures or features are illustrated within or adjacent to the project APE. An east to west trending road (North Road) is to the north, and a north south trending road is to the east (Patterson Road). Ventura Road, Highway 101, several buildings, Ventura County Airport, and the city of Oxnard is approximately 0.50 to 1 mile east of the project APE. The Santa Clara River is illustrated to the northwest and north. Vacant land is illustrated to the west.
United States Geological Survey, 7.5 Topographical Map Oxnard, Calif.	1952	USGS Staff	Same as above, no changes.

Native American Heritage Commission Outreach

An important part of CEQA is consultation with the NAHC and the local Native American community. On July 28, 2017, Tetra Tech contacted the Native American Heritage Commission (NAHC) to request a Sacred Lands file search. The NAHC responded on August 23, 2017 that results of the sacred land file search was negative and no cultural resources were identified by their search as within the proposed project APE or study area (Appendix D). A list of six Native American contacts was also provided. A Project outreach letter was sent to each of the individuals listed by the NAHC on September 22, 2017. The letter provided information regarding the Project and a request for information about any known cultural resources in the Project study area. The outreach letters are for informational purposes only and do not take the place of formal consultation under AB 52 between the lead agency and tribes. Outreach to these contacts and meaningful discussions may reveal tribal cultural resources that could be impacted by the proposed project, or provide community concerns regarding the project's treatment

of cultural resources. We received two responses: 1) from Patrick Tumamait on October 9, 2017, indicating that he would like to be notified in the event of an inadvertent discovery and of any project updates or changes; and 2) from Freddie Romero, who deferred comments to local tribe.

Tribal Cultural Resources and AB 52 Consultation

Under the California Environmental Quality Act, Assembly Bill (AB) 52 requires a lead agency to evaluate a project's potential to impact "tribal cultural resources". In addition, AB 52 requires the lead agency to consult with any California Native American tribe that has previously requested that the lead agency provide the tribe with notice of such projects and consultation, and is traditionally and culturally affiliated with the geographic area of a proposed project. Consultations must include discussion of the type of environmental review necessary, significance of tribal cultural resources, and significance of the project's impacts on the tribal cultural resources (as applicable), and alternatives and mitigation measures recommended by the tribe. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. Pursuant to State requirements, Native American consultations should be initiated early in the planning process and should be conducted by the lead State/public agency, if agency consultation has been requested by a California Native American tribe (per Assembly Bill 52, PRC 210803, Section 1.2).

The District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation. On May 2, 2017, Lisa Cline, Deputy Superintendent of the District, sent Anthony Morales, Chief of the San Gabriel Band of Mission Indians, a letter initiating formal project notification and requesting tribal consultation pursuant PRC 210803.1 (d), and AB 52 (as amended) for the project (Appendix B). To date, no comments have been received from Mr. Morales.

3.5.1.1 Regulatory Setting

The proposed Project is located on private land and will require state and local permitting. There are numerous state regulations and policies that direct management of cultural resources by state and local agencies. The following is a discussion of applicable state and local regulations.

State

California Register of Historical Resources

Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource is at least 45 years old and meets the criteria for listing on the California Register of Historical Resources (CRHR; PRC, § 5024.1, and Title 14 California Code of Regulations [CCR], Section 4852) including the following:

2. An association with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
3. An association with the lives of persons important to local, California, or national history.
4. An embodiment of the distinctive characteristics of a type, period, region, or method of construction, or a representation of the work of a master, or possesses high artistic values.
5. A resource that has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If an archaeological resource does not fall within the definition of a historical resource, it may meet the definition of a "unique archaeological resource" (Public Resources Code [PRC] 21083.2(g)). Unique archaeological resources includes archaeological artifacts, objects, or sites that:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or;
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Assembly Bill 52

Assembly Bill (AB) 52 provides for the consideration of tribal cultural resources during the CEQA process by adding or amending the PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 5097.94. This bill specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. The bill requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project prior to determining whether a negative declaration, mitigated negative declaration (MND), or environmental impact report is required for a project. This requirement is applicable if the tribe has requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation. The bill also specifies examples of mitigation measures that may be considered to avoid or minimize impacts on tribal cultural resources. Tribal cultural resources are any of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    - Included or determined to be eligible for inclusion in the CRHR.
    - Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- A cultural landscape that meets the criteria of CRHR, is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

California Public Resource Code

In addition to the PRC sections affected by AB 52, several other sections regulate cultural resources. California PRC Section 5020-5029.5 establishes the criteria for the CRHR, creates the California Historic Landmarks Committee, and authorizes the Department of Parks and Recreation to designate Registered Historical Landmarks and Registered Points of Historical Interest. It also establishes criteria for the protection and preservation of historic resources. Several other sections of the California Public Resource Code also provide protection of cultural resources. Section 5097-5097.6 provides guidance for state agencies in the management of archaeological, paleontological, and historical sites affected by major public works project on state land.

Subsections 5097.9-5097.991 establish regulations for the protection of Native American religious places and establishes the NAHC. They also require that California Native American remains and associated grave artifacts be repatriated and that notification of discovery of Native American human remains be made by the NAHC to a most likely descendant (MLD). Subsection 5097.993-.994 establishes fines or both fine and imprisonment for the unlawful excavation, removal, or destruction of Native American archaeologic al or historic sites on public or private lands.

Senate Bill 922

Senate Bill 922 exempts from California Public Records Act information pertaining to Native American graves, cemeteries, archaeological sites, and sacred places in the possession of the California NAHC and other state or local agencies.

Senate Bill 18

California State Senate Bill 18 (SB18), signed into law in September 2004 and implemented on March 1, 2005, requires cities and counties to notify and consult with California-recognized Native American Tribes about proposed local land use planning decisions for the purpose of protecting Traditional Tribal Cultural Places. The Governor's Office of Planning and Research was mandated to amend its General Plan Guidelines to include the stipulations of SB18 and to add advice for consulting with California Native American Tribes.

Administrative Code, Title 14, Section 4307

Administrative Code, Title 14, Section 4307 prohibits individuals from removing, injuring, defacing, or destroying any object of paleontological, archaeological, or historical interest or value.

Government Code, Sections 6253, 6254, and 6254.10

Government Code, Sections 6253, 6254, and 6254.10 states that disclosure of archaeological site information is not required for records that relate to archaeological site information maintained by the Department of Parks and Recreation, the State Historical Resources Commission, or the State Lands Commission.

Penal Code, Title 14, Section 622.5

Penal Code, Title 14, Section 622.5 establishes as a misdemeanor offense for any person, other than the owner, who willfully damages or destroys archaeological or historic features on public or privately-owned land.

California Health and Safety Code, Section 7050.5-7052 and 8010-8011

Several sections of the California Health and Safety Code provide protection of human remains. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the NAHC within 24 hours. Section 7052 of the Health and Safety Code states that it is a felony to disturb Native American burials. Section 8010-8011 establishes a state repatriation policy to ensure that all California Indian human remains and cultural items are treated with dignity and respect and encourages voluntary disclosure and return of remains and cultural items by publically funded agencies and museums in California.

California Code of Regulations, Section 1427

California Code of Regulations, Section 1427 recognizes that California's archaeological resources are endangered by urban development and that these resources need preserving. This section establishes as a misdemeanor the willful injury, disfigurement, defacement, or destruction of any object or thing of archaeological or historical interest or value by someone who is not the owner, whether situated on private lands or within any public park or place. It also states that it is a misdemeanor to alter any archaeological evidence found in any cave or to remove any materials from a cave.

Senate Concurrent Resolution Number 43

Senate Concurrent Resolution Number 43 requires all state agencies to cooperate with programs of archaeological survey and excavation, and to preserve known archaeological resources whenever reasonable.

Local

City of Oxnard Regulations

The City of Oxnard California General Plan (City of Oxnard 2011) identifies goals and policies pertaining to cultural resources within the City. The following summarizes the requirements for compliance with the City policies that may be applicable to the proposed Project.

Goal ER 11: Protect the City's cultural and historic resources from unnecessary encroachment or harm and if encroachment or harm is necessary, fully mitigate the impacts to the maximum extent feasible. The following polices apply to Goal ER 11:

ER 11.1 Archaeological Resource Surveys. Requires a qualified archaeologist to perform a cultural resources study prior to project approval. Inspection for surface evidence of archaeological deposits, and archaeological monitoring during grading should be required in areas where significant cultural resources have been identified or are expected to occur.

ER 11.2 Requires Mitigating the Impact of New Development on Cultural Resources. Ensures that alternatives are considered, including planning construction to avoid archeological sites, deeding archaeological sites into permanent conservation easements, and planning parks, greenspace, or other open space to incorporate archaeological sites in the event that development threatens significant archaeological resources.

ER 11.3 Development Applicants to Conduct Research. Requires project applicants to have a qualified archaeologist conduct a record search at the South Central Coast Information Center located at California State University Fullerton and other appropriate historical repositories, conduct field surveys where appropriate, and prepare technical reports, where appropriate, meeting California Office of Historic Preservation Standards (Archaeological Resource Management Reports) prior to project approval.

ER 11.4 Historic Preservation. Support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and districts. Where applicable, preservation efforts shall confer with the Ventura County Cultural Heritage Board and conform to the current Secretary of the Interior's Standards for Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Building and the California Office of Historic Preservation.

ER 11.5 State Historic Building Code for Adaptive Reuse. Utilize, when possible, the State Historic Building Code for historic properties to encourage adaptive reuse.

ER 11.6 Identification of Archaeological Resources. In the event that archaeological/ paleontological resources are discovered during site excavation, continue to require that grading and construction work on the project site is suspended until the significance of the features can be determined by a qualified archaeologist/paleontologist.

ER 11.7 Native American Remains. Requires compliance with State laws relating to the disposition of Native American burials consistent with the CEQA Guidelines (Section 15064.5) if human remains of possible Native American origin are discovered during project construction.

ER 11.8 Historical Resource Inventory. Maintain a historical resource inventory, discourage demolition or alteration of historical buildings unless they are declared unsafe, and strongly encourage rehabilitation and/or adaptive reuse.

3.5.2 Impact Analysis

3.5.2.1 Methodology

The methodology for identifying historic resources within the project site area of potential effect (APE) include a record search, NAHC sacred lands search and tribal outreach, and formal consultation under AB 52. An archaeological survey was not conducted for the project site due to native soils that are overlain by approximately 24 inches of fill (Koury Geotechnical Services, Inc. 2014) and agricultural disturbance, obscuring the surface visibility of intact cultural material.

Area of Potential Effect

The area of potential direct impacts related to the project would include all areas of proposed vertical and horizontal ground disturbance. Construction laydown and staging areas will be located directly on the project site. Based on the geotechnical report, native soils throughout the proposed building footprints should be excavated a minimum of 6 feet below existing grade or 4 feet below the bottoms of foundations, whichever is deeper. Indirect impacts are considered for adjacent properties.

3.5.2.2 Significance Thresholds

The following thresholds of significance is provided in Appendix G of the CEQA guidelines and the City of Oxnard CEQA guidelines (City of Oxnard 2017) and states that a project is considered to have a significant impact on Cultural Resources if it is found to:

- Cause a substantial adverse change in the significance of a historical resource as defined in CCR 15064.5 (b). Specifically, substantial significant impact to cultural resources would include physical demolition, destruction, relocation, or alteration of the resource or its immediate surrounds such that the significance of the historical resource would be materially impaired;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR 15064.5. Specifically, if the lead agency determines that the archaeological site is an historical resource;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of dedicated cemeteries;

In addition, Appendix G of the CEQA guidelines states, pursuant to AB 52, would the project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.5.2.3 Project Impacts

Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

The project site lacks any buildings or structures and is currently used for agriculture row crops. The records search and NAHC sacred lands search did not identify any known historical resources within or adjacent to the project APE. One historical resource (P-56-151357) and one potential historical resource (P-56-153056) have been recorded in the study area outside of the APE. However, neither resource is anticipated to be indirectly impacted by the Project due to their distance from the APE. As a result, the proposed project would not cause a substantial adverse change in the significance of a known historic resource as defined in Section 15064.5 of the CEQA Guidelines and no mitigation is required.

Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The records search, NAHC sacred land search, and tribal outreach did not identify any archaeological sites within or adjacent to the project APE. Based on a previous geotechnical study (Koury Geotechnical Services, Inc. 2014; Earth Systems Southern California 2017), the project APE is overlain with approximately 0-24 inches of fill soil (agricultural) consisting of silty sand to sandy silt, and the surface soils have been altered by previous agricultural

related ground disturbance (disced and plowed) to a depth of approximately 0-30 inches (plow zone). Surface soils consist of silty sand to sandy silt, sandy lean clay, and fine silty sand underlain by alluvial soils. Due to the fill soils mixed by previous agricultural disturbance covering the site and the lack of native soil surface visibility, an archaeological survey was not conducted of the APE. However, the project site is located in an active depositional setting, and buried archaeological (prehistoric or historic) materials may be present in previously undisturbed native soils beneath the fill soils. Disturbance of these intact buried resources would be a significant impact. Incorporation of Mitigation Measures CUL-1 (Worker Environmental Awareness Training) and CUL-2 (Archaeological Monitoring) would avoid this significant potential impact on archaeological resources.

Would the project disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains or burials within the project APE. The record search nor the NAHC sacred land file search identified any known burials or recorded human remains. Nonetheless, as with archaeological resources, it is possible that previously unknown human burials or remains could be disturbed on-site during project construction. As previously discussed, human occupation within the Oxnard Plain has been documented to at least 5000 years ago and likely included the project APE.

California state law requires all project excavation activities to halt if human remains are encountered and the County Corner must be notified. Any discovery of human remains on the project site would be treated in accordance with PRC Section 5097.98 and Section 7050.5 of the State Health and Safety Code. Pursuant to State HSC § 7050.5, if human remains and/or cultural items defined by the Health and Safety Code, Section §7050.5, are inadvertently discovered during construction activities, all work within a 100-foot radius of the find or an area reasonably suspected to overlie adjacent remains (whichever is larger) will cease, the find will be flagged and protected for avoidance, and the Ventura County Coroner will be contacted immediately. The remains must be securely protected and project personnel must ensure confidentiality of the find on a need-to-know basis and ensure that the remains are treated with dignity and that they are not touched, moved, photographed, discussed on social media sources (e.g., Facebook, Twitter), or further disturbed. If the remains are found to be Native American as defined by Health and Safety Code, Section 7050.5, the coroner will contact the NAHC by telephone within 24 hours. The NAHC shall immediately notify the person it believes to be the MLD as stipulated by California PRC Section 5097.98. The MLD(s), with the permission of the landowner and/or authorized representative, shall inspect the site of the discovered remains and recommend treatment regarding the remains and any associated grave goods. The MLD shall complete their inspection and make their recommendations within 48 hours of notification by the NAHC. Construction will not proceed within the 100-foot area (or protected area) around the discovery until the appropriate approvals are obtained. Work may be delayed in the vicinity of the human remains for up to 30 days.

The specific State law/regulations regarding proper handling of previously unknown human remains encountered during construction are specified above and the project will comply with the state law/regulations to avoid significant impacts on human remains. In conjunction with the training and monitoring protocols identified in Mitigation Measures CUL-1 and CUL-2, potential impacts to unknown human remains is less than significant.

Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

In Ventura County, paleontological remains, typically identified in Pleistocene-age alluvial deposits, include examples from throughout most of geological history, including the Paleozoic (600-225 million years ago), Mesozoic (225-70 million years ago) and Cenozoic (70 million years ago-present) eras. Based on the geological map of Ventura County, Oxnard quadrangle, the project site is underlain by Holocene age (10,000 years BP to recent) alluvial fan deposits composed of soils that are predominately of clay with interbeds of sand and occasional gravel (Koury Geotechnical Services, Inc. 2014; Clahan 2003). Holocene deposits may overlie older alluvium of Pleistocene age (2.6 million years ago to 10,000 years BP). Holocene age deposits are considered to have a low sensitivity for yielding paleontological resources. In 2010, a paleontological record search of the museum collection records maintained by the Natural History Museum (NHM) of Los Angeles County was

conducted for the Oxnard Airport Land Easement Acquisition Project, approximately 0.40 miles south of the project site (SWCA 2009). The record search included a one mile radius around the airport and indicated that no previously identified paleontological localities occurred within the search area, nor had any resources been reported within the same Holocene age geological unit as the current project APE (SWCA 2009). Based on the Holocene-age deposits, surficial ground disturbance is unlikely to encounter or cause a substantial adverse change in significance to a paleontological resource. However, if project ground disturbing construction depths exceed the Holocene age deposits or encounters shallow Pleistocene deposits, paleontological resources may be exposed. Paleontological resources in Ventura County include many widely dispersed outcrops of fossil bearing formations (Ventura 2011). Incorporation of Mitigation Measures CUL-3 (Paleontological Resource Impact Mitigation Program) would avoid this significant potential impact on archaeological resources.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

A) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

The records search, NAHC sacred lands search, and AB 52 consultation did not identify any historical resources within or adjacent to the project APE. The District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation. We received one response from Patrick Tumamait on October 9, 2017, indicating that he would like to be notified in the event of an inadvertent discovery and of any project updates or changes. As a result, it is believed the proposed project would not cause a substantial adverse change in the significance of a known historic resource as defined in PRC 5020.1 (k) and no mitigation is required.

B) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The records search, NAHC sacred lands search, and AB 52 consultation between the lead agency and Mr. Morales did not identify any significant tribal cultural resources within or adjacent to the project APE. The District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation. We received one response from Patrick Tumamait on October 9, 2017, indicating that he would like to be notified in the event of an inadvertent discovery and of any project updates or changes. As a result, the proposed project is not anticipated to cause a substantial adverse change in the significance of a known historic resource as defined in PRC 5024.1 and no mitigation is required.

3.5.2.4 Cumulative Impacts

Cultural Resources and Tribal Resources

Based on the literature and records review (as described above), the project site is in a part of coastal California with documented prehistoric and historic occupation. The cumulative impact study area for cultural resources is coastal Ventura County and the Channel Islands (specifically, the Oxnard Plain), covering areas occupied by Native Americans through historic contact and immigrant populations (e.g. Europeans, Mexicans). Although no historic or archeological resources are documented in the project APE, unidentified buried resources may exist. Varied cultural resources are documented throughout this part of coastal California suggesting it is a highly sensitive region for archaeological resources.

The proposed project would not result in impacts to previously documented archeological and historic resources or human burials, but could result in impacts to those types of resources as a result of disturbance of native soils during project construction. This type of impact would be significant. However, with implementation of Mitigation Measures CUL-1, CUL-2 and CUL-3, those impacts would not be significant. As such, the project is not anticipated to contribute significantly to cumulative impacts on cultural resources in the region.

Paleontological Resources

Project construction excavation exceeding Holocene deposits would potentially result in the unearthing of significant paleontological resources. Those effects would be mitigated through implementation of a Paleontological Resource Impact Mitigation Program (PRIMP) as detailed in Mitigation Measure CUL-3. In addition, scientific knowledge gained based on the study and evaluation of fossils potentially removed from the cited formations/units during the construction of the project would be a beneficial effect of the project.

The grading and excavation for other projects and development in areas where formations/units with Pleistocene fossil bearing deposits occur also have the potential to result in the unearthing, removal, and possible destruction of significant paleontological resources from one or more of such fossil bearing deposits. Those effects would also be required to be mitigated through implementation of a similar project-specific PRIMP. In addition, scientific knowledge gained based on the study and evaluation of fossils potentially removed from the cited formations/units during the construction of the cumulative projects would be beneficial effects of those projects. For these reasons, potential cumulative impacts to paleontological resources would be less than significant.

3.5.2.5 Mitigation Measures

The proposed project would not result in impacts to previously documented archeological and historic resources or human remains but could result in impacts to those types of resources as a result of disturbance of native soils during project construction. Without knowing what types of previously unknown cultural resources or human remains might be disturbed by the project construction, would be significant adverse impacts on prehistoric and/or historic resources and/or human remains before mitigation.

Project construction excavation exceeding Holocene deposits would potentially result in the unearthing of significant paleontological resources. Those would be significant adverse impacts of the project on paleontological resources before mitigation.

CUL-1: Worker Environmental Awareness Training: Prior to any proposed construction ground disturbing activities within the Project APE, the District Project Manager will require the construction contractor to provide for all non-cultural resources personnel to be briefed, by a qualified project archaeologist (retained on-call by construction contractor) about the potential and procedures for an inadvertent discovery of prehistoric and historic archaeological resources. In addition, the training will include established procedures for temporarily halting or redirecting work in the event of a discovery, identification and evaluation procedures for finds, and a discussion on the importance of, and the legal basis for, the protection of archaeological resources. Personnel will be given a training brochure/handout regarding identification of cultural resources, protocols for inadvertent discoveries, and contact procedures in the event of a discovery.

CUL-2 Archaeological Monitoring Plan and Monitoring: If proposed project construction ground disturbing activities will reach depths containing undisturbed native soils (below 24 inches), the qualified project archaeologist will prepare an archaeological monitoring plan and a qualified archaeological monitor and Native American monitor (if requested) will be present on-site during ground disturbing activities that occur within native soils. If any cultural resources are identified by the monitor(s) during ground disturbing activities, the resource will be treated as an inadvertent discovery and the protocols outlined in the monitoring plan will be adhered to. In general, if cultural resources are encountered during ground disturbing activities in native soils, the archaeological monitor will stop work within 100-feet of the find in order to assess its significance. Construction activities can continue outside the established 100-foot radius exclusion zone. Work may not resume within the 100 feet

exclusion zone until the project archaeologist can evaluate the significance of the find and complete any necessary recordation and evaluation of the find (may include recording, testing and/or data recovery efforts) in consultation with the Oxnard School District. Construction will not proceed within the 100-foot area around the discovery until the appropriate approvals are obtained. Patrick Tumamait of the Barbareno Ventureno Band of Mission Indians has requested to be notified in the event of an inadvertent discovery. If requested by interested Tribes, a Native American Monitor will also be present during construction ground disturbing activities. A final report documenting the results of the monitoring program will be prepared by the qualified project archaeologist.

CUL-3 Paleontological Resource Impact Mitigation Program: Prior to any ground-disturbing activities, the District Project Manager will require the construction contractor to have a PRIMP prepared by a qualified paleontologist if project construction will exceed Holocene soils. The qualified paleontologist will also attend the worker environmental awareness program training and provide information on paleontological resources and a brochure/handout outlining procedures in the event of a paleontological find during construction. The District Project Manager will require the construction contractor to initiate implementation of the PRIMP at the beginning of ground disturbing activities. The PRIMP will address and define the following specific activities and responsibilities:

- Full-time monitoring by a qualified paleontologist during all grading and excavation extending more than 10 feet (ft) below ground surface (bgs) or beyond Holocene deposits.
- Spot-check monitoring by a qualified paleontologist for all grading and excavation between 5 and 10 ft bgs to determine whether older sediments with a potential to contain paleontological resources are present.
- Procedures for project personnel and/or paleontological monitor to halt work and temporarily redirect construction away from an area if paleontological resources are encountered during grading or excavation in order to assess the significance of the find.
- Procedures for recommendations regarding level of monitoring effort (e.g. spot check, full-time) depending upon sensitivity of soil depth, identification of finds, etc.
- Procedures for handling collected material and curation.
- Procedures for reporting and documenting the results of the monitoring program.
- Provide brochure of environmental awareness training.

The proposed project would not result in impacts to previously documented archeological and historic resources or human remains but could result in impacts to those types of resources as a result of disturbance of native soils during project construction. Without knowing what types of previously unknown cultural resources or human remains might be disturbed by the project construction, would be significant adverse impacts on prehistoric and/or historic resources and/or human remains before mitigation.

Project construction excavation exceeding Holocene deposits would potentially result in the unearthing of significant paleontological resources. Those would be significant adverse impacts of the project on paleontological resources before mitigation.

CUL-1: Worker Environmental Awareness Training: Prior to any proposed construction ground disturbing activities within the Project APE, the District Project Manager will require the construction contractor to provide for all non-cultural resources personnel to be briefed, by a qualified project archaeologist (retained on-call by construction contractor) about the potential and procedures for an inadvertent discovery of prehistoric and historic archaeological resources. In addition, the training will include established procedures for temporarily halting or redirecting work in the event of a discovery, identification and evaluation procedures for finds, and a discussion on the importance of, and the legal basis for, the protection of archaeological resources. Personnel will be given a training brochure/handout regarding identification of cultural resources, protocols for inadvertent discoveries, and contact procedures in the event of a discovery.

CUL-2 Archaeological Monitoring Plan and Monitoring: If proposed project construction ground disturbing activities will reach depths containing undisturbed native soils (below 24 inches), the qualified project

archaeologist will prepare an archaeological monitoring plan and a qualified archaeological monitor and Native American monitor (if requested) will be present on-site during ground disturbing activities that occur within native soils. If any cultural resources are identified by the monitor(s) during ground disturbing activities, the resource will be treated as an inadvertent discovery and the protocols outlined in the monitoring plan will be adhered to. In general, if cultural resources are encountered during ground disturbing activities in native soils, the archaeological monitor will stop work within 100 feet of the find in order to assess its significance. Construction activities can continue outside the established 100-foot radius exclusion zone. Work may not resume within the 100 feet exclusion zone until the project archaeologist can evaluate the significance of the find and complete any necessary recordation and evaluation of the find (may include recording, testing and/or data recovery efforts) in consultation with the Oxnard School District. Construction will not proceed within the 100-foot area around the discovery until the appropriate approvals are obtained. Patrick Tumamait of the Barbareno Ventureno Band of Mission Indians, requested to be notified in the event of an inadvertent discovery. If requested by interested Tribes, a Native American Monitor will also be present during construction ground disturbing activities. A final report documenting the results of the monitoring program will be prepared by the qualified project archaeologist.

CUL-3 Paleontological Resource Impact Mitigation Program: Prior to any ground-disturbing activities, the District Project Manager will require the construction contractor to have a PRIMP prepared by a qualified paleontologist if project construction will exceed Holocene soils. The qualified paleontologist will also attend the worker environmental awareness program training and provide information on paleontological resources and a brochure/handout outlining procedures in the event of a paleontological find during construction. The District Project Manager will require the construction contractor to initiate implementation of the PRIMP at the beginning of ground disturbing activities. The PRIMP will address and define the following specific activities and responsibilities:

- Full-time monitoring by a qualified paleontologist during all grading and excavation extending more than 10 ft bgs or beyond Holocene deposits.
- Spot-check monitoring by a qualified paleontologist for all grading and excavation between 5 and 10 ft bgs to determine whether older sediments with a potential to contain paleontological resources are present.
- Procedures for project personnel and/or paleontological monitor to halt work and temporarily redirect construction away from an area if paleontological resources are encountered during grading or excavation in order to assess the significance of the find.
- Procedures for recommendations regarding level of monitoring effort (e.g. spot check, full-time) depending upon sensitivity of soil depth, identification of finds, etc.
- Procedures for handling collected material and curation.
- Procedures for reporting and documenting the results of the monitoring program.
- Provide brochure of environmental awareness training

3.5.2.6 Level of Impact After Mitigation

Based on implementation of, and compliance with, Mitigation Measures CUL-1, CUL-2, and CUL-3, the potential impacts during construction of the proposed project on previously unknown cultural resources and human remains on the project site would be reduced to less than significant.

Based on implementation of, and compliance with, Measure CUL-3, the potential impacts during construction of the proposed project to paleontological resources would be reduced to less than significant.

3.6 GEOLOGY AND SOILS

This section provides a discussion of existing geologic and soils conditions and an analysis of potential impacts from implementation of the proposed project. Section 3.6 also addresses the potential for structural damage due to the underlying local geology, potential ground settlement, expansive soils, and regional seismic hazards. This section summarizes information provided in the Engineering Geology and Geotechnical Engineering Report for Proposed Middle School, Southeast Corner of Doris Avenue and Patterson Road, Oxnard, California (Geotechnical Report) prepared by Earth Systems Southern California, Inc. (ESSC 2017). The Geotechnical Report is included in Appendix E of the EIR.

3.6.1 Environmental Setting

The project site is relatively flat, and slopes gently to the south and southwest, with surface elevations ranging from approximately 40 to 45 feet above mean sea level (amsl). The project site is currently being used for agricultural production of row crops (vegetables, most recently cabbage) and contains sparse non-native vegetation at the margins (weeds and grasses).

The proposed project is located on the Oxnard Plain area of Ventura County. The Oxnard Plain is part of the Ventura Basin which is bounded on the north by the Santa Ynez-Topatopa Mountains and on the south by the Channel Islands, the western Santa Monica Mountains, and the Simi Hills. To the east, the basin is bounded by the San Gabriel fault zone. To the west, the Santa Barbara Channel separates the offshore islands from the mainland. Near the Santa Barbara Channel, the Ventura Basin is a transitional zone consisting of a coastal plain and shoreline. The coastal plain is composed of a broad alluvial plain, some of which forms estuaries and lagoons.

Based on the Ventura County Geologic Map for the Oxnard Quadrangle, the site is underlain by Holocene alluvial fan deposit composed predominantly of clay with interbeds of sand and occasional gravel (Clahan 2003).

3.6.1.1 Existing Conditions

Near-surface soils with the anticipated bearing zones of the proposed building areas are generally alluvial silty sands and sandy silts. Soils encountered were described by ESSC as having low blow counts and in-place densities, and having moderate compressibility. Testing indicated that anticipated bearing soils lie in the “very low” to “low” expansion ranges. ESSC included a locally adopted version of this classification of soil expansion in Appendix B of the ESSC Geotechnical Report. In their opinion, soils can be cut by normal grading equipment, although soils were observed to have relatively high moisture contents at shallow depths, and may require drying prior to use as structural fill.

Southern California is seismically active and the potential for significant ground shaking is universal throughout region. The Geotechnical Report prepared by ESSC evaluated the seismicity potential of the proposed project location with regards to potentially active and active faults per State of California guidelines to develop an estimate of maximum ground acceleration to determine risk for the proposed project. As with all studies of this kind, the Geotechnical Report cannot account for unknown faults in developing the estimate of peak ground acceleration, therefore the seismicity potential and peak acceleration determined in the report are based on the best information available at the time it was prepared and structural designers must be aware that there are inherent uncertainties in the determined values provided by ESSC.

The Geotechnical Report provided a chronology of historical earthquakes which have affected the project site and called out the following seismic events as notable for their regional impacts and specific effects on Ventura County: the 1812 Santa Barbara Channel and 1857 Fort Tejon events. These events directly impacted coastal Ventura County with strong ground motion. The 1812 event reportedly caused a measureable tsunami with a run up height of up to 15 feet. The actual height is in dispute among historians. Undisputed significant structural damage was reported at the Mission San Buenaventura from the 1857 event. ESSC used a proprietary software

utility to identify and list faults within a 60 kilometer radius of the proposed project (Appendix E). The list also includes the mean magnitude of earthquakes that could occur on the listed faults.

The effect of an earthquake on the Earth's surface is called the intensity. The Modified Mercalli Intensity Scale of ground shaking is used to discuss increasing levels earthquake intensity using observable effects that range from imperceptible shaking to catastrophic destruction. The intensity levels are designated by Roman numerals. The Modified Mercalli Intensity Scale does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects, ranked from I to XII, with XII indicating the maximum possible intensity of ground movement and associated extreme levels of structural damage. The first level where most people notice ground motion is an intensity value of III. Structural damage begins to occur when the intensity exceeds a value of VI. Southern Ventura County has been mapped by the California Division of Mines and Geology to delineate areas of varying predicted seismic response. The Alluvium that underlies the subject area is mapped as having a probable maximum intensity of earthquake response of approximately IX on the Modified Mercalli Scale (ESSC 2017). Historically, the highest estimated intensity in the Oxnard area has been VII.

Using the estimated peak magnitude earthquake from the list of faults within 60 km of the proposed project site, ESSC applied USGS and proprietary modeling tools to develop a site-specific spectral response curve to estimate the acceleration from peak seismic ground motion compared to earth gravity (1g). The spectral response curve for the Maximum Considered Earthquake (MCE) was used to determine the spectral response parameters to assign a site-specific design category for mitigation measures.

3.6.1.2 Regulatory Setting

Federal Regulations and Policies

No federal regulations or policies relating to geology and soils are applicable to the proposed project.

State Regulations and Policies

Alquist-Priolo Earthquake Fault Zoning Act (1972)

The Alquist-Priolo Earthquake Fault Zoning (AP) Act (AP, Public Resources Code, Section 2621, et seq.) was passed into law following the destructive February 9, 1971 Mw 6.6 San Fernando earthquake. The AP Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. There are no Earthquake Fault Zones established at or in the near vicinity of the site, and procedures and regulations as recommended by the California Geological Survey (CGS) for investigations conducted in such zones do not specifically apply.

Seismic Hazard Mapping Act (SHMA) (1990)

Adopted by the state for the purpose of protecting public safety from the effects of earthquake hazards from non-surface fault rupture. The CGS prepares and provides local governments with seismic hazard zones maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The seismic hazards zones are referred to as "zones of required investigation" because site-specific geological investigations are required for construction projects located within these areas. Before a project can be permitted, a geologic investigation, evaluation, and written report must be prepared by a licensed geologist to demonstrate that proposed buildings will not be constructed across active faults. If an active fault is found, a structure for human occupancy must be set back from the fault (generally 50 ft). In addition, sellers (and their

agents) of real property within a mapped Seismic Hazard Zone must disclose that the property lies within such a zone at the time of sale.

California Building Code (2016)

CCR Title 24, Part 2, the California Building Code (CBC) (CBSC 2016), provides minimum standards for building design in the State. Local codes are permitted to be more restrictive than Title 24, but not less restrictive. The procedures and limitations for the design of structures are based on-site characteristics, occupancy type, configuration, structural system height, and seismic zoning. Seismic ratings from the CBC divide the United States into four geographical zones. Most of central and coastal California, including the project site, is located in Seismic Zone 4. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Occupational Safety and Health Administration (Cal/OSHA) regulations (CCR, Title 8).

California Health and Safety Code. Sections 17922 and 17951–17958.7 of the California Health and Safety Code

These rules require cities and counties to adopt and enforce the current edition of the CBC (CBSC 2016), including a grading section. The City and County have adopted and enforce these provisions. Sections of Volume 2 of the CBC specifically apply to select geologic hazards. Chapter 16 of the 2167 CBC addresses requirements for seismic safety. Chapter 18 regulates excavation, foundations, and retaining walls. Chapter 33 contains specific requirements pertaining to site demolition, excavation, and construction.

Unreinforced Masonry Law (1986)

In California, unreinforced masonry (URM) buildings are generally brick buildings constructed prior to 1933 and predating modern earthquake-resistant design. In earthquakes, the brick walls (especially parapets) tend to disconnect from the building and fall outward, creating a hazard for people below and sometimes causing the building to collapse. The URM Law requires cities and counties within Seismic Zone 4 to identify hazardous URM buildings and to consider local regulations to abate potentially dangerous buildings through retrofitting or demolition, as outlined in the State Office of Planning and Research Guidelines. No URM buildings are located on the project site.

Division of the State Architect

Prior to plan approval, the Division of the State Architect (DSA) ensures that structural design of schools complies with the current edition of the Uniform Building Code (UBC) applicable to structure design and construction in order to minimize the potentially damaging effect of severe ground shaking originating from earthquakes in the region.

The DSA also ensures that rough and final grading plans and over-excavation plans incorporate the recommendations of required final geotechnical investigation reports. Recommendations in the final geotechnical report are reflected in the notes on the grading plan and are implemented as conditions of building plan approval.

When a geologic hazard report is required for a project, the report must be submitted to the CGS before the project is submitted to the DSA. Final DSA approval will not occur until the DSA receives the final acceptance letter from CGS. It is the responsibility of the applicant to provide the CGS acceptance letter to the DSA and reference the DSA Application Number for the project.

School districts are responsible for the submittal of the geologic hazard report to the CGS and for the cost of review. Reports should be submitted to the CGS approximately two months prior to submittal of the project to the DSA.

Local Regulations and Policies

City of Oxnard Regulations. The OMC adopts the 2016 CBC (CBSC 2016) and has additional construction requirements in OMC Chapter 14, Building Regulations that has procedures and limitations for structural design based on seismic risk:

The following policies in the City of Oxnard 2030 General Plan are intended to reduce the potential for geological hazards to adversely affect people and property.

> ***SH-1.3 Building Code Standards.*** Require that all new buildings and alterations to existing buildings be built according to the seismic requirements adopted within the most current City of Oxnard Building Code, or its adopted equivalent.
>
> ***SH-1.4 Soil, Geologic, and Structural Evaluation Reports.*** Require that adequate soils, and geologic and structural evaluation reports be prepared by registered soils engineers, engineering geologists, and/or structural engineers, as appropriate, for applicable development.
>
> ***SH-1.5 Required Geologic Reports.*** Continue to require the submission of a geological report for proposed development located in a potential liquefaction area.
>
> ***SH-1.7 Soil Investigations.*** Continue to require a complete site-specific soils investigation that addresses liquefaction and compressible soil characteristics and identifies construction techniques or other mitigation measures to prevent significant impacts on the proposed development.
>
> ***SH-1.8 Mitigating Seismic Hazards.*** Where necessary, utilize the expert mitigation measures such as those identified in Special Publication 117: Guidelines for Analyzing and Mitigating Seismic hazards in California (prepared by the Southern California Earthquake Center) to minimize risk associated with seismic activity.

3.6.2 Impact Analysis

3.6.2.1 Methodology

Earth Systems Southern California performed a comprehensive assessment of the impacts of the proposed project with respect to geologic and soil conditions (ESSC 2017). Their assessment included: a site reconnaissance, background literature review, site geologic mapping, drilling soil borings to sample soil and log conditions, laboratory tests on-site materials, an engineering analysis, and report preparation.

Soils and geologic and seismic hazards were then assessed based on the significance thresholds identified below.

3.6.2.2 Significance Thresholds

The thresholds for geology and soils impacts used in this analysis are consistent with Appendix G of the State CEQA Guidelines. The effects of the proposed project related to geology and soils are considered to be significant if the proposed project would:

- *Expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.*
- *Expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.*
- *Result in substantial soil erosion or loss of topsoil.*
- *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.*

- *Be located on expansive soil, as defined by Table 18-1-B of the UBC (1994), creating substantial risks to life or property.*

3.6.2.3 Project Impacts

Would the project expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The probable maximum intensity of a seismic event which could affect would be approximately intensity IX on the Modified Mercalli Scale (ESSC 2017). At this level of shaking it is likely that there will considerable damage in specially designed structures; some well-designed frame structures could be thrown out of plumb; and great damage could occur in substantial buildings, with partial collapse possible. This intensity could also result in buildings being shifted off foundations. In addition, there would be great damage to poorly built structures and chimneys, factory stacks, columns, monuments, and free-standing walls would be at great risk of falling beginning at the lesser Intensity Level VIII. The Geotechnical Report Site-Specific Analysis for ground motion calculated estimates of motion for a maximum considered earthquake with a moment magnitude of 7.2 on Oak Ridge fault, which occurs within 2.8-miles of the project site. The Short Period Spectral Response (Sips) was found to be 1.198 g, and the 1 Second Spectral Response (SD1) was found to be 1.312 g. Both the “site-specific“ and “general” procedure yielded peak ground accelerations of 0.873 g. Therefore, the findings of the Geotechnical Report show that there is the potential for adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

The potential risks posed by the project from strong seismic ground shaking would be less than significant impacts with mitigation incorporated. Mitigation Measure GEO-1 requires that the building design for structures at the Project use geotechnical building design recommendations that are based on a site-specific ground motion hazard analysis for the Project site in accordance with ASCE 7-10 (ASCE 2013) Chapter 21 as modified by Section 1803A.6 of the 2016 CBC (CBSC 2016). The site-specific ground motion hazard analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA. With the implementation of Mitigation Measure GEO-1, the project would have a less than significant impact.

Would the project expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The geotechnical testing performed by ESSC determined that the potential effects of liquefaction, including potential differential settlements could occur at the proposed project site, where up to about 2.0 inches settling could occur, and up to about 1.3 feet of potential lateral spreading could occur. Therefore there is a potential risk of loss, injury or death involving seismic-related ground failure, including liquefaction.

The potential risks posed by the project from seismic-related ground failure, including liquefaction would be less than significant impacts with mitigation incorporated. Mitigation Measure GEO-2 requires that the building design for structures at the Project use geotechnical building design recommendations that are based on a site-specific evaluation of the liquefaction potential performed in accordance with the 2016 CBC (CBSC 2016) and the methods in the 2017 ESSE Geotechnical Report (ESSC 2017). The site-specific liquefaction potential analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA. With the implementation of Mitigation Measure GEO-2, the project would have a less than significant impact.

Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Earth Systems Southern California determined that there is no risk from off-site landslide, but liquefaction and differential settlements, ranging up to about 2.0 inches, and potential lateral spreading could occur, up to about 1.3 feet. Therefore there is a potential that the project would expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure.

The potential risks posed by the project from a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse would be less than significant impacts with mitigation incorporated. If Mitigation Measure GEO-2 is implemented, it would reduce the potential risks posed by liquefaction, differential settlements, and lateral spreading to a less than significant impact.

Would the project result in substantial soil erosion or loss of topsoil?

Soil erosion would potentially occur during construction activities, including site grading, structure assembly, and utility extension. With the implementation of Mitigation Measure GEO-3, this impact would be reduced to a less than significant level with standard erosion mitigation measures, including the use of hay bales and other erosion control devices as determined by site-specific conditions, limiting construction to the dry season, soil wetting, and adherence to applicable regulatory guidelines and standards. These measures would also reduce potential air quality impacts and sedimentation.

Once the project is completed, no additional loss of topsoil or erosion would occur as there would be no exposed soils on the project site.

Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Soil testing documented the ESSC Geotechnical Report (ESSC 2017) indicated that shallow subsurface soils (at depths of 0 to 5 feet bgs) are in the low expansion range (have a UBC Expansion Index [EI] between 21 and 50). Section 10803.2 of the 1994 UBC mandates that “special [foundation] design consideration” be employed if the EI is greater than 20 (UBC Table 18-1-B).

The potential risks posed by the project from expansive soils would be less than significant impacts with mitigation incorporated. Mitigation Measure GEO-4 requires that special foundation design procedures in the building design for structures at the Project use the geotechnical building foundation design recommendations in the 2017 ESSE Geotechnical Report (ESSC 2017) that are based on a site-specific evaluation of the expansive soils potential. The site-specific expansive soil analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA. With the implementation of Mitigation Measure GEO-4, the project would have a less than significant impact.

3.6.2.4 Cumulative Impacts

The proposed project would result in a less than significant contribution to cumulative impacts on soils and geology. The proposed project and all new building projects within the surrounding study area (City and the County) would be required to comply with the applicable State and local requirements, including, but not limited to, the CBC, and would be required to implement recommendations of a site-specific geotechnical report. Therefore, the project specific impacts, as well as the impacts associated with other projects, would be reduced to a less than significant level. Seismic impacts are a regional issue and are also addressed through compliance with applicable codes and design standards. For these reasons, the project’s contribution to cumulative geotechnical and soil impacts is less than significant.

3.6.2.5 Mitigation Measures

GEO-1: The building design for structures at the Project shall use geotechnical building design recommendations that are based on a site-specific ground motion hazard analysis for the Project site performed in accordance with ASCE 7-10 (ASCE 2013) Chapter 21 as modified by Section 1803A.6 of the 2016 CBC (CBSC 2016). The site-specific ground motion hazard analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA.

GEO-2: The building design for structures at the Project shall use geotechnical building design recommendations that are based on a site-specific evaluation of the liquefaction potential performed in accordance with the 2013 CBC (CBSC 2016) and the methods in the Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117A (CGS 2008). The site-specific liquefaction potential analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA.

GEO-3: Potential soil erosion that would occur during construction activities, including site grading, structure assembly, and utility extension shall be reduced to a less than significant level with standard erosion mitigation measures, including the use of hay bales and other erosion control devices as determined by site-specific conditions, limiting construction to the dry season, and soil wetting, applied as required under applicable regulatory guidelines and standards.

GEO-4: Special foundation design procedures in the building design for structures at the Project use the geotechnical building foundation design recommendations in the 2017 ESSE Geotechnical Report (ESSC 2017) that are based on a site-specific evaluation of the expansive soils potential. The site-specific expansive soil analysis and geotechnical building design recommendations shall be approved by the CGS and the DSA.

3.6.2.6 Level of Impact After Mitigation

Implementation of, and compliance with, the mitigation measures identified above would reduce all potentially significant impacts related to soils and geology to a less than significant level.

3.7 GREENHOUSE GAS EMISSIONS

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of greenhouse gas (GHG) emissions in the atmosphere. GHGs trap heat in the atmosphere, which, in turn, heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities.

3.7.1 Environmental Setting

3.7.1.1 Existing Conditions

The United States Environmental Protection Agency (U.S. EPA) in its website states that climate change will have different effects in different parts of the world. In the U.S. each state will be impacted differently by climate change. One common symptom that all states in the U.S will experience is rising temperatures. Some states will experience an increase in rainfall intensity, creating flooding problems while other states will be affected by severe droughts, impacting agriculture and drinking water supplies (U.S. EPA 2017).

Based on the 2017 update of the California GHG inventory for 2000 to 2015 prepared by the CARB, California emitted 440.36 $MMTCO_2e$ in 2015 (CARB 2017). According to CARB, the potential impacts in California due to global climate change may include loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California's coastlines; sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation. Various measures at the federal and state levels are currently in effect to reduce GHG emissions in an effort to mitigate climate change effects resulting from anthropogenic activity.

3.7.1.2 Regulatory Setting

Federal

The U.S. EPA is the agency responsible for writing and implementing federal regulation for the protection of the environment, including regulation for GHG emissions. To this end, the U.S. EPA pursues a number of efforts including collection of data, pursuing emissions reductions by promoting clean energy economy and partnering with states, localities, and tribes. The U.S. EPA delegates its authority to ten executive offices in the United States each of which is responsible for the execution the U.S. EPA programs within several states and territories. California is within the jurisdiction of Region 9.

The U.S. EPA has instituted various regulation measures to reduce GHSs. One of these efforts is under 40 CFR, Part 98 that require mandatory reporting of GHG emissions (i.e., CO_2, CH_4, N_2O, sulfur hexafluoride, hydrofluorocarbons, and other fluorinated gases) for certain industrial operations. Most of these industrial operations include electricity generation facilities, oil refineries, and manufacturing operations. Mandatory reporting is also required for combustion sources, such as boilers and stationary engines, which emit more than 25,000 metric tons (MT) of CO_2-equivalents ($MTCO_2e$) per year.

State

California pursuit of GHG emission reductions has been addressed through Senate Bill (SB) 32, Assembly Bill (AB) 197, AB 32, Executive Order B-16-2012, AB 32, Executive Order S-3-05, and CCR sections 95100-95157.

On September 8, 2016, Governor Edmund G. Brown signed SB 32 and AB 197, which require the state of California to cut emissions by 30% below 1990 levels by 2030.

In March 2012, Executive Order B-16-2012 was issued to support the reduction of GHGs through zero-emission vehicles as measure to pursue achievement of California target for 2050 to reduce GHG emissions from the transportation sector equaling 80% less than 1990 levels.

On September 27, 2006, Governor Arnold Schwarzenegger signed into law AB 32, California Global Warming Solutions Act of 2006, which requires the Air Resources Board (ARB) to develop and implement regulations and initiatives to reduce GHG emissions to 1990 levels, or lower, by 2020. The ARB established the 1990 target at 427 MMT CO_2e. Pursuant to AB 32, the ARB has also adopted a number of regulations, which are outlined in the initial Scoping Plan, which the ARB adopted in 2008 to prescribe actions aimed at reducing California's GHG emissions. Under AB 32, the ARB has primary responsibility for promulgating regulations, programs, and enforcement mechanisms to achieve the GHG reduction target.

The law requires the ARB to establish a program geared toward tracking and reporting GHG emissions; approve a scoping plan for achieving the maximum technologically feasible and cost effective reductions from sources of GHG emissions; adopt early reduction measures to begin moving forward; and adopt, implement, and enforce regulations—including market mechanisms such as "cap-and-trade" programs—to ensure the required reductions occur. The ARB recently adopted a statewide GHG emissions limit and an emissions inventory, along with requirements to measure, track, and report GHG emissions by the industries it determined to be significant sources of GHG emissions.

AB 32 requires ARB to update the Scoping Plan every five years. The most recent update to the Scoping Plan Update was approved by the ARB in May 2014. It identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The Update defines ARB's climate change priorities for the next five years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. These efforts put California on course to achieve the near-term 2020 goal, and have created a framework for ongoing climate action that can be built upon to maintain and continue economic sector-specific reductions beyond 2020, as required by AB 32. In this Update, nine key focus areas were identified (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the Cap-and-Trade Program.

In June 2005, Executive Order S-3-05 was issued to set GHG goals. Under S-3-05 a more aggressive goal than the one prescribed in AB-32 for achieving a reduction in was established. Executive Order S-3-05 prescribes a goal to reduce GHG emissions by 80% below 1990 levels by 2050 (California ARB 2014a). On March 2012, Executive Order B-16-2012 was issued to support the reduction of GHGs through zero-emission vehicles as measure to pursue achievement of California target for 2050 to reduce GHG emissions from the transportation sector equaling 80% less than 1990 levels.

On December 2007, California adopted regulation for the mandatory reporting of GHG emissions (mandatory reporting regulation [MRR]) under CCR Sections 95100-95157 to comply with requirements promulgated by the U.S. EPA in 40 CFR, Part 98. The MRR sets emissions reporting thresholds of 10,000 $MTCO_2e$. Thus, any project or facility with the potential to emit equal to or greater than 10,000 $MTCO_2e$ from combustion and process emissions would be subject to the MRR reporting requirements.

Regulated GHGs under California Health and Safety Code 38505 include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen triflouride (NF_3). GHGs are commonly quantified in the equivalent mass of CO_2, denoted CO_2e, which takes into account the global warming potential (GWP) of each individual GHG compound. The most common GHG that results from human activity is CO2, followed by CH_4 and N_2O.

Summary of GHGs

The following narratives provide a brief summary of GHGs.

Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.

Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

Hydrofluorocarbons, PFCs, SF_6 and NF_3 are synthetic, powerful GHGs that are emitted from a variety of industrial processes. HFCs and PFCs are sometimes used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as High Global Warming Potential gases. SF_6 is employed in electricity transmission and distribution and semiconductor manufacturing. NF_3 results from semiconductor manufacturing processes (CARB 2017b).

Local

The City of Oxnard 2030 General Plan provides various goals and policies related to GHG and global warming. Some of the policies applicable directly and indirectly to the proposed project are listed in Table 3-17.

Table 3-17. City of Oxnard Goals and Policies Applicable to the Proposed Project

Goals/ Policies No.	Title	Description
SC-3.9	Promote Voluntary Incentive Programs	Promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional and public buildings, including continued participation in the Ventura County Regional Energy Alliance (VCREA).
SC-3.12	Encourage Natural Ventilation	Review and revise applicable planning and building policies and regulations to promote use of natural ventilation in new construction and major additions or remodeling consistent with Oxnard's temperate climate.
SC-4.1	Green Building Code Implementation	Implement the 2010 California Green Building Code as may be amended (CALGREEN) and consider recommending and/or requiring certain developments to incorporate Tier I and Tier II voluntary standards under certain conditions to be developed by the Development Services Director.
ICS-2.6	Reduction of Construction Impacts	Minimize and monitor traffic and parking issues associated with construction activities, require additional traffic lanes and/or other traffic improvements for ingress and egress for new developments for traffic and safety reason, where appropriate.
ICS-3.3	New Development Level of Service C	Determine as part of the development review and approval process that intersections associated with new development operate at a level of service of "C" or better.

Table 3-17 (Continued). City of Oxnard Goals and Policies Applicable to the Proposed Project

Goals/ Policies No.	Title	Description
ICS-8.8	Educational Facilities	Coordinate with public school districts and other educational facilities to design pedestrian and bicycle access as the preferred access to schools rather than vehicular, and improve drop off and pick up circulation, especially during the morning and afternoon peak periods.
ICS-11.7	Water Wise Landscapes	Promote water conservation in landscaping for public facilities and streetscapes, residential, commercial and industrial facilities and require new developments to incorporate water conserving fixtures (low water usage) and water-efficient plants into new and replacement landscaping.
ICS-11.12	Water for Irrigation	Require the use of non-potable water supplies for irrigation of landscape whenever available.

Source: City of Oxnard 2011

3.7.2 Impact Analysis

3.7.2.1 Methodology

Pursuant to state law (CEQA Guidelines 15064.7) Ventura County Air Pollution Control District (VCAPCD) is authorized to adopt thresholds of significance for GHG emissions. To date, VCAPCD has evaluated multiple options, but has not made a decision to adopt any of these options. VCAPCD is leaning toward the adoption of thresholds of significance for land use development consistent with those adopted by the South Coast Air Quality Management District (SCAQMD). On December 5, 2008, SCAQMD Governing Board adopted a proposal for an interim GHG threshold of significance for projects where the SCAQMD is lead agency. The threshold of significance is applicable for stationary sources and can be used for determining significant impacts for proposed projects (SCAQMD 2008). Under the interim thresholds of significance, projects can emit up to 10,000 MT per year of CO_2e before being deemed as having significant impacts. GHGs resulting from the Proposed Project were calculated using CalEEMod and compared to the SCAQMD threshold of 10,000 MT per year of CO_2e.

3.7.2.2 Significance Thresholds

3.7.2.3 Project Impacts

The following criteria for GHG is consistent with Appendix G of the CEQA Guidelines. The proposed project would result in a significant impact if it would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- *Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?*

An affirmative answer to any of the questions above represents a significant impact on the environment associated with the proposed project.

Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project would generate GHGs during construction and operation activities. Detailed GHG calculation input data and results are presented in Appendix C. A summary of GHG emissions from construction and operation activities of the proposed project including, significance with respect to the SCAQMD threshold of 10,000 MT of CO_2e is presented in Table 3-18.

Table 3-18. Annual Greenhouse Gas Emissions

Phase	CO_2e (MT)
Construction 2019	513
Construction 2020	148
Operation	2,560
Threshold	10,000
Significant?	No

As identified in Table 3-18, GHG emissions generated by the proposed project would not exceed the identified threshold and therefore project impacts are considered less than significant.

Would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

As noted above, GHG emissions generated by the proposed project would not exceed the SCAQMD threshold of 10,000 MT of CO_2e. Neither, construction nor operation of the proposed project is expected to conflict with any applicable plan, policy or regulation of any agency adopted for the purposed of reducing the emissions of greenhouse gases. Therefore project impacts are considered less than significant.

3.7.2.4 Cumulative Impacts

The proposed project would contribute GHGs which would add to GHG emitted locally and globally. However, the GHG emissions from the proposed project would not exceed the SCAQMD interim threshold of 10,000 MT per year of CO_2e and therefore cumulative project impacts are considered less than significant.

3.7.2.5 Mitigation Measures

No mitigation measures are required for the reduction of GHG emissions associated with the proposed project.

3.7.2.6 Level of Impact After Mitigation

No mitigation measures are required, project impact is considered less than significant.

3.8 HAZARDS AND HAZARDOUS MATERIALS

This section discloses potential hazards and hazardous material impacts that may result from implementation of the proposed project. Technical studies that were reviewed and utilized in the analysis are identified below and included in the appendices to this document.

- *Soil Management Plan, Elementary and Middle Schools, Southeast Corner of Doris Avenue and North Patterson Road, Oxnard California* (ATC Group Services [ATC] 2017b) (Appendix F)
- *Preliminary Endangerment Assessment Report, Proposed Elementary and Middle Schools, Southeast Corner of Doris Avenue and North Patterson Road, Oxnard California 93030* (ATC 2017a) (Appendix F);
- *Phase I Environmental Site Assessment Doris Patterson New Academy Site Acquisition, Oxnard School District, Oxnard California* (Ninyo & Moore 2015) (Appendix G);
- *Pipeline Risk Analysis, Oxnard School District, Doris Avenue/Patterson Road Educational Facilities, Oxnard, California* (J House Environmental, Inc. [JHE] 2017) (Appendix H); and
- *Aircraft Hazard and Land Use Risk Assessment for Doris Avenue/Patterson Road Educational Facilities Project, Oxnard California* (Heliplanners, Inc. [Heliplanners] 2017) (Appendix I).

As noted in the Initial Study (Appendix A), the proposed project would not: create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; be located within the vicinity of a private airstrip; impair implementation of or physically interfere with an adopted emergency response plan; or result in significant wildland fire risk.

3.8.1 Environmental Setting

3.8.1.1 Existing Conditions

The project site is currently agricultural land that has been farmed since at least 1938. A Preliminary Endangerment Assessment (PEA) was performed under regulatory oversight from the California Department of Toxic Substances Control (DTSC). The PEA identified two potential sources for environmental hazards for the proposed project; pesticides in soil from historical and current agricultural use; and the potential for soil gas impacts from an oil field and from high pressure natural gas pipelines near the proposed project site. The Phase I Environmental Site Assessment (ESA) identified high pressure natural gas and water pipelines and the proximity to an airport as potential hazards.

Pesticides in Soil

The PEA evaluated the project site for pesticides and herbicides in surface soils (ATC 2017a). Thirty-six soil borings were drilled in a grid pattern evenly distributed across the project site and surface soil samples were collected at 0 to 0.5-foot bgs and 36 shallow subsurface soil samples were collected at 2.0 to 2.5 feet bgs. The 36 surface soil samples were combined into nine composite samples and analyzed for organochlorine pesticides (OCPs). Nine discrete soil samples were analyzed for arsenic. The 36 subsurface soil samples were held by the laboratory pending review of the surface soil OCP analysis results. The soil samples results were compared to U.S. EPA Regional Screening Levels (RSLs) for residential soil to evaluate their potential toxicity. The OCP Toxaphene was detected at concentrations above the RSL for residential soil of 490 micrograms per kilogram (µg/kg) in all nine composite surface soil samples at a maximum concentration of 2,510 µg/kg. Due to the detection of Toxaphene at concentrations exceeding the RSLs in all the surface composite soil samples, the 36 subsurface soil samples were combined into nine composite samples and analyzed for OCPs. Toxaphene was detected eight of the nine subsurface composite soil samples with concentrations above the RSL in four samples and at concentrations less than the RSL in four others. Arsenic was detected at concentrations between 3.01 and 3.76 milligrams per kilogram (mg/kg), which is less than the DTSC screening level for arsenic at school sites of 12 mg/kg. The concentrations of arsenic detected in soil were therefore determined to be consistent with background concentrations.

Soil Gas Evaluation

A soil vapor survey was performed at the Site following applicable DTSC and Regional Water Quality Control Board (RWQCB) protocols for the PEA (ATC 2017a). Soil vapor samples were collected from ten direct-push boring locations at 5 and 10 feet bgs and analyzed in an on-site laboratory for methane and hydrogen sulfide using a handheld instrument. Methane was detected in four soil vapor samples collected 5 feet bgs at concentrations ranging from 10.28 parts per million by volume (ppmv) in the center of the site to 15.26 ppmv near the northeastern corner of the site. Methane was detected at 15.22 ppmv in one sample collected in the central western site at 15 feet bgs. The maximum concentration of methane detected, 15.26 ppmv, is equivalent to approximately 0.03% of the Lower Explosive Limit (LEL), and is not considered to be a hazard to the site. No hydrogen sulfide was detected in soil gas at the site.

Aircraft Hazard and Land Use Risk Assessment (AHLRA)

The Phase I ESA indicated that the proposed project is located within 0.3 mile of a public airport (Ninyo & Moore 2014). The project is within the Oxnard Airport SOI and Oxnard zoning ordinance 2132, Part 6, Section 36-5.13.0 (Airport Hazard Overlay Zone) subject projects within the SOI to an assessment of potential risk from aviation activities. Heliplanners performed an AHLRA for the project site in October 2017 to analyze the potential aircraft hazards and land use risks for the proposed project from the Oxnard Airport (Heliplanners 2017).

The airport has one runway, designated Runway 7 on the west and Runway 25 on the east, indicating magnetic bearings of approximately 070 and 250 degrees, respectively. The paved area is 5,953 feet long and 100 feet wide. The proposed project is located approximately 1,800 feet north of Runway 7/25, within the Oxnard Airport SOI boundary. The Oxnard Airport SOI, which encompasses the project site, is an area designated “for the coordination and review of land use proposals which may affect or be affected by the operations at Oxnard Airport”, according to the City of Oxnard General Plan.

Runways 7 and 25 are equipped with both “precision” and “non-precision” instrument landing systems (ILS) to aid in pilots in various weather conditions. The ILS provides “precision” vertical and horizontal guidance for approach from the east for Runway 25, but only provides “non-precision” horizontal guidance for Runway 7 when approaching from the west. The primary approach and take-off direction is to the west on Runway 25 due to the prevailing onshore wind direction. These conditions account for most take-off and landing traffic, with about 7% of remaining traffic taking off or landing on Runway 7 when calm or easterly wind conditions prevail. Historical operations counts (take-off or landing operations), including general aviation, commuter, air taxi, and military traffic were tabulated in the AHLRA for 1990 to 2016. The data shows that there has been a steady decline in airport traffic from 1990 to 2012 (152,236 to 54,611 operations, respectively). Although there has been an increase in operations during the last three years of record; the number operations in 2016 (74,151) were less than half of the activity reported in 1990.

The AHLRA compiled a list of aircraft accidents in the Oxnard Airport SOI to evaluate accident risks (Heliplanners 2017). There have been six significant accidents involving approaches or departures of aircraft inside the Oxnard Airport SOI and three outside the SOI, but nearby, since 1979.

High Pressure Natural Gas and High Volume Water Pipelines

There is a 10-inch high pressure natural gas pipeline operated by the Southern California Gas Company (SCGC) approximately 1,000 feet south of the proposed project along the south shoulder of Teal Club Road, approximately parallel to the roadway (Ninyo & Moore 2014; Tetra Tech 2017). A high volume municipal water main (12-inch diameter and greater) operated by the City of Oxnard was also identified in the right-of-way beneath Doris Avenue (Tetra Tech 2017).

3.8.1.2 Regulatory Setting

The EPA defines a hazardous waste as a substance that (1) may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness; and (2) poses a substantial present or potential future hazard to human health or the environment when it is improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous waste is also defined as ignitable, corrosive, explosive, or reactive (Code of Federal Regulations [CFR] Title 40: Protection of the Environment, Part 261) (LSA Associates, Inc. (LSA) 2013).

A material may also be classified as a hazardous material if it contains defined amounts of toxic chemicals. The EPA has developed a list of specific hazardous wastes that are in the forms of solids, semisolids, liquids, and gases. Producers of such wastes include private businesses and federal, State, and local government agencies. The EPA regulates the production and distribution of commercial and industrial chemicals to protect human health and the environment. The EPA also prepares and distributes information to further the public's knowledge about these chemicals and their effects and provides guidance to manufacturers in pollution prevention measures, such as more efficient manufacturing processes and recycling used materials (LSA 2013).

Federal Regulations and Policies

Hazardous Materials Regulations (CFR Titles 10, 29, 40, and 49)

The EPA, the Occupational Safety and Health Administration (OSHA), and the United States Department of Transportation (DOT) regulate hazardous materials. Federal regulations for hazardous materials are primarily found in CFR Titles 10, 29, 40, and 49. In particular, CFR Title 40 Part 261 governs the identification and listing of hazardous wastes, their storage, and disposal.

Federal laws include the following major statutes (and regulations issuing from them):

- **Resources Conservation and Recovery Act (RCRA)**, Hazardous waste management;
- **Hazardous and Solid Waste Amendments Act (HSWA)**, Hazardous waste management;
- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, Cleanup of contamination and funding for responses;
- **Superfund Amendments and Reauthorization Act (SARA)**, Cleanup of contamination; and
- **Emergency Planning and Community Right-to-Know (SARA Title III / EPRCRA)**, Business inventories, emergency response planning, and notification.

The EPA is the primary federal agency responsible for the implementation and enforcement of hazardous materials regulations. In most cases, enforcement of environmental laws and regulations established at the federal level is delegated to State and local environmental regulatory agencies (LSA 2013).

Federal OSHA (29 USC 651 et seq.)

OSHA established requirements for workers involved in the handling, use, and disposal of hazardous materials, including emergency response, hazard communication, and personal protective equipment. The law also requires manufacturers to prepare safety data sheets (SDSs) which describe the proper use of hazardous materials) and provide SDSs to shippers, product end users, and workers (LSA 2013).

Hazardous Waste Operations Emergency Response (HAZWOPER)

OSHA requires special training under 29 CFR 1910.120 for workers who handle hazardous materials, and requires notification to employees who work in the vicinity of hazardous materials. HAZWOPER also requires employers to train personnel to respond to accidental releases of hazardous materials.

OSHA also regulates lead and asbestos exposure as it relates to worker safety (LSA 2013).

Federal Aviation Regulations (FAR) Title 14 Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

The FAA uses these standards for determining whether objects may obstruct safe air navigation. Part 77 defines a number of “imaginary surfaces” extending from the runway that are utilized by the FAA to gage potential flight hazards prior to construction of project near airfields. The “horizontal surface” is established at 150 feet above the elevation level of the airport (for Oxnard Airport this elevation is 45 feet amsl, while “transitional surfaces” extend up and away from the primary approach surface edges and rise at a 7:1 slope until reaching the horizontal surface at 195 mean sea level (MSL). Any proposed structures that breach these surfaces are subject to review by the FAA. The FAA would issue a determination of a hazard to air navigation if they find a safety problem (LSA 2013).

State Regulations and Policies

State agencies have been delegated by federal law to implement federal hazardous materials and hazardous waste regulations under RCRA. Where state regulations are more restrictive, hazardous wastes are regulated under the California HSC (LSA 2013).

The DTSC and the Regional Water Quality Control Boards (RWQCBs) have been assigned jurisdiction over hazardous chemical materials management by the State Legislature. DTSC administers the State’s hazardous waste program and implements the federal (RCRA) program in California. The nine RWQCBs in the State issue and enforce National Pollutant Discharge Elimination System (NPDES) permits and regulate LUSTs and other sources of groundwater contamination. Other State agencies involved in hazardous materials management are the Department of Industrial Relations (State OSHA implementation), Office of Emergency Services (OES—California Accidental Release Prevention implementation), California Department of Fish and Wildlife (CDFW), California Air Resources Board (ARB), Caltrans, State Office of Environmental Health Hazard Assessment (OEHHA) (Proposition 65 implementation), the Department of Resources Recycling and Recovery (CalRecycle) (operation of landfills and waste handling/disposal facilities), and the State of California Division of Oil, Gas, and Geothermal Resources (DOGGR). The enforcement agencies for hazardous materials transportation regulations are the California Highway Patrol (CHP) and Caltrans (LSA 2013).

Government Code Section 65962.5

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites (LSA 2013).

California Code of Regulations and California Health and Safety Code

The CCR and the California HSC incorporate the requirements of the federal RCRA Subtitle I and set registration and permitting requirements, construction/operational standards, closure requirements, licensing of UST contractors, financial responsibility requirements, release reporting/corrective action requirements, and enforcement. Additionally, these provisions regulate the abatement process in the event of contamination of hazardous wastes. Specifically, the California HSC establishes standards, regulations, and requirements for the installation, inspection, registration, maintenance, and abandonment of USTs (LSA 2013).

Emergency Planning and Community Right-to-Know (Proposition 65)

These regulations require worker notification of hazardous substances in the workplace. Parts of Title 8 of CCR Sections 1532.1 and 1529 provide for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to lead and asbestos as well as regulate abatement and disposal of these materials.

Oil and Gas Resources Regulations (Title 14, Chapter 4)

This chapter of the CCR establishes requirements for the development, regulation, and conservation of oil and gas resources. Specifically, Section 1723, et seq. establishes well abandonment rules for oil and gas wells and Section 1981 lays out standards for modifying existing wells and expands standards for plugging abandoned wells. The California DOGGR supervises the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells to ensure compliance with Title 14 and other regulatory requirements for oil and gas development (LSA 2013).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (27 CCR Division 1, Subdivision 4, Chapter 1, Sections 15100–15620)

Created by State legislation in 1993 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities, the Unified Program legislation empowered Cal-EPA to grant qualifying local agencies oversight and permitting responsibility for the following emergency and management programs:

- Hazardous materials release response plans and inventories (business plans);
- California Accidental Release Prevention Program (CalARP);
- Underground Storage Tank (UST) Program;
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure Plans;
- Hazardous Waste Generator and On-site Hazardous Waste Treatment (tiered permitting) Programs; and California Uniform Fire Code: hazardous material management plans and hazardous material inventory statements.

The proposed project is located in an unincorporated area of Ventura County that is proposed for annexation to the City of Oxnard. The Ventura County Certified Unified Program Agency (CUPA) provides oversight for these programs in Ventura County and the Oxnard Fire Department administers these programs in the City (LSA 2013).

CEQA Public Resources Code (PRC) Section 21151.8 (School Sites and Hazardous Materials); CEQA Guidelines, Section 15186 (School Facilities)

Prohibits lead agencies from approving environmental documents for any project involving the purchase of a school site or the construction of a new school where public funds are used. Purchase or development with public funds is specifically prohibited the following school development sites:

- Current or former hazardous wastes sites;
- Sites that contain hazardous materials pipelines (above or below ground); or
- Or have facilities located within 0.25-mile of the proposed school site that may reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

For proposed school sites within 0.25-mile of potential emitters or handlers of hazardous or acutely hazardous material/substance/wastes the lead agency must find that there is not an actual risk, or that the risks have been mitigated to a level that there is not actual or potential endangerment of public health. The DTSC, as the assigned lead agency for California school development projects using public funds, uses a well-defined process to evaluate risks and approve school sites for purchase or development that includes preparation of Phase I ESAs and PEAs to identify and evaluate actual risk.

Education Code, Sections 17213.1, 17213.2, and 17268

These statutes require extensive DTSC involvement in the environmental review process for projects that will receive State funding. Prior to acquiring a school site or approving a school construction project, school districts must complete a number of environmental review steps that may include the following documents:

- **Phase I ESA:** The Phase I ESA must contain sufficient information to determine whether there is a potential for exposure to hazardous materials and must conclude that either (1) a further investigation of the site is not required, or (2) further investigation is necessary.
- **PEA:** If a school district chooses to proceed with a PEA, it must enter into an Environmental Oversight Agreement with DTSC to oversee preparation of the PEA. DTSC must then assist the district with scoping the work plan for the PEA investigation. Sampling could include soil gas, soil matrix, groundwater, and other sampling and calculation of cancer risks and non-cancer risks. Based on information developed during the PEA and a conservative human and ecological risk evaluation, the DTSC would then make a decision regarding potential risks posed by the site. Possible outcomes of the DTSC's decision include the following:
    - The process continues through a **Remedial Investigation/Feasibility Study** process if the site is found to be significantly impacted by hazardous materials, and the school district elects to continue to pursue site development;
    - **Removal Action**: if localized hazardous impacts are found that can eliminate or mitigate conditions through excavation; and
    - Issuance of a "No Further Action" finding if the site is found not to be significantly impacted and risks to human health and the environment are found to be within acceptable levels based on the conservative screening level human health risk assessment. Any human health risk assessment must be quantitative for both residential and school-based receptors. The effort entails data aggregation, selection of chemicals of potential concern, exposure assessment, toxicity assessment, and risk characterization.
- **Removal Action:** A school district can choose to enter into a Voluntary Cleanup Agreement (VCA) with DTSC if the district elects to perform a removal action to prepare the site for use as a school site where the presence of contaminants have been confirmed through a PEA that exceed human health risk assessment guidelines for protectiveness for school-based receptors.

Before a site's school buildings can be occupied, DTSC must certify that all response actions that are necessary to ensure that hazardous materials at the school site no longer pose a significant risk to children and adults, except for operation and maintenance activities, have been completed (LSA 2013).

Education Code, Section 17215

Before acquiring title to property for a new school site, the school district governing board is required to notify the California Department of Education (CDE) of the proposed acquisition, if the proposed site is within 2 miles of an airport runway or a potential runway is included in an airport master plan that is nearest to the site. CDE must then notify the Department of Transportation (DOT), which in turn would investigate the proposed site and submit a written report of its findings, including recommendations concerning acquisition of the site. As part of the investigation, the owner and operator of the airport would be granted the opportunity to comment upon the proposed school site. If the written report does not favor the acquisition of the property for a school site, State funds or local funds cannot be used for acquisition of, or school construction at, the subject site (LSA 2013).

Education Code, Section 17251; CDE Regulations, 5 CCR Section 14010 (Standards for School Site Selection)

Section 17251 requires CDE to establish standards for use by school districts in assessing school sites. The CDE regulations adopted pursuant to Section 17251 contain the following standards for school sites, among others:

- The site shall not be adjacent to a road or freeway that any site-related traffic studies have determined will have safety problems (5 CCR Section 14010[e]).
- The site shall not be located near an aboveground water or fuel storage tank or within 1,500 feet of the easement of an aboveground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission (5 CCR Section 14010[h]).

- If the proposed site is on or within 2,000 feet of a significant disposal of hazardous waste, the school district shall contact the DTSC for a determination of whether the property should be considered a Hazardous Waste Property or Border Zone Property (5 CCR Section 14010[t]).

There are several additional elements listed under these sections of the Education Code, CDE Regulations, and CCR that were evaluated in the IS and were not carried forward to the EIR (LSA 2013).

CDE School Facilities Planning Division, School Site Selection, and Approval Guide (CDE 2001)

The site selection guide outlines the requirements of the CDE regulations for site selection that are described above and includes recommendations that are designed to ensure a safe school environment and facilitate State approval of sites. The guide helps school districts determine compliance with the requirements of CDE Regulations Section 14010 et seq. and Education Code Section 17213 et seq. (LSA 2013).

Local Policies and Regulations

Within the City of Oxnard, Oxnard Fire Department has jurisdictional responsibility as the CUPA.

3.8.2 Impact Analysis

3.8.2.1 Methodology

The CDE has several requirements for analyzing new school sites related to hazards and hazardous materials (Section 3.8.1.2).

The hazards and hazardous waste issues carried forward from the Initial Study include the following:

- Aboveground and underground storage tanks or pipelines;
- Proximity to known hazardous waste sites; and
- Proximity to airports.

These hazards and hazardous materials issues were analyzed in the reports cited in the introduction to Section 3.8. The reports included site reconnaissance, soil sampling historical research, risk assessment, and findings and recommendations. The information in these reports has been used to assess hazards and hazardous materials impacts as they pertain to CEQA compliance.

3.8.2.2 Significance Thresholds

The thresholds for Hazards and Hazardous Materials used in this analysis are consistent with Appendix G of the State CEQA Guidelines. The effects of the proposed project related to Hazards and Hazardous Materials are considered to be significant if the proposed project would:

- *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.*
- *Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.*
- *Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.*
- *Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area.*

3.8.2.3 Project Impacts

Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The proposed project would not create a significant hazard to the public or the environment involving the likely release of hazardous materials. The proposed project would not handle or generate large quantities of hazardous materials. Potential hazardous materials used on-site include those needed during short-term temporary construction activities such as architectural coatings and sealants. During long-term operations, small quantities of potential hazardous materials stored at the school would include cleaners (e.g., disinfectants, bleach) and office supplies (e.g., toner). As is standard for schools, these materials would be kept in cabinets or supply rooms and therefore, would not be considered a hazard to students, staff, or the public.

The project site is located within 1,500 feet of a high pressure natural gas pipeline and a high volume water pipeline. There is a 10-inch high pressure natural gas pipeline operated by the Southern California Gas Company approximately 1,000 feet south of the proposed project along the south shoulder of Teal Club Road, approximately parallel to the roadway (Ninyo & Moore 2014; Tetra Tech 2017). A high volume municipal water main (12-inch diameter and greater) operated by the City of Oxnard was also identified in the right-of-way beneath Doris Avenue (Tetra Tech 2017).

CCR Title 5, Education Section 14010(h) requires that new school sites shall not be located within 1,500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study conducted by a competent professional. Hazardous pipelines are defined as:

- Pipelines carrying chemical products, natural gas, and other hydrocarbon products that are operating at a pressure of 80 pounds per square inch gauge (psig) or higher; and
- High-volume water lines, which are defined as water lines 12 inches or greater in diameter, and include open aqueducts of comparable and greater volume handling capacity.

A Pipeline Risk Assessment (PRA) was performed by JHE in August 2017 to evaluate whether the 10-inch diameter SCGC natural gas pipeline or City of Oxnard high volume water pipeline could pose and unacceptable safety hazard to the project site (JHE 2017). The risk analysis was prepared in accordance with guidelines set forth in the February 2007, California Department of Education (CDE) Guidance Protocol for School Site Pipeline Risk Analysis (CDE Protocol) (CDE 2007).

The Pipeline Risk Assessment for the natural gas pipeline indicated that the estimated annual individual risk associated with the SCGC 10-inch diameter high-pressure natural gas distribution pipeline is 8.6x10-10, well below the CDE risk threshold for new school facility sites of 1x10-6. Therefore, the population risk indicator for the project site is zero for the high-pressure natural gas pipeline and the high-pressure natural gas pipeline is not considered to pose an unacceptable safety hazard for school facility development at the proposed educational facilities site (JHE 2017).

The high-volume water pipeline risk analysis indicated that in the unlikely event of failure of the City of Oxnard municipal water distribution pipeline located within the Doris Avenue right-of-way, portions of the project site could be subject to physical impact and sheet flow runoff. This east-west trending pipeline is located approximately 5 feet north of the northern boundary of the project site. Physical impacts would be greatest within approximately 25 feet of the pipeline alignment. Released water would be expected to flow across much of the project site. However, the depth of water would not be expected to exceed 0.5 to 1.0 feet and potential inundation at the project site is not, therefore, considered to pose a significant safety hazard.

JHE recommended that site development plans take the presence of the high-volume municipal water distribution pipeline into consideration with the goal of minimizing student and staff use of areas within 25 feet of the pipeline alignment. The conceptual site plan is consistent with this recommendation with the nearest structure

(Administrative Building) located 37 feet from Doris Avenue. Nonetheless, Mitigation Measure HAZ-1 has been added that requires areas in closest proximity to the high-volume water pipeline to be considered for low average occupancy level uses, such as parking lots, or designated as landscaped “buffer” areas. This mitigation measure was added to ensure that final project design maintains an adequate setback distance from the high pressure water pipeline.

To provide an added degree of risk management, Mitigation Measure HAZ-2 has been added that requires any emergency plan documents that are prepared for the educational facilities to identify the presence of the high-pressure natural gas pipeline and the high-volume municipal water distribution pipeline and include an emergency contact list with phone numbers to be used in the event of an incident. With implementation of Mitigation Measures HAZ-1 and HAZ-2 project impact would be less than significant.

Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Pesticide Hazards

Historical and current use of the property has been for agriculture. Agricultural uses may potentially represent an environmental concern, as the use of pesticides on the property may result in residual pesticides in the surface soils. Based on the fact that future development of the property includes planned school sites, large areas of the site are scheduled to be disturbed by demolition, grading, and reconstruction. These activities may result in the completion of ingestion, inhalation, and dermal exposure pathways via wind-blown dust, soil carried to different parts of the site by heavy equipment, and adhesion to site worker clothing.

A Screening Health Risk Assessment was performed as part of the PEA to estimate non-carcinogenic and carcinogenic human health risks posed by OCP and arsenic concentrations in soil in accordance with EPA and DTSC guidance (ATC 2017a). The PEA Screening Health Risk Assessment for human health effects involves identifying potential chemicals of concern and comparing a calculated dose for these chemicals to health-based levels developed by EPA and DTSC. For the PEA screening evaluation, the Screening Health Risk Assessment evaluated potential exposures, doses, and risks for four potential on-site receptors, including hypothetical resident, future school worker, future student, and construction worker exposure scenarios. For this analysis, the Screening Health Risk Assessment was performed utilizing data obtained from the December 2016 site assessment.

Exposure to chemicals can only occur if there is a complete pathway by which chemicals in site soil, water, or air can be contacted by humans. Therefore, the evaluation of exposure pathways is the first step in the human health screening evaluation. Potential dose and risk are then calculated based on an evaluation of potential exposure concentrations of chemicals of concern, and the toxicity of the chemicals.

Following development, it is anticipated that only limited portions of the site would be exposed and available for contact by future students and school workers. The potential for direct contact with soil under anticipated future site conditions is expected to be minimal. Consistent with agency guidance for baseline risk assessments, it was assumed that the site will be uncovered and that bare soils will be available for contact for the purpose of the screening human health evaluation. Consequently, children attending the school, certain school staff, and workers engaged in construction activities could potentially be exposed to site chemicals through incidental ingestion, dermal contact, and inhalation of vapors and particulates from chemicals in soil.

Chemicals of Potential Concern (COPCs) include constituents that are present in soil that may result in adverse health effects under the defined conditions of exposure. The PEA sampling activities included analysis for arsenic, a naturally-occurring element that may also be associated with historical arsenic based pesticides, and organochlorine pesticides (OCPs). The Screening Health Risk Assessment concluded that the estimated upper-bound hazard indices for non-carcinogenic human health risk are 0.2 for the hypothetical future site resident, 0.014 for the site worker, 0.067 for the construction worker, and 0.019 for the student. The results of the

Screening Health Risk Assessment indicated that the presence of OCPs in soil is not expected to result in adverse, non-cancer health impacts to any of the potential receptors evaluated.

Estimates of potential cumulative upper-bound lifetime incremental cancer risks ranged from 6.3x10-6 for the hypothetical future resident to 2.6x10-7 for the construction worker scenarios. The lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of 1x10-6 typically utilized by DTSC to determine whether a removal action is warranted to protect human health for unrestricted land uses. Upper-bound lifetime incremental cancer risk estimates for the school site receptors are 1.3x10-6 for the site worker, 2.6x10-7 for the construction worker, and 6.9x10-7 for the student. The lifetime incremental cancer risk estimates are consistent with or below the DTSC's 1x10-6 point of departure for the site worker, site student, and construction worker. Based on the results of the Screening Health Risk Assessment, the concentrations of OCPs, including toxaphene, detected in soil samples collected during this investigation would pose a significant risk to the hypothetical future resident but do not present a significant risk to future site workers, students or construction workers.

While no residential uses are proposed as part of the project, the Screening Health Risk Assessment did indicate that the lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of 1 x 10-6 utilized by DTSC. In the event that unrestricted (residential) use of the property is desired, consideration should be given to performing removal or remedial actions designed to reduce the concentrations of toxaphene in soil to levels that are suitable for residential use.

In a letter dated May 4, 2017, DTSC approved the PEA report requiring that a Land Use Covenant (LUC) be implemented to limit the project site's future use to non-residential purposes and a Soil Management Plan (SMP) be prepared to protect site workers during grading operations (DTSC 2017a). A SMP was prepared, dated May 17, 2017 (ATC 2017b), that should be implemented during grading activities at the project site. DTSC approved the SMP in a letter dated June 14, 2017 (DTSC 2017b). Mitigation Measure HAZ-3 has been incorporated to ensure that the LUC be prepared and implemented under DTSC oversight to the satisfaction of DTSC. Mitigation Measure HAZ-4 has been incorporated to ensure that the SMP is implemented to the satisfaction of DTSC. With compliance with Mitigation Measures HAZ-3 and HAZ-4, the project impact would be less than significant.

Potential Soil Gas Hazard

The PEA found levels of methane in soil gas that would not result in significant impacts to any receptors for the proposed project (ATC 2017a). The maximum detection of methane in soil gas (15.26 ppmv) fell at a level far below the LEL. Soil gas emissions from the underlying oil field or nearby high pressure natural gas pipelines thus do not pose a significant impact to the project site. Therefore, project impact would be less than significant.

Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The project site is not located on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. Therefore, no project impact would result.

Would the project be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?

The proposed project lies within the Oxnard Airport SOI and the site's southern and northern boundaries lie approximately 1,800 feet and 2,700 feet respectively from the runway centerline. Decisions regarding development projects near airports should not be taken lightly as aircraft accidents can have disastrous implications. Consequently, agencies at federal, state, and local levels have developed various criteria to help guide local planning agencies in their decision-making (Heliplanners 2017).

The project site does not lie within the areas addressed by planning standards published by the FAA in its Airport Design advisory circular. Caltrans Aeronautics Division recommended exploring other sites further from the runway, but does not recommend against the proposed site based on their evaluation of existing conditions. The California Airport Land Use Planning Handbook discourages schools within the Traffic Pattern Zone, but does not prohibit them. The handbook's recommendations within specific zones are not meant to override local Airport Land Use Commission findings.

The Ventura County Transportation Commission (VCTC) acts as the County's Airport Land Use Commission (ALUC) per state law. The VCTC is charged with reviewing land use proposals within certain planning boundaries, with the goal of promoting compatibility between airport operations and nearby land uses. These boundaries are defined in the Commission's Airport Comprehensive Land Use Plan (CLUP) for Ventura County. The project site lies within the Traffic Pattern Zone (TPZ) defined by the CLUP. According to the CLUP adopted land use compatibility standards in safety zones for civilian airports (CLUP Table 6B), schools are an unacceptable use in the TPZ. The VCTC, acting as the Airport Land Use Commission for Ventura County has the responsibility of making an official finding of consistency or inconsistency. In a letter addressed to Caltrans Division of Aeronautics, dated July 23, 2014, the VCTC found the proposed project to be inconsistent with the CLUP, and stated concerns related to the students' safety in the event of an aircraft accident on-site.

The County of Ventura Department of Airports also found the school site to be unacceptable as proposed, referencing CLUP considerations, noise, and safety (August 8, 2014). Should the School District choose to pursue the site, the Department of Airports requests that an avigation easement be granted as a condition of development. They requested that the easement require parent notification of proximity to the airport and the associated traffic pattern, noise, and safety hazards therein. OSD is tentatively agreeable to granting such an easement subject to the District's formal legal review and concurrence.

An analysis of imaginary surfaces defined in FAR Part 77 indicates that the proposed structures within the Doris Avenue/Patterson Road Education Facilities Project would likely comply with all relevant criteria and would not be considered obstructions or hazards to aviation. However, the project must be submitted to the FAA for an obstruction evaluation prior to construction because buildings and other elements would penetrate the FAR Part 77-specified "notice surface", which represents a threshold level for FAA review. This can normally be done as a blanket application covering the entire proposed development, provided structural heights are known (or covered from a conservative "worst-case" perspective). Attention should be given to locations and heights of trees (at maturity) and powerlines, light standards, etc. once that information is available. Proactive measures can normally be taken to ensure that these items will not violate FAR Part 77 criteria. Mitigation Measure HAZ-5 has thereby been added to ensure compliance with FAR Part 77 requirements.

An aircraft accident can occur at any time and at any place. An accident within or near the project site could involve an aircraft taking off from or landing at Oxnard Airport or it could involve an aircraft enroute between two other airports, with no connection to Oxnard Airport. There is no way to completely guard against such occurrences. We can, however, assess the relative probability of an accident occurring within a specific area. One method of estimating aircraft accident potential within or immediately adjacent to the project site resulted in a probability of an occurrence every 462 years. However, there are no "standards" that specifically address this issue. Only local decision-makers can determine if this level of probability is acceptable to a proposed school within the Oxnard community.

The City of Oxnard CEQA Guidelines does identify a risk matrix for upset hazards. Based on this criteria, criticality classifications of upset hazards from an accident could range from negligible to disastrous. A probability of an occurrence every 462 years would have a frequency classification of unlikely (Between once in 100 and once in 10,000 years). An event that could result in no injuries or a few minor injuries would be classified less than significant. An event that could result in up to 10 severe injuries or greater would be classified as significant. (Oxnard 2017). In order to account for the "worst-case scenario" project impact from airport hazards would therefore be considered potentially significant and unavoidable.

3.8.2.4 Cumulative Impacts

The proposed project would result in a less than significant contribution to cumulative impacts on hazardous materials. The proposed project and all new building projects within the surrounding study area (City and the County) would be required to comply with the applicable State and local requirements, including, but not limited to, the DTSC, CDE, FAR, Caltrans DOA, Ventura County, and the City of Oxnard, and would be required to implement recommendations of the site-specific PEA Report and associated DTSC approval letters, and the PRA Report.

The proposed project would contribute to the cumulative effect of reduction in potential emergency landing areas surrounding Oxnard Airport. However, lands north and west of the airport are devoted to agricultural or open space uses within the San Buenaventura-Oxnard Greenbelt, which is protected from future development. Those lands would therefore remain available for emergency landings if needed. As noted above, the City of Oxnard CEQA Guidelines does identify a risk matrix for upset hazards. An event that could result in up to 10 severe injuries or greater would be classified as significant. (Oxnard 2017). Therefore, in order to account for the "worst-case scenario" project impact from airport hazards would therefore be considered potentially significant and unavoidable.

3.8.2.5 Mitigation Measures

HAZ-1: Project development plans shall take the presence of the high-volume municipal water distribution pipeline into consideration with the goal of minimizing student and staff use of areas within 25 feet of the pipeline alignment. Land within this area shall be considered for low average occupancy level uses, such as parking lots, or designated as landscaped "buffer" areas.

HAZ-2: All emergency plan(s) that are prepared for the educational facilities shall identify the presence of the high-pressure natural gas pipeline and the high-volume municipal water distribution pipeline and include an emergency contact list with phone numbers to be used in the event of an incident.

HAZ-3: An LUC shall be prepared, approved by DTSC, recorded with the County of Ventura Recorder's Office and implemented in accordance with DTSC requirements. This LUC will insure that the project site's future use is restricted to non-residential purposes.

HAZ-4: During grading and project construction activities the DTSC approved SMP shall be implemented to the satisfaction of DTSC.

HAZ-5: Prior to completion of final design, plans shall be submitted to the FAA for an obstruction evaluation to determine if buildings and other elements (including construction activities) would penetrate the FAR Part 77-specified "notice surface".

3.8.2.6 Level of Impact After Mitigation

Implementation of mitigation measures identified above would reduce potentially significant impacts related to hazards and hazardous materials to a less than significant level for all topics except for airport hazards. In order to account for the "worst-case scenario" project impact from airport hazards would be considered potentially significant and unavoidable.

3.9 HYDROLOGY AND WATER QUALITY

This section discusses the potential hydrology and water quality impacts from the proposed project. This section is partially based on the Phoenix Civil Engineering, Inc. Oxnard School District – Doris Avenue/Patterson Road Educational Facilities – Project Water Resource System Analysis (2017) (Appendix J), Teal Club Specific Plan's Water Supply Assessment prepared by Milner-Villa Consulting in August 2014 and the Teal Club Development Infrastructure Review prepared by Kennedy/Jenks in 2007.

3.9.1 Environmental Setting

3.9.1.1 Existing Conditions

Surface Water

The project site is located within the Santa Clara River Watershed, which has an area of approximately 1,634 square miles. The Santa Clara River, which generally flows in a westerly direction for approximately 84 miles, is the largest river system in Southern California that remains in a relatively natural state. The river originates on the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows to the Pacific Ocean near the City of Ventura. The climate of the watershed is characterized by long, dry periods and a relatively short wet period during winter.

The *Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Regional Water Quality Control Board [RWQCB], Los Angeles Region [Los Angeles RWQCB] 2014) (Basin Plan) applies a classification system developed by the Los Angeles RWQCB, which divides surface waters into hydrologic units, areas, and subareas. The Basin Plan indicates the project area is located within the Calleguas Hydrologic Unit (HU) (HU 30000). The Calleguas HU is divided into Hydrologic Areas (HAs) which are then divided into Hydrologic Sub-Areas (HSAs). The project area is located in the McGrath Lake HSA (HSA 202) of the McGrath Lake HA (HA 30200).

The City of Oxnard relies on storm drain facilities maintained by the City of Oxnard Public Works Department Operations Division and Ventura County Watershed Protection District (VCWPD) to convey stormwater runoff. The drainage system eventually discharges to the Pacific Ocean. The project site is located within the City of Oxnard's West Fifth Street watershed which drains approximately 802 acres (1.25 square miles). The cumulative site drainage is directed toward a 24-inch corrugated metal pipe culvert under North Patterson Road at the corner of the Teal Club Road and North Patterson Road. This culvert outlets into an open unlined drainage ditch that runs west to Victoria Avenue along the north side of Teal Club Road, before discharging to the West Fifth Street Drain. The West Fifth Street Drain ultimately discharges to the Edison Canal which is an intake canal to the Mandalay Generating Station owned by NRG Energy.

Downstream of the project site, the Channel Islands Harbor and an associated beach, Hobie Beach, are designated as impaired for bacteria (State Water Resources Control Board 2012).

Groundwater

The Oxnard Plain Groundwater Basin in the project site area extends to approximately 2,000 feet bgs. It is composed of the Oxnard Plain Forebay and the Oxnard Plain Pressure Groundwater Sub-Basin that includes a Semi-Perched Zone and clay cap that is exposed at the ground surface that is underlain by an Upper Aquifer System (UAS) and a Lower Aquifer System (LAS) (Figure 3-3). The Semi-Perched Zone is composed of geologically Recent stream-deposited sand, gravel, and clay from the that form intermittent water bearing units above the clay cap and extends to and average depth of approximately 75 feet bgs. The Semi-Perched Zone is recharged directly from infiltration of precipitation and irrigation from the ground surface. It is separated from the underlying UAS by the clay cap that is up to 180 feet thick that forms an aquitard that largely restricts hydraulic communication with the underlying UAS and LAS. Groundwater occurs near the ground surface in the Semi-

Perched Zone (Ventura County Department of Public Works 1975). Groundwater in the Semi-Perched Zone was encountered at the project site at depths ranging from approximately 14 to 21 feet bgs in soil borings completed during August 2017 (ESSC 2017). Groundwater in the Semi-Perched Zone is typically not used due to limited well yield and poor water quality. The UAS and LAS serve as the primary source for groundwater in the Oxnard region. The UAS and LAS are composed of Pleistocene age stream-deposited sands and gravels deposited by the ancestral Santa Clara River. The structure of the UAS is more planar than the LAS because the UAS is younger and has not been subjected to as much tectonic folding and faulting as the LAS. The UAS is separated from the deeper LAS by a clay lens that averages over 80 feet in thickness. Groundwater recharge to the UAS and LAS is primarily from surface and subsurface flows of the Santa Clara River that infiltrate in the Oxnard Plain Forebay located beneath the El Rio area of northern Oxnard where the Semi-Perched Zone and clay cap is not present (Ventura County Department of Public Works 1975). The City of Oxnard currently operates 10 wells for groundwater production that are completed in the UAS and LAS as part of the City's water supply. None of the City's wells are located within the project area.

Flood Hazard Zones

As shown in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Ventura County and Incorporated Areas, the project site is located within a Zone X, Other Flood Area (FEMA 2010). According to the legend included on FIRM Panel 06111C0905E (FEMA 2010) for Ventura County and Incorporated Areas, the Zone-X Other Flood Areas designation indicates areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than one foot, or with drainage areas less than one square mile; and areas protected by levees from the 1% annual chance flood.

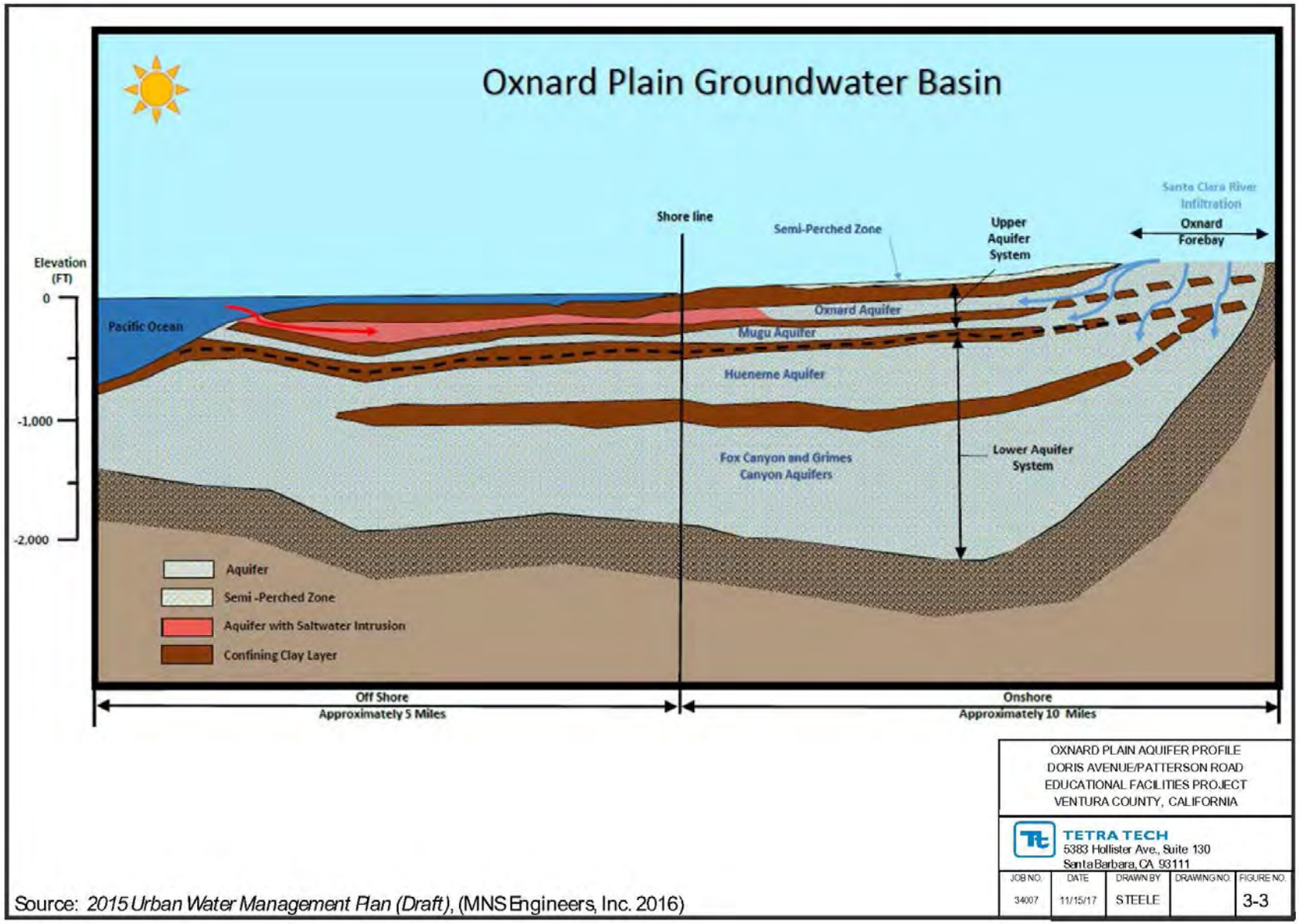
A dam that stores more than 1,000 acre-feet of water, is higher than 150 feet, and has the potential to cause downstream property damage is classified as a high hazard dam by FEMA. A review *Ventura County General Plan, Hazards Appendix (County of Ventura 2013) and the Multi-Jurisdictional Hazard Mitigation Plan for Ventura County, California* (County of Ventura 2005) indicates that there are four major reservoirs in the Santa Clara River watershed upstream of the project site that are FEMA high hazard dams that would inundate the project area in the event of a reservoir failure. The location of these reservoirs is identified in Figure 3-4 and information for each of these dams is summarized below.

Santa Felicia Dam. The Santa Felicia Dam (Lake Piru) is operated by the United Water Conservation District (UWCD), can hold up to 100,000 acre-feet of water, and is located on Piru Creek approximately 35 miles upstream of the Site. Data provided by the United Water Conservation District (UWCD) indicates that the Site would be inundated by flood waters between 4 and 4.5 after the dam failure (UWCD 1974).

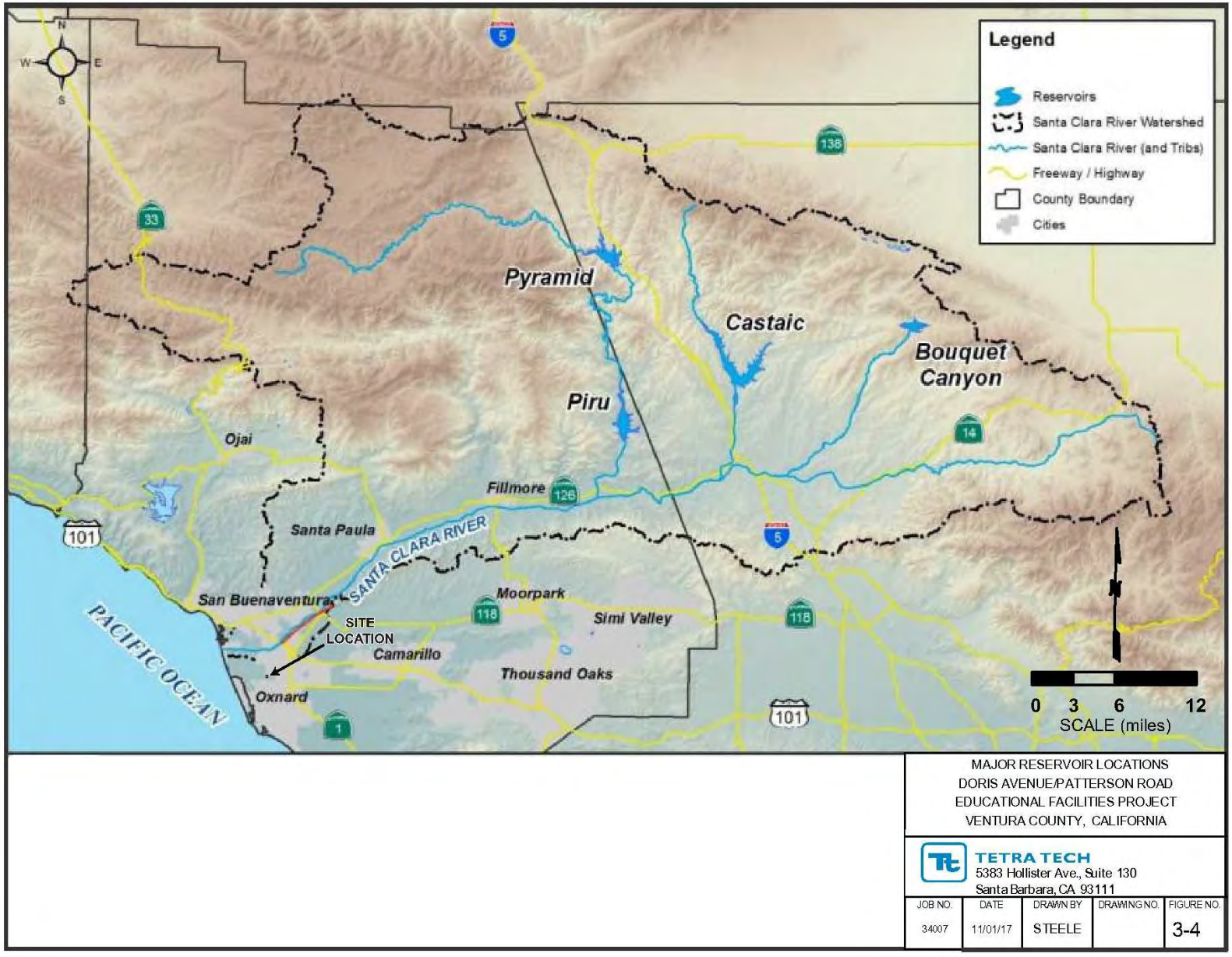
Castaic Dam. The Castaic Dam is operated by the California Department of Water Resources (CDWR), can hold up to 325,000 acre-feet of water, and is located on Castaic Creek approximately 45 miles upstream of the Site (Figure 3-4). Data provided by the CDWR indicates that the Site would be inundated by flood waters between 4 and 5 hours after a failure of the Castaic Dam (CDWR 1975).

Pyramid Dam. The Pyramid Dam is operated by the CDWR, can hold up to 179,000 acre-feet of water, and is located on Piru Creek approximately 20 miles upstream of the Santa Felicia Dam and 55 miles upstream of the Site (Figure 3-4). Data provided by the CDWR indicates that the Site would be inundated by flood waters between 4 and 5 hours after a failure of the Pyramid Dam (CDWR 1998).

Bouquet Canyon Dam. The Bouquet Canyon Dam is operated by the Los Angeles Department of Water and Power (LADWP), can hold up to 36,500 acre-feet of water, and is located approximately 60 miles upstream of the Site (Figure 3-4). Data provided by the LADWP indicates that the Site would be inundated by flood waters between 5 and 5.5. hours after a failure of the Bouquet Canyon Dam (LADWP 2015).



Source: *2015 Urban Water Management Plan (Draft)*, (MNS Engineers, Inc. 2016)


Legend
Reservoirs
Santa Clara River Watershed
Santa Clara River (and Tribs)
Freeway / Highway
County Boundary
Cities
Pyramid
Castaic
Bouquet Canyon
Piru
Ojai
Fillmore
Santa Paula
SANTA CLARA RIVER
San Buenaventura
Moorpark
Simi Valley
SITE LOCATION
Camarillo
Thousand Oaks
Oxnard
PACIFIC OCEAN
0 3 6 12
SCALE (miles)
MAJOR RESERVOIR LOCATIONS
DORIS AVENUE/PATTERSON ROAD
EDUCATIONAL FACILITIES PROJECT
VENTURA COUNTY, CALIFORNIA
TETRA TECH
5383 Hollister Ave., Suite 130
Santa Barbara, CA 93111
JOB NO. 34007
DATE 11/01/17
DRAWN BY STEELE
DRAWING NO.
FIGURE NO. 3-4

3.9.1.2 Regulatory Setting

Federal

In 1972, the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act [CWA]) was amended to prohibit the discharge of pollutants into waters of the United States from any point source unless the discharge was compliant with a NPDES permit. The CWA was amended again in 1987 to require that the United States Environmental Protection Agency (EPA) establish regulations for the permitting of stormwater discharges (as a point source) by municipal and industrial facilities and construction activities under the NPDES permit program. The CWA requires states to adopt water quality standards for water bodies, which consist of designated beneficial uses for a particular water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses. If designated beneficial uses of a particular water body are being compromised by water quality, Section 303(d) of the CWA requires states to identify and list that water body as impaired. Once a water body is deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for each impairing water quality constituent. A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards. The receiving waters for the project site, as described in greater detail below, has constituents on the 303(d) list and is considered impaired; several TMDLs have been developed to address the impairments.

State

California's primary statute governing water quality and water pollution is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and the nine RWQCB broad powers to protect water quality. The Porter-Cologne Act grants the SWRCB and RWQCB the authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require clean-up of discharges of hazardous materials and other pollutants. Each RWQCB must formulate and adopt a water quality plan for its region. The Los Angeles RWQCB has adopted a Basin Plan for its region of responsibility, which includes the project Site. The RWQCB has delineated water resource area boundaries based on hydrological features, and have identified specific beneficial uses for each of the hydrologic areas described in the Basin Plan. The Basin Plan has also established narrative and numeric water quality objectives for inland surface streams, wetlands, groundwaters, and ocean waters. If these objectives are exceeded, the Los Angeles RWQCB can use its regulatory authority to require municipalities to reduce pollutant loads to the affected receiving waters.

All construction-sites over one acre are subject to the State of California Construction General Permit (CGP), which regulates stormwater discharge from construction activities. The CGP requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) that contains specific actions, termed best management practices (BMPs), to control the discharge of pollutants, including sediment, into local surface water drainages. A Notice of Intent (NOI) to perform work under the CGP must be filed with the State.

The California's Dam Safety Act (Section 8589.5 California Emergency Services Act) requires the preparation of dam inundation maps showing areas of potential flooding in the event of sudden or total dam failure as well as emergency procedures for notification and evacuation of nearby residents (County of Ventura 2013).

Local

On June 6, 2013, the Los Angeles RWQCB adopted Order No. R4-2013-0095, General NPDES Permit No CAG994004, *Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties* (Groundwater Discharge Permit). This permit regulates discharges of treated and untreated groundwater from construction to surface waters. This Permit specifies the discharge prohibitions, receiving water limitations, monitoring and reporting program requirements, and general compliance determination criteria for groundwater dewatering during construction activities and drilling, construction, and purging of wells. Dischargers are required to collect and

analyze representative groundwater sample, and based on the results dischargers would be required to provide treatment for any toxic compounds detected above the applicable screening levels. To obtain coverage under the Groundwater Discharge Permit, each permittee must submit an NOI.

Since July 8, 2010, the County of Ventura has been subject to the *Waste Discharge Requirements for Stormwater (Wet Weather) and Non-Stormwater (Dry Weather) Discharges from the Municipal Separate Storm Sewer Systems within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein* (MS4 Permit), Permit No. R4-2010-0108, NPDES Permit No. CAS004002. The VCWPD is the Principal Permittee, and the City of Oxnard is a Co-permittee along with the County of Ventura and all of the other cities within the County. Part 4, Section E of the MS4 Permit includes Planning and Land Development requirements. The goal of the Planning and Land Development Program is to minimize runoff pollution typically caused by land development and protect the beneficial uses of receiving waters. In order to achieve this goal, the MS4 Permit requires new development and redevelopment to control pollutants, pollutant loads, and runoff volume emanating from impervious surfaces by limiting the effective impervious area (EIA) to 5% or less of the project area. New development and redevelopment must also be able to accommodate water from a 0.75-inch storm event with no water leaving the site. These requirements must be achieved through implementing BMPs. To assist developers comply with these requirements, the County developed the Ventura County Technical Guidance Manual for Stormwater Control Measures (TGM) (County of Ventura 2015). The TGM prescribes the use of stormwater management control measures for new development and redevelopment projects in the County of Ventura and the incorporated cities therein. The TGM includes guidance for mitigating potential water quality impacts from new development and redevelopment projects.

The City of Oxnard Municipal Code (OMC) Chapter 22, Article XII relates to stormwater quality management. The article prohibits non-stormwater discharges into the City's MS4. OMC Section 22-219 requires a Stormwater Pollution Control Plan (SWPCP) for new development over four lots. The SWPCP requires implementation of BMPs to effectively prohibit the entry of pollutants from the construction-site into the storm drain system during construction.

Chapters 4, 5, and 6 of the City of Oxnard 2030 General Plan (City of Oxnard 2011) describes relevant goals and policies applicable to water supply and quality, stormwater drainage, water resources, and flood control.

The Ventura County Sheriff's Department Office of Emergency Services (OES) is responsible for disaster coordination and planning including implementation of the County's Dam Failure Response Plan (County of Ventura 2013).

The relevant goals and policies applicable to new schools within the City, as applied to Hydrology and Water Quality as described in Chapters 3, 4, 5 and 6 of the City of Oxnard 2030 General Plan (2011) are described as follows.

Chapter 3 Community Development

- Goal CD 8: Sensible urban development and redevelopment based on the City's ability to provide necessary governmental services and municipal utilities.
- Goal CD 8-10, Timing of Large Scale Development: Consider at an early stage the infrastructure investment needs of large-scale developments to evaluate these needs as part of long-range water supply, conveyance, wastewater, and other relevant planning.
- Goal CD 16: Coordinated land use and infrastructure decisions with economic development.
- Goal CD 16.4, Evaluate Fiscal Impacts: Evaluate the fiscal impacts of new development and encourage a pattern of development that allows the City to provide and maintain a high level of urban services (fire and police services, water, sewer, solid waste, transportation, parks, etc.) and community facilities as well as attract targeted businesses and a stable labor force.

Chapter 4 Infrastructure and Community Services

- Goal ICS-1: Provision of adequate facilities and services that maintain service levels, with adequate funding.
- ICS-1.1, Maintain Existing Service Levels: Maintain the high priority of providing services to residents and visitors, and prevent deterioration of existing service levels.
- ICS-1.2, Development Impacts to Existing Infrastructure: Review development proposals for their impacts on infrastructure (e.g., sewer, water, fire stations, libraries, streets) and require appropriate mitigation measures to ensure that proposed developments do not create substantial adverse impacts on existing infrastructure and that the necessary infrastructure will be in place to support the development.
- ICS-1.4, Infrastructure Conditions of Approval: New development should not be approved unless:
    - The applicant demonstrates adequate public services and facilities are available;
    - Infrastructure improvements incorporate a range of feasible measures that can be implemented to reduce all public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required improvement;
    - Infrastructure improvements are consistent with City infrastructure master plans; and
    - Required infrastructure needed for future new development is self-funded.
- Goal ICS-11: Water supply, quality, distribution, and storage adequate for existing and future development.
- Goal ICS-11.5, Sustainability of Groundwater Supply: Support the policies of the Fox Canyon Groundwater Management Agency to protect, enhance, and replenish the aquifers underlying the Oxnard Plain.
- Goal ICS-11.9, Groundwater Extractions: Continue to adhere to the recommendations of the Ventura County Regional Water Quality Planning Program regarding groundwater quality and extractions.
- Goal ICS-11.11, Water Quality: Monitor water quality regularly to ensure that safe drinking water standards are met and maintained in accordance with State agencies with jurisdiction and Environmental Protection Agency (EPA) regulations, and take necessary measures to prevent contamination.
- Goal ICS-11.13, Water Neutral Policy and Urban Water Management Plans: Incorporate the City's Water Neutral Policy regarding new development into the 2010 Urban Water Management Plan and develop appropriate ordinances, policies, and/or programs to fully implement the policy.
- Goal ICS-12: Adequate capacity at the City Waste Water Treatment Plant to accommodate existing and future development.
- ICS-12.3, Wastewater Discharge Monitoring: Monitor and ensure that discharges comply with approved permits.
- ICS-12.4, Wastewater Discharge: Treat all wastewater in compliance with approved discharge permits.
- ICS-12.5, Sedimentation Control: Require by conditions of approval that silt and sediment from construction be either minimized or prohibited.
- Goal ICS-13: Adequately sized storm drain systems and discharge treatment, certified levees, and implementation of appropriate NPDES permits and regulations.
- ICS-13.1, 100-year Floodplain: Discourage development, major infill, and structural improvements (except for flood control purposes) within the 100-year floodplain as regulated by FEMA. Recreational activities that do not conflict with habitat uses may be permitted within the floodplain.

- ICS-13.2, Adequate Storm Drains and NPDES Discharge Treatment: Provide storm drainage facilities with sufficient capacity to protect the public and property from the appropriate storm event and strive to meet stormwater quality discharge targets set by NPDES and related regulations.
- ICS-13.3, Stormwater Detention Basins: Design stormwater detention basins to ensure public safety, to be either visually attractive or unobtrusive, provide temporary or permanent wildlife habitats, and recreational uses where feasible in light of safety concerns.
- ICS-13.4, Low Impact Development: Incorporate low impact development (LID) alternatives for stormwater quality control into development requirements. LID alternatives include: (1) conserving natural areas and reducing imperviousness, (2) runoff storage, (3) hydro-modification (to mimic pre-development runoff volume and flow rate), and (4) public education.

Chapter 5 Environmental Resources

- Goal ER-5: Well managed water supply and wastewater treatment programs that together meet expected demand, prevent groundwater overdraft, and ensure water quality.
- ER-5.1. Wastewater Treatment: Treat all wastewater in compliance with approved discharge permits.
- ER-5.2, 208 Wastewater Control Plan: Support updating the “208“ Wastewater Control Plan to control urban and nonurban runoff.
- ER-5.3, Reducing Dependence on Groundwater: The City shall maintain a minimal dependence on Basin 4A groundwater consistent with the Groundwater Resource Encroachment and Treatment (GREAT) Program and support the policies of the Fox Canyon Groundwater Management Agency to protect, enhance, and replenish the aquifers underlying the Oxnard Plain.
- ER-5.4, Wastewater Monitoring: Monitor all wastewater discharges on a periodic basis to ensure that discharges comply with approved permits.
- ER-5.6, 208 Groundwater Plan: Adhere to the recommendations of the 208 Plan regarding groundwater extractions.
- ER-5.7, Minimizing Paved Surfaces: Require minimization and/or permeability of paved surfaces in new developments and replacement paving, where feasible.

Chapter 6 Safety and Hazards

- Goal SH-1: Minimal damage to structures, property, and infrastructure as a result of liquefaction and subsidence.
- SH-1.2, Minimize Subsidence Trends: Avoid increases in the level of groundwater extraction as a method for meeting new water demands if the extraction leads to subsidence, or unless a comprehensive reinjection program is approved and implemented to offset extractions.
- Goal SH-3: New development required to take necessary precautions prior to any construction to mitigate hazards and protect the health and safety of the inhabitants.
- SH-3.1, Location of New Development: Encourage new development to avoid areas with high geologic, tsunami, flood, beach erosion, and fire or airport hazard potential.
- SH-3.2 New Development Flood Mitigation: As a condition of approval, continue to require new development to mitigate flooding problems identified by the National Flood Insurance Program and/or other expert information.
- SH-3.3 Updating Flood Insurance Rate Maps: Continue to provide information to FEMA to ensure that Flood Insurance Rate Maps (FIRM) are updated periodically.

- SH-3.4 Avoiding Blockage of Natural Drainage: Continue to review development proposals to ensure that the capacity or ability of natural drainage is not impacted.

3.9.2 Impact Analysis

3.9.2.1 Methodology

Project impacts to hydrology and water quality were evaluated based on the proposed project's adherence to local, State, and federal standards; proposed land use; design; and proposed BMPs for control of surface runoff and reduction of pollutants in runoff. A desktop review was conducted of relevant documents, including:

- *Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Los Angeles RWQCB 2014);
- *Technical Guidance Manual for Stormwater Quality Measures - New Development and Redevelopment Projects* (County of Ventura 2015);
- *Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Ventura County and Incorporated Areas* (FEMA 2010);
- *Ventura County General Plan, Hazards Appendix* (County of Ventura 2013);
- *Multi-Jurisdictional Hazard Mitigation Plan for Ventura County, California* (County of Ventura 2005);
- *City of Oxnard California 2030 General Plan, Goals and Policies* (City of Oxnard 2011); and
- Inundation maps for the Santa Felicia Dam (UCWD 1974), Castaic Dam (CDWR 1975), Pyramid Dam (DCDWR 1998), and Bouquet Dam (LADWP 2015).

3.9.2.2 Significance Thresholds

The significance criteria for this analysis is from Appendix G of the State CEQA Guidelines. The proposed project would result in a significant impact if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place within a 100-year flood hazard area, structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

3.9.2.3 Project Impacts

Would the project violate any water quality standards or waste discharge requirements?

Construction would disturb approximately 25 acres. During construction, pollutants of concern include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Additionally, excavated soil would be exposed, so there would be an increased potential for soil erosion compared to existing conditions.

Lastly, chemicals, petroleum products (such as paints, solvents, and fuels), and concrete-related waste could spill or leak and have the potential to be transported via storm runoff into downstream receiving waters (ultimately the Pacific Ocean). Since the project will disturb greater than one acre of land, the project must comply with the Construction General Permit. Pursuant to the Construction General Permit, the project a site-specific SWPPP must be prepared that details construction BMPs for use during construction activities. Construction BMPs would include, but not be limited to, erosion and sediment controls designed to minimize erosion and retain sediment on-site, and good housekeeping BMPs intended to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. Prior to terminating coverage under the Construction General Permit, the project site must be stabilized and not pose any additional sediment discharge risk than it did prior to the commencement of construction activity. The proposed project includes a mix of landscaping and hardscape, which will prevent any increase risk of sediment discharge.

Due to the depth to groundwater (14-21 feet bgs) on-site, it is not anticipated that the groundwater table would be encountered during excavation. However, perched groundwater may be encountered in localized areas during excavation and may require dewatering. Groundwater may contain high levels of total dissolved solids and other constituents that could be introduced to surface waters. Any groundwater dewatering performed during excavation would be completed in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit. This permit requires testing and treatment (as necessary) of groundwater prior to its discharge off-site. If perched groundwater is encountered during construction, then under Mitigation Measure HYDRO-1, the OSD shall apply for coverage under the Los Angeles RWQCB's Groundwater Discharge Permit, and adhere to the permit provisions therein to ensure that the project would not violate any water quality standards or waste discharge requirements.

During operation of the proposed project (new elementary school, middle school, District administrative center), pollutants of concern include sediments, nutrients, metals, pesticides, organic materials/oxygen-demanding substances, oil and grease/organics associated with petroleum, bacteria and viruses, and trash and debris (gross solids and floatables). Additionally, the proposed project would result in a permanent increase in impervious surface area of 13.96 ac. An increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. Prior to terminating coverage under the Construction General Permit and pursuant to the Ventura County TGM (2015), the project site must implement stormwater control measures that treat post-construction runoff (i.e., water quality, flow, and volume).

Stormwater control measures that would be incorporated into the design of the proposed project to treat stormwater runoff include a dry extended detention basin coupled with hydrodynamic separation devices to target pollutants of concern for the project site (Phoenix Civil Engineering, Inc. [Phoenix] 2017). The Ventura County TGM describes dry extended detention basins as having outlets designed to detain the stormwater quality design volume for 36 to 48 hours to allow sediment particles and associated pollutants to settle and be removed. Dry extended detention basins do not have a permanent pool and are designed to drain completely between storm events (2015). The Ventura County TGM describes hydrodynamic separation devices as devices that remove trash, debris, and coarse sediment from incoming stormwater flows using screening, gravity settling, and centrifugal forces. Hydrodynamic separation devices can achieve significant removal of suspended sediments and attached pollutants with less space as compared to wet vaults and other settling devices. Hydrodynamic devices can remove trash, debris, and other coarse solids down to particles the size of sand. Several types of hydrodynamic separation devices can also remove floating oils and grease using sorbent media (2015).

The southern portion of the Site is planned to be soccer fields totaling 6.7 acres. The anticipated project design includes depressing the soccer fields 8-inches below the surrounding grade, or conversely an 8-inch tall earthen berm would be constructed along the western, eastern and southern boundaries to collect and detain Site stormwater runoff. At that depth, the soccer fields would collect 195,640 cubic feet (4.5-acre feet) of runoff, which could be detained for up to two days. Stormwater runoff in excess of this capacity would be released to the existing agriculture ditch or concrete pipe system recommended in the 2003 Drainage System Master Plan (Phoenix 2017). Preliminary calculations performed by Phoenix indicate that 5-acre feet of runoff would be

generated by a 100-year storm event (Phoenix 2017). The project site could detain that volume with only 0.5-acre feet of runoff discharged off-site.

The proposed parking lots would drain to the dry extended detention basins sited within the soccer fields. Runoff from the parking lots would be filtered by hydrodynamic separation devices to remove trash, debris and oil/petroleum products prior to its discharge to the dry extended detention basins. Each parking lot will have one hydrodynamic separation device for treating its runoff (Phoenix 2017).

Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017). All stormwater control measures will be designed according to the requirements of the Ventura County TGM (2015) and would target pollutants of concern from the project site.

The project would connect to the existing sanitary sewer main which conveys domestic wastewater to the Oxnard Wastewater Treatment Plant (OWTP). The OWTP, owned and operated by the City of Oxnard, is a secondary treatment facility located at 6001 South Perkins Road, Oxnard, California (Oxnard Public Works 2015). The OWTP treats and discharges wastewater pursuant to National Pollutant Discharge Elimination System Order No. R4-2013-0094, adopted by the Los Angeles RWQCB on June 6, 2013. The new elementary and middle school, and District administrative center would generate domestic wastewater from restroom and food service facilities, as well as from science labs, which would be treated by the OWTP. The curriculum associated with the science labs would not generate and/or discharge any hazardous wastes to the sanitary sewer.

With compliance with existing regulations including implementation of stormwater BMPs that target pollutants of concern in runoff from the project site, implementation of Mitigation Measure HYDRO-1, and connection to the OWTP, the potential for violation of water quality standards or waste discharge requirements and degradation of water quality would be less than significant.

Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

During construction, it is not anticipated that the groundwater table, which is 14-21 feet bgs, would be encountered during excavation. However, perched groundwater may be encountered in localized areas during excavation and may require dewatering. Any groundwater dewatering performed during excavation would be temporary, not result in a substantial volume removed, and completed in accordance with the Los Angeles RWQCB's Groundwater Discharge Permit. Grading and construction activities would compact soil, and construction of structures would increase impervious area, which can decrease infiltration during construction. However, construction activities would be temporary, and the reduction in infiltration would not be substantial relative to Semi-Perched Zone or the UAS and LAS that are the principal groundwater sources for the Oxnard Plain Groundwater Basin. The UAS and LAS are recharged through infiltration in the Oxnard Forebay area, located approximately two miles northeast of the proposed project area (Figure 3-3). Therefore, construction of the proposed project would not substantially deplete groundwater or interfere with groundwater recharge such that there would be net deficit in aquifer volume or a lowering of the local groundwater table level. Construction impacts related to groundwater supplies would be less than significant, and no mitigation is required.

The City of Oxnard would provide water for the proposed project. The City of Oxnard obtains water from local groundwater, groundwater from the United Water Conservation District (UWCD), and imported water from Calleguas Municipal Water District (CMWD). The City of Oxnard's historical water supply has fluctuated between 26,919 and 28,826-acre feet per year or an upper limit of 25 million gallons per day (Phoenix 2017). The projected water supplies in the City of Oxnard 2015 Urban Water Management Plan are 40,341-acre feet for 2020, 54,341-acre feet for 2025, 2030, 2035, and 2040 (MNS Engineers, Inc. 2016).

The City of Oxnard 2030 Master Plan indicates that the City has already exceeded the reduction limits established by the State of California 2010 Urban Water Management Plan (UWMP) assuming the mandated 132 gallons per capita per day (gpcd) value was used. The use of the mandated consumption value for planning purposes was conservative (City of Oxnard 2011). The proposed school project would comprise approximately 178,678 sq. ft. of building and structures, including joint-use facilities to support a district office, and 220 parking spaces for 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. A variety of playfields and recreational areas would accommodate the recreational needs of the K-8 students on-site (Tetra Tech 2017).

The OSD institutes a standard educational schedule, resulting in approximately 181 school days. Applying an average demand factor of 5.4 gallons per student per school day (Mays 2001), the project would require an additional 1,857,060 gallons of water annually (5.7 acre-feet/year [AFY]) (Tetra Tech 2017). It is assumed that the projection of 5.4 gallons per student per school day includes irrigation. It is total water demand (Phoenix 2017).

The City of Oxnard 2030 Master Plan uses a demand of 1,500 gallons per day per acre as the planning level consumption for school sites. This is based on the average water consumption of school sites located in the City and increased to account for future fluctuations. Because this value is considered conservative (it equates to three times the amount of demand compared to the Initial Study figure), it was used to estimate project water consumption in the Water Resources System Analysis Report prepared for the project site (Phoenix 2017).

Water for the proposed project would be supplied by the City of Oxnard from an existing 12-inch diameter potable water pipeline that is located within Doris Avenue that extends west from Ventura Avenue to the intersection of Doris Avenue and Patterson Road. It supplies water to the residential tract to the north of the project. The daily flow rates associated with the operation of the proposed project are approximately 37,500 gallons per day (1,500 gpd/ac x 25 ac) that would be consumed as follows;

- School site is 13 acres of buildings/hardscape (1,500 gpd/ac x 13 ac = 19,500 gallons per day); and
- Irrigation uses constitute 12 acres (1,500 gpd/ac x 12 ac = 18,000 gallons per day).

That equates to approximately 2,450 gallons per hour (19,500 gallons/8 hours) assuming an 8-hour day for school occupancy and that the irrigation activities will occur during an 8-hour period at night. The school will be sufficiently supplied by the existing 12-inch diameter water pipeline for this flow rate.

Therefore, water supply demand impacts related to groundwater supplies would be less than significant, and no mitigation is required.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site?

No perennial or ephemeral water bodies are located on or close to the site; therefore, the project would not alter the course of a stream or river. During construction activities, the project site would be graded and excavated, exposing soil and increasing the potential for soil erosion compared to existing conditions. During a storm event, soil erosion and sedimentation could occur at an accelerated rate. For example, excavation activities result in soil stockpiles, which has the potential to be washed into storm drains, blown off-site by wind, or tracked off-site by heavy equipment. In addition, construction activities would compact soil, and construction of structures would increase the impervious area, which can increase runoff during construction. Since the project will disturb greater than one acre of land, the project must comply with the Construction General Permit. Pursuant to the Construction General Permit, a site-specific SWPPP must be prepared that details construction BMPs for use during construction activities. Construction BMPs would include, but would not be limited to, erosion and sediment controls designed to minimize substantial erosion or siltation. Prior to terminating coverage under the Construction General Permit, the project site must be stabilized and not pose any additional sediment discharge risk than it did prior to the commencement of construction activity. The proposed project includes a mix of landscaping and hardscape, which will prevent any increase risk of sediment discharge. Implementation of the

site-specific SWPPP during construction activities would reduce the potential for erosion and siltation to less than significant levels.

Currently, stormwater flows from the Site discharge to an open unlined drainage ditch that runs west to Victoria Avenue along the north side of Teal Club Road, before discharging to the West Fifth Street Drain. The West Fifth Street Drain ultimately discharges to the Edison Canal which is an intake canal to the Mandalay Generating Station owned by NRG Energy. The proposed on-site uses (new elementary school, middle school, District administrative center) would change on-site drainage patterns by adding impervious surface areas, including buildings and parking lots, and constructing drainage structures. The proposed project is anticipated to install curb and gutter improvements along the north and south sides of the parcel. There would be an access road on the east side of the project site and that paved road is anticipated to have curb and gutter along the west side. These curb and gutter facilities would route stormwater run-on around the site. Additionally, the 2003 Drainage System Master Plan recommended improvements in the area of the Project including storm drainage piping on the east side of Patterson Road from Doris Avenue to Teal Club Road. The proposed facilities are a 30-inch diameter reinforced concrete pipe extending approximately to the southern boundary of the proposed project, and a 36-inch diameter reinforced concrete pipe extending to approximately 250 feet from the intersection with Teal Club Road. At Teal Club Road, the storm drainage system would transition to a 42-inch diameter reinforced concrete pipe. These facilities have not been constructed (Phoenix 2017).

The proposed project would result in a permanent increase in impervious surface area of 13.96 ac. An increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. Prior to terminating coverage under the Construction General Permit and pursuant to the Ventura County TGM (2015), the project site must implement stormwater control measures that treat post-construction runoff (i.e., water quality, flow, and volume). Stormwater control measures that would be incorporated into the design of the proposed project to treat stormwater runoff include a dry extended detention basin coupled with hydrodynamic separation devices to target pollutants of concern for the project site (Phoenix 2017). Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017). Through a combination of these stormwater control measures, both on-site and off-site flooding will be controlled. These stormwater controls would also prevent on-site and off-site erosion and siltation.

There are no on-site streams or rivers; therefore, the project would not alter the course of a stream or river. Although the existing drainage pattern of the site would be substantially altered, the proposed project would not substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation or flooding on- or off-site with compliance with existing regulations. Operational impacts related to on- or off-site erosion, siltation, and flooding would be less than significant, and no mitigation is required.

Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

During construction, the proposed project has the potential to introduce pollutants into the stormwater drainage system from erosion, siltation, and accidental spills. Additionally, grading and construction activities would compact soil, and construction of buildings and parking lots would increase impervious area, which will increase runoff during construction. Lastly, dewatering of perched groundwater could introduce groundwater containing high levels of total dissolved solids and other constituents to surface waters. Since the project would disturb greater than one acre of land the project must comply with the Construction General Permit. Pursuant to the Construction General Permit, a site-specific SWPPP must be prepared that details construction BMPs for use during construction activities. Construction BMPs would be implemented to reduce impacts to water quality, including impacts associated with erosion, siltation, spills, and increased runoff. Additionally, any groundwater dewatering would be performed according to the Los Angeles RWQCB's Groundwater Discharge Permit, which would require testing and treatment, as necessary. The potential volume of groundwater discharged during construction cannot be estimated at this time, but would not be substantial and is not anticipated to exceed the

capacity of downstream stormwater drainage systems. Compliance with the Construction General Permit and Groundwater Discharge Permit requirements would reduce the potential for off-site discharge of substantial additional sources of polluted runoff to less than significant levels. Furthermore, compliance with these permits would also prevent the discharge of runoff in excess of existing and planned stormwater drainage systems to less than significant levels.

The proposed on-site uses (new elementary school, middle school, District administrative center) would increase impervious surface area and runoff from the Site, but the proposed on-site dry extended detention basin would be designed to conform with the standards in the Ventura County TMG, thereby reducing the effective impervious area of the Site to no more than 5% of the project area (Phoenix 2017). Additionally, the proposed project anticipates having to install new 30- and 36-inch diameter storm drainage piping infrastructure along Patterson Road from the Site to the existing Teal Club Road facility as documented in the City of Oxnard Drainage System Master Plan. Off-site discharges would be less than the capacity of anticipated storm drainage piping along Patterson Road (Phoenix 2017). Lastly, the project includes basins and hydrodynamic separation devices to treat stormwater runoff from the Site during operation. Therefore, with implementation of BMPs, operational impacts related to exceedance of the capacity of and providing additional sources of polluted runoff to stormwater drainage systems would be less than significant.

Would the project otherwise substantially degrade water quality?

There are no project elements that have not already been considered in the previous analyses that would substantially degrade water quality. Construction activities would adhere to requirements of the Construction General Permit, including development of a site-specific SWPPP and implementation of BMPs that target potential pollutants and additional runoff generated by construction activities. Potential groundwater dewatering activities will comply with the Groundwater Dewatering Permit, which directs testing and treatment (as necessary) of groundwater prior to its discharge off-site. Post-construction stormwater and wastewater would be treated by on-site drainage controls and the OWTP, respectively. Therefore, with compliance with existing regulations project impact would be less than significant.

Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

FIRM Panel 06111C0905E (FEMA 2010) indicates that the project area is within shaded Zone X, an area with a moderate risk of flooding, typically between the limits of the 100-year and 500-year floods. This zone is also used to "designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile" (FEMA, 2012). Because the project area is outside the 100-year flood zone, buildings and residents on-site would not be placed within a flood hazard area. Additionally, the project would not involve placing structures that would impede or redirect flood flows within a 100-year flood hazard area. Therefore, the proposed project would not place within a 100-year flood hazard area structures that would impede or redirect flow and project impact would be less than significant.

Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

The need for dam failure disaster planning was demonstrated by the midnight collapse in March 1928 of the St. Francis Dam in Los Angeles County, which occurred after the newly constructed cement arched dam was completely filled for the first time. The ensuing flooding from the dam's total collapse resulted in the loss of over 400 lives in Ventura County as floodwaters washed out homes and structures along the banks of the Santa Clara River. The communities of Piru, Fillmore, Santa Paula, Bardsdale, Saticoy, Montalvo, and El Rio sustained extensive life and property loss from the flood (County of Ventura 2013).

More recently, the San Fernando Earthquake in 1971 resulted in ground shaking in the vicinity of the Van Norman Dam in Los Angeles County. As a result of the earthquake, structural damage threatened the dam's immediate

collapse. Approximately 80,000 residents in the San Fernando Valley had to be evacuated to areas of safety in the midst of many other earthquake-related emergencies (County of Ventura 2013).

In Ventura County, disaster coordination and planning is the responsibility of the Venture County Sheriff's Department OES. Within California's emergency management organizational structure, each county serves as an Operational Area. In this role, Sheriff's OES acts as an agent between Cal OES and the cities (including the City of Oxnard), special districts and unincorporated areas of Ventura County. OES is responsible for countywide disaster planning, mitigation, response and recovery activities. The OES serves as the depository for the County's Dam Inundation Maps and is charged with ongoing maintenance of the County's Dam Failure Response Plan which was adopted by the Board of Supervisors on September 13, 1983. The Dam Failure Response Plan was currently updated by the OES during 2013 (County of Ventura 2013). With compliance with Mitigation Measure HYDRO-2, that requires OSD to develop and implement a Site-specific flooding evacuation plan to be implemented in conjunction with the County of Ventura OES Dam Failure Response Plan, project impacts would be less than significant.

3.9.2.4 Cumulative Impacts

The proposed project is within the City of Oxnard's sphere of influence and the development of the project area was accounted for in the City's 2030 General Plan. The proposed project would increase impermeable surface area in the City. The proposed project and other incremental development would potentially increase peak flood flows, alter drainage patterns, reduce groundwater recharge, and increase pollutants in the regional stormwater. These effects could occur during construction and operation of planned or pending projects. The proposed project and each of the cumulative projects would be subject to California, Ventura County, and the City of Oxnard requirements including the State of California Construction General Permit (CGP), the NPDES and MS4 Permit, the 2011 *Ventura County Technical Guidance Manual for Stormwater Quality Control Measures*. In addition, Los Angeles RWQCB Groundwater Discharge Permit requirements would be imposed for construction dewatering. Each project would be required to develop a SWPPP and Stormwater Pollution Control Plan and would be evaluated individually to determine appropriate BMPs to minimize impacts to surface water quality. Thus, the project's contribution to cumulative impacts to hydrology and surface water quality would be less than significant.

3.9.2.5 Mitigation Measures

HYDRO-1: If perched groundwater is encountered during construction, the OSD shall apply for coverage under the Los Angeles RWQCB's Groundwater Discharge Permit, and adhere to the permit provisions therein.

HYDRO-2: The OSD shall develop and implement a site evacuation plan to be implemented in conjunction with the County of Ventura OES Dam Failure Response Plan.

3.9.2.6 Level of Impact After Mitigation

With implementation of mitigation measures HYDRO-1 and HYDRO-2, project impacts would be less than significant.

3.10 LAND USE PLANNING

This section discusses the potential land use planning impacts from construction and operation of the proposed project. As noted in the Initial Study (Appendix A), the proposed project would not physically divide an established community or conflict with any applicable habitat conservation plans or natural community conservation plans.

3.10.1 Environmental Setting

3.10.1.1 Existing Conditions

The project site is located in unincorporated Ventura County, California and is within the Ventura County Save Open-Space and Agricultural Resources (SOAR) boundary. The project site is also within the City of Oxnard's Sphere of Influence (SOI) and City Urban Restriction Boundary (CURB).

The project site has a Ventura County General Plan land use designation of agricultural-urban reserve and a zoning designation of agricultural exclusive (AE-40). Since the project site is also within the SOI of the City of Oxnard, the City of Oxnard General Plan identified land use designations for the site. The City of Oxnard General Plan land use designations for the project site include public/semi-public, open space and park.

The project area is relatively flat and currently used for agriculture. It is surrounded by adjacent agricultural uses to the south, east and west. The agricultural land to the west is located within the Ventura-Oxnard Greenbelt. Located to the north of the project site is a residential neighborhood. Access to the project site is provided by North Patterson Road to the west and Doris Avenue to the north.

The project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the project site. Oxnard Airport is an active general aviation/small scheduled service airport and the project site is located within Safety Zone 6, identified as the Traffic Pattern Zone (Caltrans 2014).

3.10.1.2 Regulatory Setting

Federal

There are no applicable federal regulations for land use.

State

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (California Government Code Section 56000 et seq.)

(California Government Code Section 56000 et seq.) State Law State law provides for LAFCos to be formed as independent agencies in each county in California. LAFCos implement state law requirements and state and local policies relating to boundary changes for cities and most special districts, including spheres of influence, incorporations, annexations, reorganizations and other changes of organization. In this capacity the Ventura LAFCo is the boundary agency for cities and most special districts in Ventura County (LAFCo 2017).

Public Utilities Code of the State of California, Section 21675

Prior to the amendment of a general plan or specific plan or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission pursuant to Section 21675, the local agency shall first refer the proposed action to the commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The local agency may, after public hearing, overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article, as stated in Section 21670.

Public Utilities Code of the State of California, Section 21670

It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

Local

City of Oxnard 2030 General Plan

The City of Oxnard 2030 General Plan contains the goals and policies that are intended to guide a wide range of public and private development decisions through 2030.

3.10.2 Impact Analysis

3.10.2.1 Methodology

The evaluation for potential impacts related to land use planning is based on a review of relevant land use plans and studies including the City of Oxnard 2030 General Plan, Ventura County CLUP, and the Aviation Hazard Risk Assessment Report.

3.10.2.2 Significance Thresholds

The thresholds for land use planning impacts used in this analysis are from Appendix G of the CEQA Guidelines and the City of Oxnard CEQA Guidelines. A proposed project would result in a significant impact if it would:

- *Conflict with an applicable land use plan, policy or regulation of the City or other agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating a significant environmental effect.*

3.10.2.3 Project Impacts

Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

City of Oxnard General Plan and Zoning

The project site is currently located within unincorporated Ventura County and the zoning designation is agricultural exclusive (AE-40). Schools are prohibited within the County's AE-40 zone. However, the proposed project includes annexation into the City of Oxnard thereby the County's land use designations would no longer be applicable to the project site.

The District would process a General Plan Amendment (GPA), Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257). With the approval of the GPA, Pre-Zone, and Annexation, the proposed project would be consistent with the General Plan and zoning land use designations.

The project site is located within an area that was planned for future development in the City of Oxnard 2030 General Plan. A General Plan Consistency analysis for relevant key land use policies is provide in Table 3-19.

Table 3-19. City of Oxnard 2030 General Plan Consistency Analysis

Policy	Discussion
CD-1.6 Public Facilities: Enhance resident quality of life by providing adequate space for schools, libraries, parks and recreation areas, as well as space for the expansion of public facilities to support the community's vision.	The proposed project would provide two new schools to meet the educational needs of students within OSD. This would be considered a beneficial impact to public educational facilities.
CD-1.7 Compact Development: Promote the use of development patterns that are more compactly built and use space in an efficient manner as part of the community vision.	The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 student's onsite.
CD-1.8 Natural Resource Conservation: Promote a high quality of life within the community, incorporating the retention of natural open space areas, greenbelts, and the provision of adequate recreational facilities.	Land to the west of the project site across Doris Avenue is part of the Ventura-Oxnard Greenbelt and would remain in agricultural use. The proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 student's onsite. These facilities include a separate playground for the kindergarten with play structures and open space. There will be lower and upper grade play areas with hard courts for tether ball, basketball and volley ball and motor skill development as well as play structures. Grass fields will be used for kickball, soccer, softball, track and field challenges and general play. The elementary school will have a multi-purpose room for some indoor recreational activities during inclement weather and potential after hours community use.
Goal CD-6.1 Agricultural Buffers. Require that agricultural land uses designated for long-term protection and production be buffered from urban land uses through the use of techniques including, but not limited to, greenbelts, open space setbacks, fencing, berming, and windrows.	The District has designed the lay-out of the project in order to minimize compatibly issues with adjacent agricultural uses. Based on input from the Ventura County Agricultural Commissioner, the proposed project was designed to cluster the school facilities within the middle of the northern portion of the site closer to the existing residential neighborhood to the north. The orientation and location of the drop off areas, bus turnouts, and play fields in the proposed site plan were also designed as a result of consultation with the County of Ventura's Agricultural Commissioner. Please refer to the discussion in Section 3.2 for additional details about the agricultural buffer.
CD-6.2 Agricultural Preservation: preserve agricultural land and uses within the Oxnard Planning Area unless other uses are allowed through future CURB amendment and/or applicable exemptions.	The project site is located within the City of Oxnard's SOI and CURB. While the project site is currently used for agriculture, the 2030 General Plan accounted for urban development of the area.

Table 3-19 (Continued). City of Oxnard 2030 General Plan Consistency Analysis

Policy	Discussion
CD-8.4 Cost Sharing: Continue to ensure that any area annexed to the City share equitably in the costs of all necessary municipal improvements.	As identified in Section 3.14, Traffic, mitigation measures were included to provide fair-share contributions toward roadway improvements.
CD-8.5: Ensure that new development avoids or mitigates impacts on air quality, traffic congestion, noise, and environmental resources to the maximum extent feasible.	This EIR evaluates potential impacts related to construction and operation of the proposed project and includes mitigation measures when warranted and feasible to reduce project impact. Mitigation Measures have been identified for air quality, biological resources, cultural resources, geology, hazards, hydrology, noise, and traffic in this EIR.
ER-3.2 Review of Development Proposals: Review development proposals in accordance with applicable Federal, State, and local statues protecting special-status species and jurisdictional wetlands and be open to requiring greater protection.	No candidate, sensitive, or special-status wildlife or plant species in any local or regional plans, policies, or regulations, or regulated by the CDFW or USFWS were observed during the site visit conducted in July 2017. Additionally, no suitable habitat for these species was found within or directly adjacent to the project site. No designated jurisdictional wetlands or wetland habitats are known to occur within or directly adjacent to the project site based on review of the CNDDB and USFWS National Wetlands Inventory (NWI) databases. Agricultural ditches were found along the western and southern site boundaries during the July 2017 site visit. Both ditches are predominantly un-vegetated and heavily disturbed. The western ditch was noted as completely dry and the southern ditch had minor ponding (less than 6 inches of water). Since the ACOE does not typically assert jurisdiction over swales, erosional features, or ditches that were excavated primarily to drain uplands that do not carry a permanent flow of water, neither a CWA Section 401 nor 404 permit is anticipated to be required. Likewise, it is not anticipated that a permit pursuant to Section 1602 of the California Fish and Game Code would be required. However, the ACOE, CDFW, and RWQCB reserve the right to regulate these waters on a case-by-case basis. Therefore, if the ditches are determined to be under the jurisdiction of one or more of these agencies and are affected by project-related activities, then Mitigation Measures BIO-2 and BIO-3 will be required to reduce project impacts to less than significant.

Table 3-19 (Continued). City of Oxnard 2030 General Plan Consistency Analysis

Policy	Discussion
MC-2.5 CEQA Notification: Continue to provide CEQA notifications to Navy Base Ventura County (NBVC) for review and comment on City discretionary land use actions to include, but not limited to, General/Specific Plan/Coastal Plan amendments, zone changes, tract or parcel, maps, and special use or coastal development permits.	The proposed project would include a City of Oxnard GPA and Pre-zone. A copy of the Notice of Availability (NOA) of a Draft EIR will be sent to NBVC to provide notification that the EIR is available for review and comment during the 45-day public review period.
MC-3.2 Vertical Obstructions: Ensure all new development within the City is developed in accordance with Federal Aviation Regulations (FAR) Part 77 that is generally concerned with any construction or alteration more than 200 feet above ground level.	As identified in Section 3.8 of this EIR, Mitigation Measure HAZ-5 was added to ensure compliance with FAR Part 77 requirements.
MC- 3.4 Reference the Navy's Military Influence Area Map: Refer to the Navy's Military Influence Map as it may be updated, to identify possible City actions in or near NBVC installations, operations areas, and/or on or along designated mobilization routes and consult with NBVC for their input.	The proposed project is not within a Military Influence Area as identified on the General Plan Military Influence Areas Map (City of Oxnard General Plan Figure 7-1).

Note: Relevant key General Plan policies were identified based on Appendix B, Table 10, of the City of Oxnard CEQA Guidelines.

As identified in Table 3-19, the proposed project would be generally consistent with the General Plan policies and project land use impact is considered less than significant.

Airport Comprehensive Land Use Plan (CLUP) for Ventura County

The Ventura County Transportation Commission (VCTC) acts as the Airport Land Use Commission (ALUC) in Ventura County. The ALUC has an *Airport Comprehensive Land Use Plan (CLUP) for Ventura County* that is intended to protect and promote the safety and welfare of residents near the military and public use airports in the County, as well as airport users, while promoting the continued operation of those airports. Specifically, the plan seeks to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace (Coffman 2000).

The CLUP is divided into six chapters. Chapter One introduces the background, purpose and scope, legal authority, responsibilities of Airport Land Use Commission, and plan. Chapters Two through Five examine each of four Ventura County airports. Oxnard Airport is studied in Chapter Three. Chapter Six presents general noise and safety compatibility standards for all Ventura County airports. The CLUP states "Land use and density criteria contained in these guidelines were developed to reduce the risk from an off-airport aircraft accident to an acceptable level" (Heliplanners 2017).

Several "safety zones" surrounding civilian airports in Ventura County are defined in Chapter Six of the CLUP. These zones are established to provide a method of assessing the compatibility of various types of land uses with respect to aircraft operations. The three classifications are the "Runway Protection Zone," the "Outer Safety Zone" and the "Traffic Pattern Zone" (TPZ). The runway protection and outer safety zones lie beneath the approach surfaces and do not affect the proposed project. The project site lies entirely within the (TPZ). The TPZ is the least restrictive of the three zones, and is described in the 1991 CLUP as "the area beneath the most commonly used traffic pattern" (Heliplanners 2017).

The CLUP states that within the TPZ "frequent low altitude overflights can be expected". Most flights should follow the "typical flight path", to the north of the site (As depicted on Exhibit 1, in Appendix I). However, those flights may still pose some risk and/or noise disturbance to the project site. Pilots flying a particularly tight traffic pattern may directly overfly the site.

The adopted land use compatibility standards related to aircraft noise for Ventura County airports is identified in Table 6B of the CLUP that establishes acceptable, conditionally acceptable, and unacceptable noise levels for various land uses around Ventura County Airports. The noise levels studied range from 60-80+ CNEL Range (dB) in increments of five. The project site lies outside the 60 dB noise contour around Oxnard Airport, and would therefore be exempt from the noise compatibility standards given in the CLUP (Heliplanners 2017).

Studies from both the Federal Interagency committee on Urban Noise, and the California Noise Compatibility Regulations and Guidelines (CNCRGs), considered in the CLUP, found the significant noise threshold for schools to be at 65 CNEL. However, the CNCRGs stipulates that schools "are compatible if they have been insulated to assure an interior sound level from aircraft noise of 45 CNEL", or, if "an avigation easement over the property has been obtained by the airport owner" (Heliplanners 2017). The classrooms for the proposed project would be designed and constructed to have a CNEL of 45 dB or less.

The CLUP adopted land use compatibility standards in safety zones for civilian airports (Table 6B), establishes land uses within each of the three safety zones at Oxnard Airport. Each land use is classified as acceptable, conditionally acceptable, or unacceptable. Schools, under the subcategory of Public/Institutional land uses, are classified as "Unacceptable" within the TPZ.

In a letter dated July 23, 2014, Darren Kettle, Executive Director of VCTC, indicates "*In consideration of their safety, the adopted CLUP attempts to limit large congregations of people in the TPZ and specifically identifies schools as an unacceptable use within the TPZ. The proposed project as defined would be inconsistent with the adopted CLUP."*

Table A10 of the CLUP, "Suggested Safety Compatibility Criteria" by the State of California recommends developers "avoid" schools within the TPZ. More specifically, due to the propensity for "low altitude overflight", schools and activities with "more than 150 people per acre should be avoided…unless no other feasible alternatives are available". Criteria for how extensive the search for "other feasible alternatives" are not given and therefore would be at the discretion of local jurisdictions (Heliplanners 2017).

The California Airport Land Use Planning Handbook discourages schools within the TPZ, but does not prohibit them. The handbook's recommendations within specific zones are not meant to override local ALUC findings (Heliplanners 2017).

As required by Public Utilities Code Section 21675, the proposed project would be submitted to the ALUC for review. If the commission determines that the proposed project is inconsistent with the CLUP, OSD would be notified. OSD after a public hearing, can propose to overrule the commission by a two-thirds vote if it makes specific findings that the proposed project is consistent with the purpose of this article. Therefore, in order to be constructed, the proposed project would require either a finding of consistency by the ALUC with the CLUP or OSD would need to overrule the commission by a two-thirds vote with applicable findings.

LAFCo

The proposed project would require annexation into the City of Oxnard. Annexation of the project area to the City would require LAFCo approval of several changes of organization, collectively called reorganization. The following LAFCo actions would be necessary components of the reorganization:

- Annexation to the City of Oxnard
- Annexation to the Calleguas Municipal Water District
- Annexation into Metropolitan Water District of Southern California

- Detachment from Oxnard Drainage District 1
- Detachment from the Ventura County Resource Conservation District
- Detachment from the Ventura County Fire Protection District
- Detachment from Ventura County Service Area No. 32
- Detachment from Ventura County Service Area No. 33

As part of the reorganization process, sphere of influence amendments will also be needed. Anticipated amendments include the following:

- Amendment of the City of Oxnard's sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Calleguas Municipal Water District sphere of influence to include the adjoining segment of Patterson Road and Agricultural land to the west
- Amendment of the Oxnard Drainage District No. 1 sphere of influence to remove the adjoining segment of Patterson Road and agricultural land to the west
- Amendment of the Ventura County Service Area No. 33 sphere of influence to remove the entire proposal area.

The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed project will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with LAFCo. Upon approval of the reorganization and sphere amendments by LAFCo, and a 30-day reconsideration period, the reorganization will be recorded and the site will be annexed into the City of Oxnard and the Calleguas Water District and eligible for all public services. Discussion of project consistency with relevant LAFCo Polices is provided below in Table 3-20.

Table 3-20. LAFCo Consistency Analysis

Policy	Discussion
Ventura LAFCo Commissioners Handbook	
Specific Policies	
Section 3.2.2 Annexation to the City of Oxnard and Calleguas Municipal Water District. Any annexation to the City of Oxnard shall only be considered and approved if the subject territory is already within the Calleguas Municipal Water District, or is approved concurrently with an annexation to the Calleguas Municipal Water District, unless it is clearly demonstrated that the subject territory has no foreseeable need for potable water service.	The proposed project is located within the SOI of the City of Oxnard and annexation to the City of Oxnard and Calleguas Municipal Water District is proposed to occur concurrently as part of the project.
Section 3.2.4.1 Consistency with General and Specific Plans: LAFCo shall consider consistency with city and/or county general and specific plans. Unless exceptional circumstances are shown, LAFCo will not approve a proposal unless it is consistent with the applicable general plan and any applicable specific plan.	The District would process a General Plan Amendment (GPA), Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is Community Reserve (C-R). With the approval of the GPA, Pre-Zone, and Annexation, the proposed project would be consistent with the General Plan and zoning land use designations.

Table 3-20 (Continued). LAFCo Consistency Analysis

Policy	Discussion
Section 3.2.4.4 Greenbelts: The County of Ventura and various cities in the County have adopted Greenbelt Agreements for the purposes of preserving agriculture and/or open space, providing separation between cities, and/or limiting the extension of urban services. The Ventura LAFCo is not a direct party to these Greenbelt Agreements, but has endorsed them as statements of local policy. As such, LAFCo will not approve a proposal from a city that is in conflict with any Greenbelt Agreement unless exceptional circumstances are shown to exist. LAFCo encourages that Greenbelt Agreements be amended by all parties involved prior to the filing of any proposal that may be in conflict with the Agreements.	The City of Oxnard is a participant in the following two greenbelt agreements, the Oxnard-Camarillo Greenbelt Agreement and the Ventura-Oxnard Greenbelt Agreement (City of Oxnard 2006). The proposed project site is located outside of either of these greenbelts but is located immediately adjacent to the east boundary of the Ventura-Oxnard Greenbelt. Road and infrastructure improvements within Greenbelt Agreement areas have historically not been considered "development" nor subjected to Greenbelt Agreement policies. Also, the Greenbelt Agreement expressly allows "land uses that are consistent with the general plan". The proposed improvements to adjacent roadways such as Patterson Road, Doris Avenue, and/or Teal Club Avenue are all consistent with the City of Oxnard's adopted general plan and therefore allowed within the Ventura-Oxnard Greenbelt area near the site (Stephens County of Ventura 2017).
General Standards for Annexation to Cities and Districts	
Section 3.3.1.1 Factors Favorable for Approval:	
a) The proposal would eliminate islands, corridors, or other distortion of existing boundaries.	The proposed project would not eliminate islands, corridors, or other distortion of existing boundaries. However, the project site is located within the City of Oxnard SOI and development of the area was accounted for in the City's 2030 General Plan.
b) The affected territory is urban in character or urban development is imminent, requiring municipal or urban-type services.	The proposed project is located within the City of Oxnard SOI and development of the area with urban uses was accounted for in the City's 2030 General Plan. The project site is adjacent to an existing residential neighborhood to the north with additional urban areas located nearby to the east and south. A separate proposed project, called the Teal Club Specific Plan, has a different development scenario for the project site and proposes to develop land adjacent to the project site to the east and south with a variety of urban land uses.
c) The affected territory can be provided all urban services by the city or district as shown by the city's or district's service plans and the proposal would enhance the efficient provision of urban services.	The project site is located within the City of Oxnard SOI and development of the area with urban services was accounted for in the 2030 General Plan.
d) The proposal is consistent with state law, adopted spheres of influence, applicable general and specific plans, and these policies.	The project site is located within the City of Oxnard SOI and development of the area was accounted for in the 2030 General Plan. With approval of the proposed GPA the proposed project would be consistent with the General Plan land use designation.
e) The proposal is for the annexation of city or district owned property, used or to be used for public purposes.	The proposed project would be public school facilities to meet the educational needs of District students.

Table 3-20 (Continued). LAFCo Consistency Analysis

Policy	Discussion
Section 3.3.1.2 Factors Unfavorable to Approval:	
a) The proposal would create or result in corridors, peninsulas, or flags of city or district area or would otherwise cause or further the distortion of existing boundaries.	The proposed project would not cause distortion of existing boundaries. The proposed project is located within the City of Oxnard SOI and development of the area with urban uses was accounted for in the City's 2030 General Plan.
b) The proposal would result in a premature intrusion of urbanization into a predominantly agricultural or rural area.	The proposed project would not result in premature in intrusion of urbanization. The proposed project would convert existing agricultural lands to educational uses. However, the proposed project is located within the City of Oxnard SOI and development of the area with urban uses was accounted for in the City's 2030 General Plan. Land to the west of the project site across Doris Avenue is part of the Ventura-Oxnard Greenbelt and would remain in agricultural use. Land to the north of the project site is developed with an existing residential neighborhood.
c) The proposal is inconsistent with state law, adopted spheres of influence, adopted general or specific plans, adopted habitat conservation and/or restoration plans, other applicable plans adopted by any governmental agency, or these policies.	The proposed project is located within the City of Oxnard SOI and would be consistent with the General Plan with approval of the GPA. As identified in Appendix A, the proposed project would not conflict with an adopted habitat conservation or restoration plan.
d) For reasons of topography, distance, natural boundaries, or like considerations, the extension of services would be financially infeasible, or another means of supplying services by acceptable alternatives is preferable.	Extension of services is anticipated to be financially feasible. The proposed project is located within City of Oxnard SOI and development of the area with urban uses was accounted for in the City's 2030 General Plan.
e) Annexation would encourage a type of development in an area that due to terrain, isolation, or other economic or social reason, is not in the public interest.	The proposed project would be developed in an area adjacent to an existing residential neighborhood and includes public schools to serve students within the OSD.
f) The proposal appears to be motivated by inter-agency rivalry or other motives not in the public interest.	OSD is proposing new educational facilities to meet the current and anticipated future enrollment demand. New public schools are typically considered a public benefit.
g) The proposed boundaries do not include logical service areas or are otherwise improperly drawn.	The proposed project is located within City of Oxnard SOI and development of the area with urban uses was accounted for in the City's 2030 General Plan.
h) The proposal area would accommodate new development and includes a tsunami inundation zone, wildfire hazard zone, FEMA designated floodway or floodplain, or other hazardous area designated by federal, state or local public agencies, unless the Commission determines that the hazard or hazards can be adequately mitigated.	The proposed project is not located within a tsunami inundation zone, wildfire hazard zone, or 100-year floodplain.

Table 3-20 (Continued). LAFCo Consistency Analysis

Policy	Discussion
i) The proposal will result in an unacceptable significant adverse impact(s) to the environment as determined by the Commission.	Potential impacts associated with construction and operation of the proposed project are evaluated in this EIR. When warranted and feasible, mitigation measures are identified to reduce project impacts. Impacts found to be significant and unavoidable in this EIR include agricultural conversion (project level and cumulative) and airport hazards. As a responsible agency, LAFCo will evaluate if potential impacts associated with the proposed project would be acceptable or not when making their decisions.
Agriculture and Open Space Preservation	
3.3.5.1: Findings and Criteria for Prime Agricultural and Existing Open Space Land Conversion: LAFCo will approve a proposal for a change of organization or reorganization which is likely to result in the conversion of prime agricultural or existing open space land use to other uses only if the Commission finds that the proposal will lead to planned, orderly, and efficient development. For the purposes of this policy, a proposal for a change of organization or reorganization leads to planned, orderly, and efficient development only if all of the following criteria are met: a) The territory involved is contiguous to either lands developed with an urban use or lands which have received all discretionary approvals for urban development. b) The territory is likely to be developed within 5 years and has been pre-zoned for non-agricultural or open space use. In the case of very large developments, annexation should be phased wherever possible. c) Insufficient non-prime agricultural or vacant land exists within the existing boundaries of the agency that is planned and developable for the same general type of use. d) The territory involved is not subject to voter approval for the extension of services or for changing general plan land use designations. Where such voter approval is required by local ordinance, such voter approval must be obtained prior to LAFCo action on any proposal unless exceptional circumstances are shown to exist. e) The proposal will have no significant adverse effects on the physical and economic integrity of other prime agricultural or existing open space lands.	a) The proposed project is adjacent to existing urban uses to the north of the project site. b) The project site is located within the City of Oxnard SOI and development of the area was accounted for in City's 2030 General Plan. Separate from the proposed project, the proposed Teal Club Specific Plan would develop land within the City's SOI adjacent to the project site to the east and south with a variety of urban uses if approved. c) The District evaluated several potential school sites (Appendix B) and other alternatives and determined that the proposed site at the corner of Doris Avenue and Patterson Road to be the one that is best available. d) The project site is located within the City of Oxnard's SOI and City Urban Restriction Boundary (CURB). The territory involved is not subject to voter approval for the extension of services or for changing general plan land use designations. Road and infrastructure improvements within Greenbelt Agreement areas have historically not been considered "development" nor subjected to Greenbelt Agreement policies. Also, the Greenbelt Agreement expressly allows "land uses that are consistent with the general plan". The proposed improvements to adjacent roadways such as Patterson Road, Doris Avenue, and/or Teal Club Avenue are all consistent with the City of Oxnard's adopted general plan and therefore allowed within the Ventura-Oxnard Greenbelt area near the site (Stephens 2017). e) Please refer to the agricultural discussion in Section 3.2 of this EIR for an evaluation of potential impacts related to agricultural resources.

As identified in Table 3-20, the proposed project is generally consistent with LAFCo policies and project land use impact would be considered less than significant.

3.10.2.4 Cumulative Impacts

The proposed project, and future projects, would be required to comply with applicable land use regulations in order to be granted needed discretionary land use approvals for construction and operation. The project site is located within an area that was planned for future development in the City of Oxnard 2030 General Plan and within the CURB. The proposed project is a similar use to what was proposed in the 2030 General Plan and includes the necessary land use actions as part of the project to bring the project in compliance with City of Oxnard General Plan and zoning land use designations. Aside from the impacts associated with agricultural conversion addressed in Section 3.2 of this EIR, project contribution to a cumulative land use impact would thereby be considered less than significant.

3.10.2.5 Level of Impact After Mitigation

Less Than Significant Impact.

3.11 NOISE

This section provides an analysis of the potential noise impacts associated with the construction and operation of the proposed project. This analysis describes the existing and proposed conditions of noise in the study area, evaluates the relevant components and characteristics, and assesses the impacts that have the potential to occur as a result of the project.

3.11.1 Environmental Setting

3.11.1.1 Existing Conditions

The existing noise environment consists of vehicle noise from local street traffic on Doris Avenue, North Patterson Road, nature sounds, and community sounds. Agriculture land use is located south of the project site and west across North Patterson Road. Single family homes are located to north of the project site across Doris Avenue. The Oxnard Airport is located approximately 0.3 miles south of the project site. No ambient noise monitoring data have been identified for the project vicinity, but existing land use patterns and street patterns as well as the existing noise contours published in the City of Oxnard's Noise Element indicate that the existing ambient noise levels at the proposed project site should be at or below 65 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL).

3.11.1.2 Regulatory Setting

Federal Regulatory Setting

U.S. Environmental Protection Agency. The USEPA (USEPA 1974) has developed and published criteria for environmental noise levels with a directive to protect public health and welfare with an adequate margin of safety. This USEPA criterion (Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety) was developed to be used as an acceptable guideline when no other local, county, or State standard has been established. However, the USEPA criterion is not meant to substitute for agency regulations or standards in cases where States and localities have developed criteria according to their individual needs and situations.

Federal Transit Administration (FTA). The FTA has developed vibration impact thresholds for noise-sensitive buildings, residences, and institutional land uses. These thresholds are 80 vibration velocity level (VdB) at residences and buildings where people normally sleep (e.g., nearby residences and daycare facilities) and 83 VdB at institutional buildings (e.g., schools and churches). These thresholds apply to conditions where there are an infrequent number of events per day. Although established for transportation-related activities, these thresholds are widely used to evaluate the significance

State Regulatory Setting

The State of California. Office of Noise Control Standards has also developed land use compatibility guidelines for community noise (California Office of Noise Control 1976). Following these guidelines, establishing residences, churches, libraries, hospitals, and schools in areas exceeding 70 dB CNEL is normally unacceptable. These facilities are conditionally acceptable in areas that measure between 60 and 70 dB CNEL. Professional and commercial office buildings are normally unacceptable in areas exceeding 75 dB CNEL, and are conditionally acceptable in areas that measure between 67 dB and 77 dB CNEL. These guidelines, however, can be modified to reflect sensitivities of individual communities to noise.

Local Regulatory Setting

The City of Oxnard Noise Element. The City of Oxnard Noise Element to the General Plan identifies the land use compatibility standard for noise-sensitive land uses as a CNEL of 55 dBA to 70 dBA as conditionally acceptable. The Noise Element has identified mutually compatible goals, objectives, and policies that provide a general

framework for future efforts to achieve a quiet environment. These goals, objectives and policies listed in the Noise Element are provided below:

- Goals
  - A quiet environment for residents of Oxnard.
- Objectives
  - Provide acceptable noise levels for residential and other noise-sensitive land uses consistent with State guidelines.
  - Protect noise-sensitive uses from areas with high ambient noise levels.
  - Integrate noise considerations into the community planning process to prevent noise/land use conflicts.
- Policies
  - The City should encourage land uses that are not noise sensitive in areas that are permanently committed to noise producing land uses, such as transportation corridors.
  - The City should promote maximum efficiency in noise abatement efforts through intergovernmental coordination and public information programs.
  - Educational institutions should be located in areas where students and teachers can perform without distraction from noise.
  - The City shall promote, where feasible, alternative sound attenuation measures other than the traditional wall barrier.
  - Municipal policies shall be consistent with the Ventura County Airport Land Use Commission's adopted land use plan.
  - Proposed development projects shall not generate more noise than that classified as "satisfactory", as determined by noise compatibility standards, on nearby property. Project applicants shall reduce or buffer the noise generated by their projects.
  - The City shall prohibit the development of noise-sensitive land uses within the Oxnard Airport 65 dB(A) CNEL contour.
  - The City shall continue to enforce State Noise Insulation Standards for proposed projects in suspected high noise environments. The Planning Division shall notify prospective developers that, as a condition of permit issuance, they must comply with noise mitigation measures, which designed by an acoustical engineer. No building permits will be issued without City staff approval of the acoustical report/design.
  - The City shall establish noise referral zones along existing or proposed major transportation routes. Proposed development within these zones should be evaluated for noise impacts.
  - Preparation of the Ormond Beach Specific Plan shall include acoustical analysis to determine potential impacts from Point Mugu Naval Air Station and Air National Guard facility.
  - Noise contour maps and tables shall be utilized as a guide to future land use decisions.

City of Oxnard Code of Ordinances. The City of Oxnard's Code of Ordinances Chapter 7 Section 7-185 limits noise propagation to residential land uses from stationary equipment during the daytime period (7:00 AM to 10:00 PM) to 55 dBA equivalent continuous sound level (Leq) and during the nighttime period (10:00 PM to 7:00 AM) to 50 dBA Leq.

3.11.2 Impact Analysis

3.11.2.1 Methodology

To determine potential noise effects of the Proposed Project during the construction and daily operations of the facility, a noise model was constructed to evaluate the effects of the Proposed Project related noise sources on the environment. Modeling of the project site and surrounding environment was accomplished using Cadna (Computer Aided Noise Abatement), which is a model-based computer program developed for predicting noise impacts in a wide variety of conditions. Cadna allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed CAD model, and uses the most up-to-date calculation standards to predict outdoor noise impacts to property lines and adjacent surrounding areas.

3.11.2.2 Significance Thresholds

The thresholds for noise resource impacts used in this analysis are consistent with Appendix G of the CEQA Guidelines and the City of Oxnard's CEQA Guidelines.

- *Would the project expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?*
- *Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?*
- *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*
- *Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*
- *Would the project be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?*
- *Would the project expose non-human species to excessive noise?*

3.11.2.3 Project Impacts

Would the project expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

Less Than Significant Impact. The City of Oxnard General Plan Noise Element identifies land use compatibility standard for noise-sensitive land uses as a CNEL of 55 dBA to 70 dBA as conditionally acceptable. No ambient noise monitoring data have been identified for the Project vicinity, but existing land use patterns and street patterns indicate within the City of Oxnard's Noise Element that the existing ambient noise levels should be below the CNEL standard of 65 dBA at the project site and adjacent properties. The construction of the proposed school site would have only a minimal impact on daily traffic volumes in the project vicinity, and thus would have minimal impact on traffic noise conditions.

The City of Oxnard's Code of Ordinances Chapter 7 Section 7-185 limits noise propagation to residential land uses from stationary equipment during the daytime period (7:00 AM to 10:00 PM) to 55 dBA Leq and during the nighttime period (10:00 PM to 7:00 AM) to 50 dBA Leq. The Project consists of the construction and operation of a new elementary, middle school, and District administrative center on a 25 acre site. This proposed facility will include twelve new buildings, which include rooftop HVAC units. The classrooms would be designed and constructed to have a Community Noise Equivalent Level of 45 dB or less.

The HVAC units will be surrounded by a parapet wall. According to the manufacturers, the sound power levels for the packaged air conditioning units are 89 dBA. Given the elevated rooftop height for the mechanical equipment and assuming the rooftop mechanical equipment operates simultaneously, the noise levels from the operation of

all the rooftop mechanical equipment would range from 46 dBA Leq at the single family residential homes located to the northwest near the intersection of Doris Avenue and Patterson Avenue, to 49 dBA Leq at the single family residential homes located directly north across Doris Avenue. Existing classrooms are located directly north adjacent to the proposed classroom building. The noise levels generated by the proposed Project will comply with the City of Oxnard's General Plan and Code of Ordinances. Therefore, project impact is less than significant.

Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Operation of the school would not generate vibration; however, construction of the classroom buildings and site grading as well as infrastructure improvements and utility connections would require the use of equipment that could generate vibration. Possible sources of vibration may include bulldozers, dump trucks, backhoes, rollers, and other construction equipment that produces vibration. No blasting will be required at the project site.

Project construction activities would occur within approximately 50 feet from the nearest signal family residence. According to FTA guidelines, a vibration level of 78 VdB (Vibration Velocity Level) is the threshold of perceptibility for humans. For a significant impact to occur, vibration levels must exceed 80 VdB during infrequent events (Federal Transit Administration 1995). Based on the levels published by the FTA (Federal Transit Administration 2006) and the type of equipment proposed for use at the proposed Project, coupled with the distance to the existing identified noise sensitive receptors, analysis shows that the vibration levels maybe perceptible at the nearest sensitive receptors, but will be below the maximum vibration level of 80 VdB. This vibration level is considered acceptable for impacts to sensitive receptors. Therefore, project impact is less than significant impact.

Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. The dominant noise sources in the vicinity of the proposed Project site is traffic noise associated with Doris Avenue and North Patterson Road. Based on existing traffic volumes, noise impacts to adjacent residences range from 57 dBA CNEL to 64 dBA CNEL. The Project would result in an increase in traffic along Doris Avenue and North Patterson Road during the arrival and departure of students. The Project traffic analysis identifies an increase of 3,600 Average Daily Trips (ADT). Doris Avenue ADT will increase with 53% (1,900 ADT) of the Project-related ADT, and North Patterson Road ADT will increase with 47% (1,700 ADT) of the Project-related ADT. This increase in ADT represents an increase of less than 2 dBA at the residences adjacent to the proposed project. According to the CEQA guidelines, an increase in the overall ambient community noise level of less than 2 dBA is considered to be a less than significant impact.

The Project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the Project site. Oxnard Airport is an active general aviation/small scheduled service airport with approximately 169 based aircraft and approximately 74,157 operations for calendar year 2016 (Ventura County 2017). The Oxnard Airport Noise Contour map within the City of Oxnard Noise Element to the General Plan shows that the project site is located just outside of the 60 dBA CNEL contour. Therefore, the noise impact levels from the Oxnard Airport to the project site will be below 60 dBA CNEL and with typical educational facility construction with windows closed, interior noise levels from aircraft operations are expected to achieve 45 dBA CNEL or less, which achieves both the State and City interior noise requirements. Therefore, noise impacts from the Oxnard Airport are considered to be less than significant.

This proposed facility will include twelve new buildings, which include rooftop heating, ventilation, and air conditioning (HVAC) units. The HVAC units will be surrounded by a parapet wall. The noise levels from the operation of all the rooftop mechanical equipment would range from 46 dBA Leq at the single family residential homes located to the northwest neat the intersection of Doris Avenue and Patterson Avenue, to 49 dBA Leq at the single family residential homes located directly north across Doris Avenue. Based on the existing noise levels generated by vehicle traffic, the noise impacts from the rooftop mechanical equipment would result in an increase

of less than 1 dBA to the ambient noise levels at the adjacent residential property lines. Since the proposed Project is shown to only increase the overall ambient community noise level by less than one dBA, project impact would be less than significant impact.

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant With Mitigation. Construction of the proposed K-5 and 6-8 schools are planned to start in 2019. All project construction activities including those for the Administrative Facilities are anticipated to be completed by the start of the 2021-2022 school year. The Project construction activities are anticipated to occur in phases and include site preparation, grading, building construction, paving, architectural coating, and landscaping. These construction activities would require a variety of equipment. Typical construction equipment would not be expected to generate noise levels above 90 dBA at 50 feet, and most equipment types would typically generate noise levels of less than 85 dBA at 50 feet.

The highest noise levels during construction are normally generated during site grading and foundation work. Grading equipment would be the loudest equipment used at the site. This equipment is expected to generate a maximum instantaneous noise level (Lmax) of up to 75 - 80 dBA at the single family homes located at a distance of 100 feet. This would be loud enough to temporarily interfere with speech communication outdoors and indoors with the windows open. Project construction would occur between the hours of 7:00 AM and 3:30 PM, Monday through Friday. Project construction will also implement standard noise reduction measures. Due to the infrequent nature of loud construction activities at the site, the limited hours of construction, and the implementation of Mitigation Measure N-1, the temporary increase in noise due to construction is considered to be a less than significant impact.

Infrastructure improvements and utility connections are expected to occur as part of the proposed project. These include roadway improvements and site required utility connections. Roadway improvements include the widening of both Doris Avenue and Patterson Road as well as traffic signing and striping. Electrical and water lines are located on the south side of Doris Avenue and sewer lines are located down the center of Patterson Road. The final locations of the utility connections were not known at the time of this study. However, construction for both the roadway improvements and utility connections are expected to occur on the south portion of Doris Avenue and along Patterson Road south of Doris Avenue. These construction operations could occur within 50 feet of single family residential home and could result in noise levels (Lmax) of up to 80 - 85 dBA. These construction operations would incorporate Mitigation Measure N-1 to reduce the construction noise levels. Therefore, the increase in noise due to the infrastructure and utility related activities is considered to be less than significant.

Would the project be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. The Project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the Project site. Oxnard Airport is an active general aviation/small scheduled service airport with approximately 169 based aircraft and approximately 74,157 operations for calendar year 2016 (Ventura County 2017). The Oxnard Airport Noise Contour map within the City of Oxnard Noise Element to the General Plan shows that the project site is just outside of the 60 dBA CNEL contour. The noise impact levels from the Oxnard Airport to the project site will be below 60 dBA CNEL and is consider acceptable for the proposed land use based on the land use compatibility within the City of Oxnard General Plan Noise Element. Therefore, noise impacts from the Oxnard Airport are considered less than significant.

Would the project expose non-human species to excessive noise?

No Impact. As indicated in section 3.4, Biological Resources, no candidate, sensitive, or special-status wildlife or plant species in any local or regional plans, policies, or regulations, or regulated by the CDFW or USFWS were

observed during the site visit in July 2017. Additionally, no suitable habitat for these species was found within or directly adjacent to the project site. Therefore, the proposed project would not expose non-human species to excessive noise levels.

3.11.2.4 Cumulative Impacts

Cumulative projects include the effects of existing, current, and reasonability foreseeable future projects. The reasonability foreseeable future projects within the vicinity of the proposed project include the Teal Club Specific Plan. Buildout of the City's SOI area including the project site, was accounted for in the City's 2030 General Plan Program EIR (SCH 2007041024) that concluded that General Plan buildout could result in some noise related impacts that would be significant and unavoidable (Oxnard 2009). These impacts include exposing a variety of noise sensitive land uses to traffic noise, railroad noise, and/or excessive groundborne vibration or groundborne noise levels. The 2030 General Plan EIR also concluded that other potential noise impacts could be mitigated through the implementation of regulatory controls and measures present in the City Noise Ordinance and other policies (Oxnard 2017). The proposed project is a similar land use development scenario to what was anticipated in the 2030 General Plan under buildout conditions for the project site. As noted above, the proposed Project is shown to only increase the overall ambient community noise level by less than two dBA and would not generate or expose persons to excessive groundborne vibration or groundborne noise. Therefore, project cumulative impact would be less than significant.

3.11.2.5 Mitigation Measures

N-1: Construction noise levels fluctuate depending on the construction phase, equipment type and duration of use; distance between noise source and sensitive receptor; and the presence or absence of barriers between noise source and receptors. Therefore, the Project proponent should require construction contractors to limit standard construction activities as follows:

- Equipment and trucks used for Project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. In addition, the time allowed for equipment and trucks to idle will be limited to the extent practicable.
- Stationary noise sources shall be located as far from adjacent receptors as possible and shall be muffled and enclosed within temporary sheds, incorporate insulation barriers or other measures to the extent feasible.
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible. This could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drilling rather that impact equipment whenever feasible.
- Heavy construction equipment operations should be limited during the school period when classrooms are being utilized in the adjacent building.
- When heavy construction activities are located within 75 feet of a residential structure deploy a temporary portable sound barrier between the construction activities and nearest sensitive receptor.

3.11.2.6 Level of Impact After Mitigation

With the implementation of Mitigation Measure N-1, project impact would be less than significant.

3.12 POPULATION

This section evaluates the proposed project's potential impacts to population.

3.12.1 Environmental Setting

3.12.1.1 Existing Conditions

As of the census in 2010, the City of Oxnard had a population of 197,899 and was determined to be the 21st largest city within California (City of Oxnard 2011). Table 3-21 provides the population estimates of population and households for the City of Oxnard and Ventura County for 2016-2017. Overall, the City of Oxnard makes up about 24% of the countywide population of 857,386 (State of California Finance Department of Finance 2017). Between 2016 and 2017, population in Ventura County increased by an estimated 0.4%. Population in the City of Oxnard increased by 0.5%.

Table 3-21. Population Estimates for Ventura County and the City of Oxnard, 2016-2017

	Total Population		Percent Change
	1/1/2016	1/1/2017	
Ventura	853,893	857,386	0.4 increase
Oxnard	206,754	207,772	0.5 increase

Source: State of California Finance Department of Finance 2017

Table 3-22 shows projections for population and household growth in the City of Oxnard through 2040 based on 2012 data. The City of Oxnard is estimated to grow by approximately 16% by 2040.

Table 3-22. Population Projections through 2040 for the City of Oxnard

	2012	2040	Difference (2012-2040)
Population	200,100	237,300	16% increase
Households	50,100	60,100	16% increase

Source: Southern California Association of Governments (SCAG), 2015.

3.12.1.2 Regulatory Setting

The City of Oxnard 2030 General Plan Goals and Polices for CD Growth Management for public facility service areas and ICS Education most relevant to the proposed project are provided herein.

Goal CD 8-8: Public Facility Service Areas. Provide appropriate service areas for existing and planning public facilities such as museum, secondary and elementary schools, fire stations, branch libraries, community centers, parks, and infrastructure utility for supporting facilities.

Goal ICS-21.1: Accommodating Growth. In coordination with the local school districts, designate sites for new school facilities in order to ensure that the number, type and location of school facilities are commensurate with growth.

3.12.2 Impact Analysis

3.12.2.1 Methodology

The assessment of the potential for the project to induce substantial growth indirectly as a result of construction of the project was evaluated using current population data and project growth for the City of Oxnard.

3.12.2.2 Significance Thresholds

Impacts to population are generally social or economic in nature. Under CEQA, a social or economic change is not considered a significant effect on the environment unless the change can be directly or indirectly linked to a physical change. Population impacts would therefore be considered potentially significant if growth associated with the proposed project would exceed SCAG growth projections for the area and if an exceedance would have the potential to create a significant physical change to the environment. The threshold for population impacts used in this analysis is consistent with Appendix G of the CEQA Guidelines.

- *Would the project Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

3.12.2.3 Project Impacts

Would the project Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

The City of Oxnard has identified the requirement for identifying public facility service areas for existing and planned schools (City of Oxnard 2011). The construction and operation of the educational facilities is not a housing project. The project would generate a minor number of jobs that may be filled by the existing labor pool or from outside sources. The student population would be part of the existing and projected growth for the city. In general, K-12 schools accommodate growth as a result of other land use decisions in the City such as the construction of new homes.

The project site is within the City of Oxnard SOI and is adjacent to a fully developed residential development to the north. Buildout of this SOI was accounted for in the City's 2030 General Plan. The school facilities would require utility improvements to connect the site as well as internal improvements. As these facilities would accommodate existing and projected growth and the requirement for local schools, an indirect impact related to growth inducement would not occur. Therefore, project impact would be less than significant.

3.12.2.4 Cumulative Impacts

The proposed project would not add a substantial number of new jobs. The students and staff attending the school facilities are included in existing and forecasted population growth for the City of Oxnard. The proposed project would support existing and future students and infrastructure improvements would not indirectly cause an increase in population growth. Therefore, project contribution for a cumulative impact would be less than significant.

3.12.2.5 Mitigation Measures

No Mitigation Measures are required.

3.12.2.6 Level of Impact After Mitigation

No Mitigation Measures are required; project impact would be less than significant.

3.13 PUBLIC SERVICES

This section evaluates the proposed project's potential impacts to fire and police protection services.

3.13.1 Environmental Setting

3.13.1.1 Existing Conditions

Fire Protection

The Oxnard Fire Department provides a full range of emergency and non-emergency services to the community and is staffed by approximately 93 sworn and 10 civilian employees. (OFD 2017). The majority of the safety positions are assigned to the Suppression Division that provides emergency services for City residents. The mission of the Oxnard Fire Department is to serve the public and safeguard the community by preventing or minimizing the impact of emergency situations to life, the environment, and property by responding to both emergency and non-emergency calls for service (City of Oxnard 2011). In 2017, the Oxnard Fire Department responded to 8,000 incidents and 10,000 individual unit responses. There are eight Fire Stations in the City of Oxnard and the nearest Fire Station to the project site is Station 1 (City of Oxnard 2017). Based on an interview with Assistant Chief Alex Hamilton, Station1 and Station 4 would provide emergency and non-emergency services to the project site (Oxnard Fire Department 2017). The location of Fire Stations within the City and the approximate distance of the stations to the project site are identified in Table 3-23.

Table 3-23. Fire Station Locations

Station Number	Address	Approximate Driving Distance to Project Site
1	491 South "K" Street, Oxnard, CA 93030	1.7 miles
2	531 East Pleasant Valley Road, Oxnard, CA 93030	5.7 miles
3	150 Hill Street, Oxnard, CA 93030	3.2 miles
4	230 West Vineyard Avenue, Oxnard, CA 93030	3.2 miles
5	1450 Colonia Road, Oxnard, CA 93030	2.7 miles
6	2601 Peninsula Road, Oxnard, CA 93030	3.2 miles
7	3300 Turnout Park Circle, Oxnard, CA 93036	4.9 miles
8	3000 South Rose Avenue, Oxnard, CA 93033	4.6 miles

(Source: Distances estimated utilizing Google Earth from the Station-site to the corner of Doris Avenue and Patterson Road).

Police Protection

The Oxnard Police Department provides police protection services to the City of Oxnard. The Oxnard Police Department employs approximately 249 sworn officers and 123 civilian support personnel under the leadership of Chief of Police Scott Whitney (OPD 2017).

The Department promotes a community-based policing philosophy, and has embraced prevention and intervention strategies in policing the city. There are five police officers that work hand-in-hand with the city's schools offering assistance to teachers and students alike providing a positive police presence on campus. The Department has the county's first Police Activities League program, a highly successful effort aimed at preteen youth in Oxnard who are in need of some positive interaction with an adult role model. Other community programs started by the Department include two police storefronts and several drop-in centers. Department personnel and a host of volunteers staff these storefronts and drop-in centers. Police services are provided to residents in their own areas through the storefronts rather than requiring the residents coming to the police station (OPD 2017).

The Department takes pride in the methods used to communicate with its residents. A weekly crime prevention television program titled *StreetBeat* keeps residents informed about crime in the city and offers crime prevention measures that can be used by all Oxnard residents. This television program has been replicated by more than 50 other police departments across the nation in recent years. A telemarketing computer was utilized to notify residents about crime patterns in their respective neighborhoods and the Department has established its own home page on the World Wide Web (OPD 2017).

As the City's population grows, service call demand increases. During 2013, police officers responded to over 100,000 calls for service. Oxnard Police Department maintained a response time to priority services calls that averaged under five minutes. This call category includes those calls that pose the greatest threat to life and safety, such as injury, traffic collisions, aggravated assaults, and in-progress crimes (OPD 2013). Recorded response times by the Oxnard Police Department by priority for 2015 and 2016 are provided in Table 3-24.

Table 3-24. Oxnard Response Time by Priority for 2015 and 2016

	2015		2016	
Priority Number	Call Count	Response Time (Non-Audited) (Minutes)	Call Count	Response Time (Non-Audited) (Minutes)
P1+	368	0:06:37	251	0:06:25
P1	41,176	0:08:39	33,806	0:17:41
P2	34,798	0:35:33	34,414	0:44:39
P3	33,063	1:12:53	32,034	1:05:19
P4	752	N/A	7,794	N/A
Total	**110,154**			

N/A: Not available

Source: City of Oxnard Public Records Act Request 17-253, received 09 November 2017

3.13.1.2 Regulatory Setting

Local

The City of Oxnard 2030 General Plan Goals and Polices for infrastructure and community services (ICS) for police and fire protection services most relevant to the proposed project are provided herein.

Goal ICS-19 Adequate and effective law enforcement and the incorporation of crime prevention features in development.

ICS-19.2 Police Review of Development Projects: Continue to require the Police Department to review proposed development projects and provide recommendations that enhance public safety.

ICS-19.4 Crime Prevention Device Requirements: Require crime prevention devices (e.g. deadbolt locks, peepholes, etc.) in all new development.

ICS-19.5 Incorporating Security Design Principles: Encourage crime prevention and defensible space through design principles such as those employed through the National Crime Prevention through Environmental Design program, Neighborhood Watch Program, and/or other appropriate methods to enhance public safety.

ICS-19.7 New Development: Require new development to fund a fair share extension of police services to maintain service standards, including personnel and capital improvement costs.

ICS-19.8 Response Time: Achieve and maintain an average response time of five (5) minutes or less for priority one calls.

Goal ICS-20 Protected public through effective fire prevention services and the incorporation of fire safety features in new development.

ICS-20.1 Fire Response Time: Achieve and maintain a response time of five minutes 90% of the time as a goal for service call response and siting of new fire stations.

ICS-20.5 Fire Services to New Development: require new development to fund a fair share extension of fire services to maintain service standards, including personnel and capital improvement costs.

ICS-20.7 Adherence to City Standards: Ensure that water main size, water flow, fire hydrant spacing, and other fire facilities meet City standards.

ICS-20.8 Development Review: review new development applications to assess potential impacts to existing fire protection services and the need for additional and expanded services.

ICS-20.10 Adequate Emergency Access and Routes: Require that new development provide adequate access for emergency vehicles, particularly firefighting equipment, and evacuation routes, as appropriate.

3.13.2 Impact Analysis

3.13.2.1 Methodology

The City of Oxnard CEQA guidelines for public services that include fire protection/emergency medical response/law enforcement, provides for the use appropriate service generation factors or input from service providers to determine the anticipated demand of the project for these public services. For an analysis of project impact, a determination of whether the increase in demand is within the capabilities of existing facilities or whether new or expanded facilities would be needed. Any needed new personnel would constitute a potentially significant environmental impact only if the need for new personnel may necessitate the construction of new facilities or expansion of existing facilities, the construction of which may have significant environmental effects.

3.13.2.2 Significance Thresholds

The significance criteria for this analysis is from Appendix G of the State CEQA Guidelines. The proposed project would result in a significant impact if it would:

- *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:*
    - *Fire Protection?*
    - *Police Protection?*

3.13.2.3 Project Impacts

Fire Protection

The proposed project includes reorganization that would include annexation into the City of Oxnard and detachment from the Ventura County Fire Protection District. Oxnard Fire Department provides fire protection to the City. The proposed project would be designed and constructed to meet required fire standards that would include adequate emergency vehicle access. Construction would comply with the Occupational Safety and Health Administration (OSHA) and Fire and Building Codes.

Operation of the school facility is anticipated to generate a typical range of service calls including fire suppression, emergency medical, and emergency rescue requests for service. Fire Station 1 located at 491 South "K" Street is within 1.7 miles and Fire Station 4 located at 230 West Vineyard Avenue within 3.2 miles of the project area are close enough to provide fire protection services in within a reasonable response time. The Oxnard Fire Department has provided an estimate that the response time from Fire Station 1 to the corner of Doric Avenue and Patterson Road is approximately 2 minutes, 27 seconds. The response from Fire Station 4 to the corner of Doris Avenue and Patterson Road is approximately 4 minutes 22 seconds (Oxnard Fire Department 2017).Therefore, with compliance with existing regulations, project impact on fire protection services would be less than significant.

Police Protection

The District and its program manager shall direct the contractor to properly fence the site during construction of the school facilities. The fence will help to reduce the potential for materials and equipment to be targets of theft that could result in a need for increased police services during construction.

During operation, the school facilities would be within the service boundary of the Oxnard Police Department. The school facilities are proposed to accommodate both existing and anticipated future enrollment. Public funds such as property taxes would be used to cover the incremental costs associated with providing police services for future enrollment at the facilities. The project would not require the expansion of existing police facilities or the construction of new facilities. As a result, the proposed project would result in a less than significant impact related to police protection during construction and operation of the proposed project.

3.13.2.4 Cumulative Impacts

Fire Protection

The project area would be annexed into the City of Oxnard. As a result, the area for cumulative analysis for fire protection is the City of Oxnard. The proposed project would cause an incremental increase demand on fire protection services. Consistent with General Plan Policies ISC-1.1, ISC-1.2, ISC-1.3 and ISC-1.4, as development in the area occurs, impact fees specific to fire protection would be required and available for allocation by the City of Oxnard to the City of Oxnard Fire Department to ensure adequate levels of service (City of Oxnard 2011).

Police Protection

The project area would be annexed into the City of Oxnard. As a result, the area for cumulative analysis for police protection is the City of Oxnard. The proposed project would cause an incremental increase demand on police protection and would add students, employees and increased traffic that could hinder emergency response. As development in the area occurs, impact fees specific to police protection would be required and available for allocation by the City of Oxnard to the City of Oxnard Police Department to ensure adequate levels of service (City of Oxnard 2011).

3.13.2.5 Mitigation Measures

No Mitigation Measures are required.

3.13.2.6 Level of Impact After Mitigation

No Mitigation Measures are required; project impact would be less than significant.

3.14 TRANSPORTATION AND TRAFFIC

This section provides a discussion of existing transportation and traffic conditions and an analysis of potential impacts on traffic conditions from implementation of the proposed project. This section is based on information provided in the Traffic Impact Analysis Report (TIAR) for the Doris Patterson Educational Facilities prepared by Kunzman Associates, Inc. (KA 2017). The TIAR is included in Appendix K of this EIR.

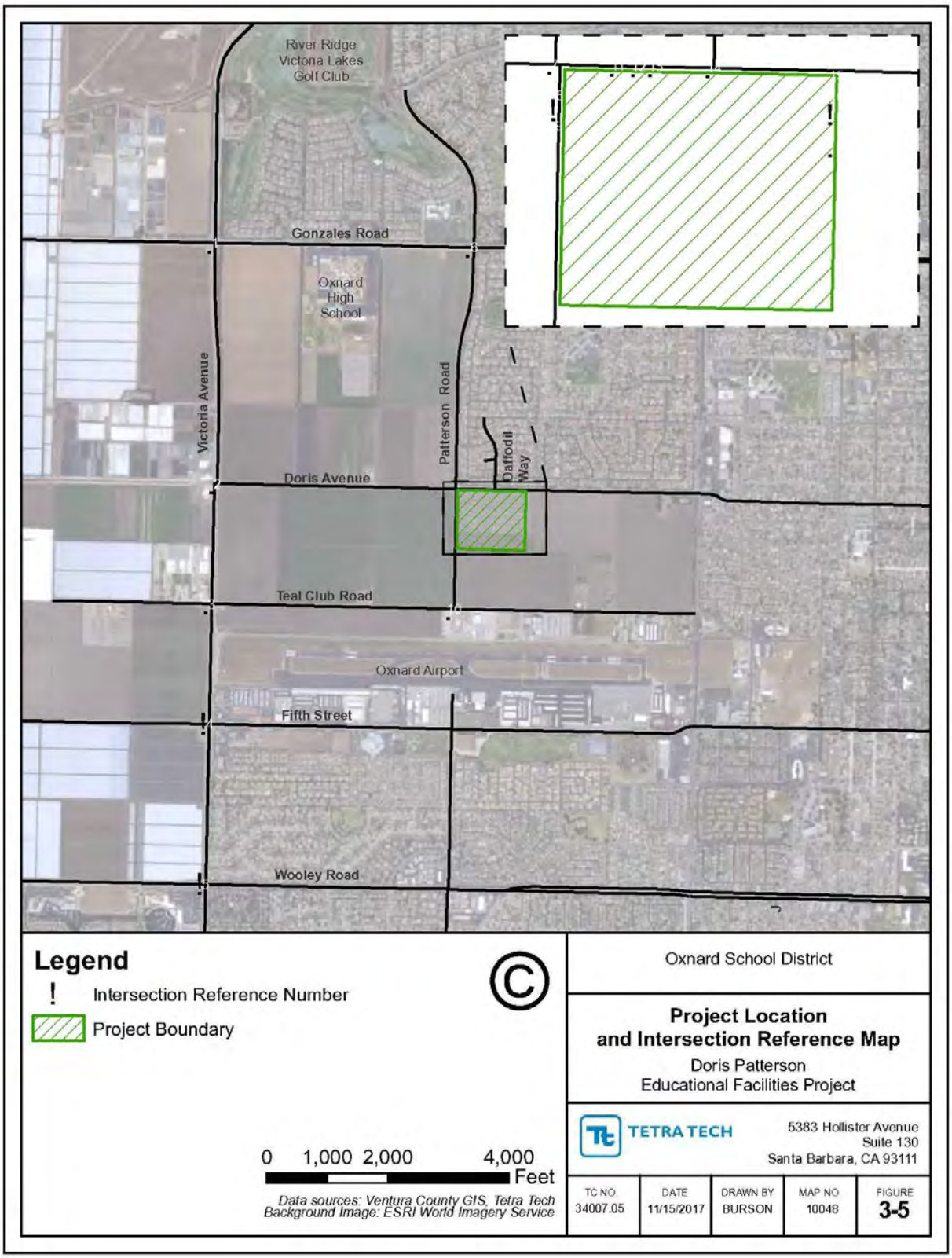
As noted in the Initial Study (Appendix A), the proposed project would not: Result in a change in air traffic patterns including either an increase in traffic levels or a change in location that results in substantial safety risks.

3.14.1 Environmental Setting

3.14.1.1 Existing Conditions

The project site is located at the southeast corner of Patterson Road and Doris Avenue intersection in unincorporated Ventura County and within the City of Oxnard SOI. Study area roadways that would be utilized by the proposed project include Victoria Avenue, Patterson Road, Gonzales Road, Doris Avenue, Teal Club Road, 5th Street, and Wooley Road. The location of these roadways is identified on Figure 3-5 and a description of these roadways is provided herein:

- **Victoria Avenue:** This north-south roadway is currently four lanes divided to six lanes divided in the study area. Victoria Avenue is classified as a Primary Arterial (6 lanes) on the City of Oxnard General Plan Circulation Element.
- **Patterson Road:** This north-south roadway is currently two lanes divided in the study area. Patterson Road is classified as a Local Arterial (2-4 lanes) on the City of Oxnard General Plan Circulation Element.
- **Gonzales Road:** This east-west roadway is currently four lanes divided in the study area. It is classified as a Primary Arterial (6 lanes) east of Victoria Avenue on the City of Ontario General Plan Circulation Element.
- **Doris Avenue:** This east-west roadway is currently two lanes undivided to three lanes divided in the study area. It is classified as a Local Arterial (2-4 lanes) on the City of Oxnard General Plan Circulation Element.
- **Teal Club Road:** This east-west roadway is currently two lanes undivided in the study area. It is classified as a Local Arterial (2-4 lanes) on the City of Oxnard General Plan Circulation Element.
- **Fifth Street:** This east-west roadway is currently four lanes divided in the study area. It is classified as a Secondary Arterial (4 lanes) east of Victoria Avenue and a Local Arterial (2-4 lanes) west of Victoria Avenue on the City of Oxnard General Plan Circulation Element.
- **Wooley Road:** This east-west roadway is currently four lanes divided in the study area. It is classified as a Secondary Arterial (4 lanes) east of Victoria Avenue and a Local Arterial (2-4 lanes) west of Victoria Avenue on the City of Oxnard General Plan Circulation Element.


River Ridge
Victoria Lakes
Golf Club
Gonzales Road
Oxnard
High
School
Victoria Avenue
Patterson Road
Daffodil
Way
Doris Avenue
Teal Club Road
Oxnard Airport
Fifth Street
Wooley Road
Legend
Intersection Reference Number
Project Boundary
0 1,000 2,000 4,000
Feet
Data sources: Ventura County GIS, Tetra Tech
Background Image: ESRI World Imagery Service
Oxnard School District
Project Location
and Intersection Reference Map
Doris Patterson
Educational Facilities Project
TETRA TECH
5383 Hollister Avenue
Suite 130
Santa Barbara, CA 93111
TC NO. 34007.05
DATE 11/15/2017
DRAWN BY BURSON
MAP NO. 10048
FIGURE 3-5

Study Area Intersections

As part of the TIAR, 17 intersections have been identified and investigated as potentially impacted by the proposed project. These intersections and the jurisdictions they are located in are identified in Table 3-25.

Table 3-25. Study Area Intersections

Study Intersections	Jurisdiction
Victoria Avenue (NS) at:	
Gonzales Road (EW) - #1	City of Oxnard
Doris Avenue (EW) - #2	County of Ventura
Teal Club Road (EW) - #3	City of Oxnard/County of Ventura*
5th Street (EW) - #4	City of Oxnard
Wooley Road (EW) - #5	City of Oxnard
Patterson Road (NS) at:	
Gonzales Road (EW) - #6	City of Oxnard
Doris Avenue (EW) - #7	City of Oxnard/County of Ventura*
Project North Driveway (EW) - #8	County of Ventura*
Project South Driveway (EW) - #9	County of Ventura*
Teal Club Road (EW) - #10	City of Oxnard/County of Ventura*
Project West Driveway (NS) at:	
Doris Avenue (EW) - #11	City of Oxnard
Project Central Driveway (NS) at:	
Doris Avenue (EW) - #12	City of Oxnard
Project East Driveway (NS) at:	
Doris Avenue (EW) - #13	City of Oxnard
Daffodil Way (NS) at:	
Doris Avenue (EW) - #14	City of Oxnard
Middle School Roadway (NS) at:	
Doris Avenue (EW) - #15	City of Oxnard
Project North Driveway (EW) - #16	County of Ventura*
Project South Driveway (EW) - #17	County of Ventura*

* Within City of Oxnard SOI.

The technique used to assess the operation of a signalized intersection is known as Intersection Capacity Utilization. To calculate an Intersection Capacity Utilization value, the volume of traffic using the intersection is compared with the capacity of the intersection. The Intersection Capacity Utilization represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The Intersection Capacity Utilization/Delay for the Existing traffic conditions have been calculated and are shown in Table 3-26.

There are two peak hours in a weekday. The morning peak hour is between 7:00 AM and 9:00 AM, and the evening peak hour is between 4:00 PM and 6:00 PM. The actual peak hour within the two-hour interval is the four

consecutive 15-minute periods with the highest total volume when all movements are added together. Thus, the evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest combined volume.

The study intersections currently operate within acceptable Levels of Service during the peak hours for existing traffic conditions, except for the following study intersection that currently operates at unacceptable Levels of Service during the peak hours:

- Victoria Avenue (NS) at:

  Teal Club Road (EW) - #3

Truck Routes. Truck routes are currently provided on Victoria Avenue, Gonzales Road, 5th Street, and Wooley Road in the study area. The City of Oxnard truck route map is depicted on Figure 8 in the TIAR (Appendix K).

Transit Service. The study area is currently served by Gold Coast Transit Routes 19, 20, and 21. Routes 19 and 20 travel along Gonzales Road, Victoria Avenue, and 5th Street. Route 21 travels along Victoria Avenue.

Bicycle Facilities. Patterson Road currently provides an existing Bicycle Facility – Class II (north of Doris Avenue) and is proposed to provide a recommended Bicycle Facility – Class II (south of Doris Avenue). Doris Avenue is proposed to provide a recommended Bicycle Facility - Class II (east of Patterson Road). Figure 10 in the TIAR (Appendix K) identifies the proposed bicycle and pedestrian facilities from the City of Oxnard Bicycle & Pedestrian Facilities Master Plan (February 2011).

Table 3-26. Opening Year (2020) Without Project Intersection Levels of Service

Intersection		Intersection Approach Lanes[3]												V/C (Delay)-LOS[3]	
	Traffic	Northbound			Southbound			Eastbound			Westbound			Peak Hour	
	Control[2]	L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Victoria Avenue (NS) at:															
Gonzales Road (EW) - #1															
- Without Improvements	TS	1	3	1	2	2	1	1	2	d	2	2	1	0.830-D	0.820-D
- With Improvements	TS	1	3	1	2	**3**	1	1	2	d	2	**2**	**2**	0.652-B	0.592-A
Doris Avenue (EW) - #2													-		
- Without Improvements	TS	1	2	d	1	2	d	<	1	>	1	1	1	0.888-D	0.785-C
- With Improvements	TS	1	**3**	1	1	2	d	<	1	>	1	1	1	0.675-B	0.785-C
Teal Club Road (EW) - #3															
- Without Improvements	CSS	1	2	d	1	2	d	1	1	1	1	1	1	(99.9-F)	(99.9-F)
- With Improvements	**TS**	1	2	d	1	2	d	1	1	1	1	1	1	0.764-C	0.763-C
5th Street (EW) - #4	TS	2	3	1	2	3	1	1	2	1	2	2	1	0.738-C	0.583-A
Wooley Road (EW) - #5	TS	1	3	1	1	3	1>	1	2	1	1	2	1>	0.658-B	0.624-B
Patterson Road (NS) at:															

Table 3-26 (Continued). Opening Year (2020) Without Project Intersection Levels of Service

Intersection		Intersection Approach Lanes[3]												V/C (Delay)-LOS[3]	
	Traffic	Northbound			Southbound			Eastbound			Westbound			Peak Hour	
	Control[2]	L	T	R	L	T	R	L	T	R	L	T	R	Morning	Evening
Gonzales Road (EW) - #6	TS	1	1	d	1	1	1	1	2	d	1	2	1	0.524-A	0.484-A
Doris Avenue (EW) - #7															
- Without Improvements	AWS	<	1	>	1	1	1	<	1	>	1	1	1	(14.4-B)	(12.1-B)
- With Improvements	**TS**	<	1	>	1	1	1	<	1	>	1	1	1	0.393-A	0.321-A
Teal Club Road (EW) - #10	CSS	<	1	>	<	1	>	<	1	>	<	1	>	(12.5-B)	(13.0-B)
Daffodil Way (NS) at:															
Doris Avenue (EW) - #14	CSS	0	0	0	1	0	d	1	1	0	0	2	d	(14.3-B)	(13.1-B)

[1] TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop Control
[2] When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; d = De Facto Right Turn; <1> = Shared Left/Through/Right; > = Right Turn Overlap; BOLD = Improvements
[3] Volume to capacity ratio (V/C), delay, and Level of Service (LOS) have been calculated using the following analysis software: Vistro, Version 5.00-02.
Delay-based results are shown in parenthesis. For intersections with cross street stop control, the delay and Level of Service for the worst approach are shown. (99.9) = Delay High, Intersection Unstable, Level of Service F.

3.14.1.2 Regulatory Setting

Federal Regulations

There are no relevant federal transportation and circulation regulations applicable to the proposed project.

State Regulations

2016-2040 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS).

The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization (MPO) for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. SCAG is mandated by the federal government to develop a multimodal long-range transportation plan that provides a 20-year vision for investing in our transportation system, and update it at least once every four years. The 2016-2040 RTP/SCS, addresses all modes of our transportation system, and reflects research and policy initiatives from each mode: active transportation, aviation and airport ground access, corridor planning, goods movement, high-speed rail, intelligent transportation systems, safety and security, transit, and transportation finance (SCAG 2017).

Congestion Management Program

Ventura County Transportation Commission (VCTC) is the designated Congestion Management Authority (CMA) for Ventura County and is responsible for coordinating land use, transportation planning, and air quality to mitigate traffic congestion (VCTC 2017). The Congestion Management Program (CMP) provides local agencies and private developers the procedures and tools necessary to manage and decrease traffic congestion in the County (VCTC 2009).

Local Regulations

The City of Oxnard requires payment of a Traffic Impact Fee for new development based on the traffic increases resulting from each project. The funds accumulated by the City through assessment of these fees are earmarked for improvements to the City's transportation network, including arterial roads and intersections.

The County of Ventura also administers a traffic impact mitigation fee program to address the cumulative adverse impacts of development on the County's road network. As the City of Oxnard currently has a reciprocal agreement with the County, the Oxnard School District would be required to pay both City of Oxnard and County of Ventura traffic mitigation fees to mitigate for project related contributions to the City and regional road network.

3.14.2 Impact Analysis

3.14.2.1 Methodology

The traffic impact analysis must include all monitored intersections to which the project adds traffic above a certain minimum amount. In Ventura County, the monitored intersections are contained in the CMP. According to the CMP, the minimum acceptable standard for traffic operations is Level of Service E during the peak hours.

The performance criteria used for evaluating traffic volumes and roadway capacities are based on the City of Oxnard standards of Intersection Capacity Utilization methodology for calculating Levels of Service at signalized intersections during the morning and evening peak hours. For unsignalized intersections, the Highway Capacity Manual delay methodology was used.

According to the City of Oxnard criteria, Level of Service C during the peak hours is considered the worst acceptable Level of Service for an intersection. A project causes a significant impact if it contributes 0.02 or more to the Intersection Capacity Utilization value at an intersection operating at Level of Service C or worse during the peak hours. If the addition of project traffic volumes increases by 0.02 or more at an intersection operating at Level of Service C or worse, it should be mitigated to the Level of Service identified without the addition of the project traffic volumes.

The technique used to assess the operation of a signalized intersection is known as Intersection Capacity Utilization. To calculate an Intersection Capacity Utilization value, the volume of traffic using the intersection is compared with the capacity of the intersection. The Intersection Capacity Utilization represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity.

The technique used to assess the capacity needs of an unsignalized intersection is known as the Intersection Delay Method. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection.

Project trips are generated using rates and procedures contained in the Institute of Transportation Engineers *Trip Generation Manual*, 10th edition, 2017. The project trip distributions are provided by the reviewing agency or are agreed to in advance of the traffic impact analysis being prepared. The traffic impact analysis has to be prepared by a licensed traffic engineer.

The project generated trips were added to intersections, and a full intersection analysis was conducted, even when the project added traffic failed to meet the minimum thresholds that require an intersection analysis.

3.14.2.2 Significance Thresholds

The performance criteria used for evaluating traffic volumes and roadway capacities are based on the City of Oxnard standards of Intersection Capacity Utilization methodology for calculating Levels of Service at signalized intersections during the morning and evening peak hours. For unsignalized intersections, the Highway Capacity Manual delay methodology was used.

According to the City of Oxnard criteria, Level of Service C during the peak hours is considered the worst acceptable Level of Service for an intersection. A project causes a significant impact if it contributes 0.02 or more to the Intersection Capacity Utilization value at an intersection operating at Level of Service C or worse during the peak hours. If the addition of project traffic volumes increases by 0.02 or more at an intersection operating at Level of Service C or worse, it should be mitigated to the Level of Service identified without the addition of the project traffic volumes.

The thresholds for transportation and traffic impacts used in this analysis are consistent with Appendix G of the State CEQA Guidelines. The effects of the proposed project related to transportation and traffic are considered to be significant if the proposed project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

3.14.2.3 Project Impacts

Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

A traffic study was conducted for the proposed project (see the TIAR in Appendix K). As part of the TIAR, traffic counts were collected at nine intersections for AM and PM peak hours. Trip generation estimates were determined for the project site based on anticipated enrollment and standard trip generation rates. The trip generation was coordinated with City of Oxnard staff. Trips were distributed based on school routes and student information. The TIAR calculated intersection levels of service for existing conditions, cumulative conditions, and 2030 General Plan conditions with and without the proposed project. Cumulative conditions were developed based on a list of related (approved and pending) projects provided by City of Oxnard staff and 2030 General Plan traffic data from the Oxnard Traffic Model (OTM).

Project Trip Generation

The trips generated by the project were determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are predicated on the assumption that energy costs, the availability of roadway capacity, vehicles to drive, and lifestyles remain similar to what are known today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily traffic, morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land uses. By multiplying the trip generation rates by the land use quantities, the traffic volumes were determined. Table 3-27 shows the project trip

generation based upon rates obtained from the Institute of Transportation Engineers *Trip Generation Manual*, 10th edition, 2017 and information provided by the Oxnard School District.

As shown in Table 3-27, the proposed development is projected to generate a total of approximately 3,551 daily vehicle trips, 990 trips of which will occur during the morning peak hour and 306 trips of which will occur during the evening peak hour.

To determine the trip distributions for the proposed project, the school boundary map, locations of existing elementary and middle schools, intersection turning movement counts of the existing directional distribution of trips for existing areas in the vicinity of the site, previous traffic studies conducted in the study area, and other additional information on future development and traffic impacts in the area were reviewed. Please refer to Figures 12 to 17 in the TIAR (Appendix K) contain the directional distributions of the project trips for the proposed land uses.

Based on the identified trip generation and distributions, morning and evening peak hour intersection turning movement volumes expected from the project are shown on Figures 18 and 19 in the TIAR (Appendix K), respectively.

The trip reducing potential of public transit was not considered in the TIAR. Essentially the trip projections are conservative in that public transit would reduce the traffic volumes.

Table 3-27. Project Trip Generation[1]

Descriptor	Land Use	Quantity	Units[2]	Peak Hour						Daily
				Morning			Evening			
				Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates	Elementary School (K-5)		ST	0.36	0.31	0.67	0.08	0.09	0.17	1.89
	Middle School (6-8)		ST	0.31	0.27	0.58	0.08	0.09	0.17	2.13
	District Office		TSF	2.51	0.83	3.34	0.43	1.28	1.71	22.59
Trips Generated	Elementary School (K-5)	550	ST	198	171	369	44	50	94	1,040
	- School Bus[3]	150	ST	3	3	6	3	3	6	12
	Middle School (6-8)	900	ST	279	243	522	72	81	153	1,917
	- School Bus[4]	300	ST	5	5	10	5	5	10	20
	District Office	24.868	TSF	62	21	83	11	32	43	562
	Total			547	443	990	135	171	306	3,551

1 Source: Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017, Land Use Codes 520, 522, and 730.
2 ST = Students; TSF = Thousand Square Feet
3 Based upon the 2016-17 school year data, the Oxnard School District estimates that the proposed project will have approximately 150 of the 700 elementary school students riding the school buses. The maximum capacity of a standard school bus is 72 passengers.
4 Based upon the 2016-17 school year data, the Oxnard School District estimates that the proposed project will have approximately 300 of the 1,200 middle school students riding the school buses. The maximum capacity of a standard school bus is 72 passengers.

Existing Plus Project Traffic Impacts

Traffic impacts were analyzed based on the existing plus project condition in an effort to determine whether the additional trips generated by the proposed project would result in significant impacts to the study intersections.

The Intersection Capacity Utilization/Delay for the existing plus project traffic conditions have been calculated are shown in Table 3 in the TIAR (Appendix K). Existing plus project morning and evening peak hour intersection turning movements are shown on Figures 20 and 21 in the TIAR (Appendix K).

The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for existing plus project traffic conditions, except for the following three study intersections: Victoria Avenue (NS) at: Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for existing plus project traffic conditions. Therefore, Mitigation Measures TRAF-1, TRAF-2, and TRAF-3 have been added to reduce potentially significant traffic impacts to a less than significant level.

According to the City of Oxnard criteria, Level of Service C during the peak hours is considered the worst acceptable Level of Service for an intersection. A project causes a significant impact if it contributes 0.02 or more to the Intersection Capacity Utilization value at an intersection operating at Level of Service C or worse during the peak hours. If the addition of project traffic volumes increases by 0.02 or more at an intersection operating at Level of Service C or worse, it should be mitigated to the Level of Service identified without the addition of the project volumes.

The project trips significantly impact the following three study intersections for existing plus project traffic conditions as shown in Table 4 in the TIAR (Appendix K): Victoria Avenue (NS) at: Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7.

Traffic signals are projected to be warranted at the following two intersections for the existing plus project traffic conditions as shown in Appendix D in the TIAR: Victoria Avenue (NS) at Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7. Therefore, Mitigation Measures TRAF-2 and TRAF-4 have been added to reduce potentially significant traffic impacts to a less than significant level.

Opening Year (2020) Traffic Impacts

The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Opening Year (2020) without project traffic conditions, except for the following three study intersections as shown in Table 5 in the TIAR (Appendix K): Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year (2020) without project traffic conditions. Therefore, Mitigation Measures TRAF-1 and TRAF-2 have been added to reduce potentially significant traffic impacts to a less than significant level.

Opening Year (2020) With Project Traffic Impacts

The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Opening Year (2020) with project traffic conditions, except for the following three study intersections as shown in Table 6 in the TIAR (Appendix K): Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year (2020) with project traffic conditions. Therefore, Mitigation Measures TRAF-1 and TRAF-2 have been added to reduce potentially significant traffic impacts to a less than significant level.

The project trips significantly impact the following two study intersections for Opening Year (2020) with project traffic conditions as shown in Table 7 in the TIAR (Appendix K): Victoria Avenue (NS) at Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3.

Interim Year (2021) Traffic Impacts

The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Interim Year (2021) without project traffic conditions, except for the following four study intersections as shown in Table 8 in the TIAR (Appendix K): Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2, Teal Club Road (EW) – #3 and 5th Street (EW) – #4. With improvements, these four study intersections are projected to operate within acceptable Levels of Service during the peak hours for Interim Year (2021) without project traffic conditions. Therefore, Mitigation Measures TRAF-1 and TRAF-2 have been added to reduce potentially significant traffic impacts to a less than significant level.

Interim Year (2021) With Project Traffic Impacts

The study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Interim Year (2021) with project traffic conditions, except for the following six study intersections as shown in Table 9 in the TIAR (Appendix K): Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2, Teal Club Road (EW) – #3, and 5th Street – #4 and Patterson Road (NS) at: Doris Avenue (EW) – #7 and Teal Club Road (EW) – #10. With improvements, these six study intersections are projected to operate within acceptable Levels of Service during the peak hours for Interim Year (2021) with project traffic conditions. Therefore, Mitigation Measures TRAF-1, TRAF-2, and TRAF-3 have been added to reduce potentially significant traffic impacts to a less than significant level.

The project trips significantly impact the following five study intersections for Interim Year (2021) with project traffic conditions as shown in Table 10 in the TIAR (Appendix K): Victoria Avenue (NS) at: Doris Avenue (EW) – #2, Teal Club Road (EW) – #3, and 5th Street – #4 and Patterson Road (NS) at: Doris Avenue (EW) – #7 and Teal Club Road (EW) – #10.

Alternative Transportation (Public Transit, Bicycle, and Pedestrian)

The study area is currently served by Gold Coast Transit Routes 19, 20, and 21. Routes 19 and 20 travel along Gonzales Road, Victoria Avenue, and 5th Street. Route 21 travels along Victoria Avenue. Gold Coast Transit would continue to provide bus service to the study area with the proposed project. In addition, OSD provides school buses to transport students to and from school. The new schools would also be designed to include bicycle racks for students and staff who chose to bike to school. Currently, there are sidewalks along the northern side of Doris Avenue. Sidewalk improvements adjacent to the educational facilities are anticipated as part of the proposed project which would result in a beneficial impact by improving pedestrian facilities in the area. Therefore, project impacts on public transit, bicycle, or pedestrian facilities would be less than significant.

Parking

A total of 220 parking spaces are proposed for the proposed project and will meet City of Oxnard parking rate requirements. A District Office is proposed on the northwest corner of the site with 62 parking stalls provided to the south and east of the building. Access to this parking area would be provided from Doris Avenue. A parking lot with 42 spaces would be provided adjacent to the elementary school buildings to the north with access provided from Doris Avenue and an additional 20 parking spaces would be provided within the drop-off and pick-up area to the west. Access to the elementary school drop-off and pick-up area would be from Patterson Road with traffic following in a single direction exiting on Doris Avenue. Approximately 96 parking stalls would be provided adjacent to the middle school buildings to the east. The bus drop-off and pick-up area for the middle school would be from Doris Avenue. An additional drop-off and pickup area and parking lot would be provided to the east of the middle school buildings with access provided from a new road. The proposed new access road is expected to terminate at the southernmost access to the parking lot for the school. Based on a proposed parking supply of 220 spaces, adequate parking would be provided for the District office, elementary school, and middle school.

Incorporation of Mitigation Measures TRAF-1, TRAF-2, TRAF-3, and TRAF-4 would reduce all potentially significant impacts related to transportation and traffic to a less than significant level.

Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The Ventura County CMP (VCTC 2009) provides the procedures and tools necessary to manage and decrease traffic congestion in the County. The VCTC is the designated CMA responsible for implementing the CMP in Ventura County. VCTC has adopted the minimum LOS standard of "E" for the CMP road network. The adopted VCTC minimum standard is consistent with state statutes under California Government Code Section 65089(b)(1)(B). The minimum standard adopted by VCTC only applies to the CMP; local agency LOS minimum standards may be higher than the CMP minimum (VCTC 2009).

Project and cumulative impacts were analyzed by adding project traffic to the existing traffic volumes, Opening Year (2020) forecasted volumes, and Interim Year (2021) forecasted volumes at study area intersections in accordance with the CMP. Results of this analysis are discussed as follows.

Existing Plus Project Conditions

As previously stated, the study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for existing plus project traffic conditions, except for the following three study intersections: Victoria Avenue (NS) at: Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for existing plus project traffic conditions. Therefore, Mitigation Measures TRAF-1, TRAF-2, and TRAF-3 have been added to reduce potentially significant traffic impacts to a less than significant level.

The project trips significantly impact the following three study intersections for existing plus project traffic conditions as shown in Table 4 in the TIAR (Appendix K): Victoria Avenue (NS) at: Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7.

Traffic signals are projected to be warranted at the following two intersections for the existing plus project traffic conditions as shown in Appendix D in the TIAR: Victoria Avenue (NS) at Teal Club Road (EW) – #3 and Patterson Road (NS) at Doris Avenue (EW) – #7. Therefore, Mitigation Measures TRAF-2 and TRAF-4 have been added to reduce potentially significant traffic impacts to a less than significant level.

Opening Year (2020) With Project Conditions

As previously stated, the study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Opening Year (2020) with project traffic conditions, except for the following three study intersections as shown in Table 6 in the TIAR (Appendix K): Victoria Avenue (NS) at: Gonzales Road (EW) – #1, Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3. With improvements, these three study intersections are projected to operate within acceptable Levels of Service during the peak hours for Opening Year (2020) with project traffic conditions. Therefore, Mitigation Measures TRAF-1 and TRAF-2 have been added to reduce potentially significant traffic impacts to a less than significant level.

The project trips significantly impact the following two study intersections for Opening Year (2020) with project traffic conditions as shown in Table 7 in the TIAR (Appendix K): Victoria Avenue (NS) at Doris Avenue (EW) – #2 and Teal Club Road (EW) – #3.

Interim Year (2021) With Project Conditions

As previously stated, the study intersections are projected to operate within acceptable Levels of Service (C or better) during the peak hours for Interim Year (2021) with project traffic conditions, except for the following six study intersections as shown in Table 9 in the TIAR (Appendix K): Victoria Avenue (NS) at: Gonzales Road (EW)

– #1, Doris Avenue (EW) – #2, Teal Club Road (EW) – #3, and 5th Street – #4 and Patterson Road (NS) at: Doris Avenue (EW) – #7 and Teal Club Road (EW) – #10. With improvements, these six study intersections are projected to operate within acceptable Levels of Service during the peak hours for Interim Year (2021) with project traffic conditions. Therefore, Mitigation Measures TRAF-1, TRAF-2, and TRAF-3 have been added to reduce potentially significant traffic impacts to a less than significant level.

The project trips significantly impact the following five study intersections for Interim Year (2021) with project traffic conditions as shown in Table 10 in the TIAR (Appendix K): Victoria Avenue (NS) at: Doris Avenue (EW) – #2, Teal Club Road (EW) – #3, and 5th Street – #4 and Patterson Road (NS) at: Doris Avenue (EW) – #7 and Teal Club Road (EW) – #10.

Incorporation of Mitigation Measures TRAF-1, TRAF-2, TRAF-3, and TRAF-4 below, would reduce all potentially significant impacts related to transportation and traffic to a less than significant level.

Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project would be designed and constructed to meet required standards. Sight distance at the project accesses would comply with standard California Department of Transportation and City of Oxnard sight distance standards. The final grading, landscaping, and street improvement plans would demonstrate that sight distance standards are met. Such plans would be reviewed by the City and approved as consistent with this measure prior to issuance of the grading permits. No slope or object over 30 inches would be in the line of sight area. Per the TIAR (Appendix K), there would be no increase in hazards due to a design feature or incompatible uses. Therefore, with compliance with existing regulations, project impact would be less than significant and no mitigation is required.

Would the project result in inadequate emergency access?

The proposed project would not restrict or reduce emergency access to the project site. The proposed project would be designed and constructed to meet required standards including adequate emergency access. All driveways would be designed according to City standards to facilitate emergency vehicle access. As part of standard development procedures, site plans would be submitted for review and approval to ensure adequate emergency access prior to construction. Therefore, with compliance with existing requirements, project impact would be less than significant and no mitigation is required.

Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The proposed project would be designed and constructed to meet required standards including adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. The study area is currently served by Gold Coast Transit Routes 19, 20, and 21. Routes 19 and 20 travel along Gonzales Road, Victoria Avenue, and 5th Street. Route 21 travels along Victoria Avenue. Gold Coast Transit would continue to provide bus service to the study area with the proposed project. In addition, OSD provides school buses to transport students to and from school. Due to the fact that existing Gold Coast Transit routes in the vicinity of the proposed project are operating within capacity and additional ridership resulting from project implementation could be accommodated, no significant impacts to public transportation services are anticipated.

Patterson Road currently provides an existing Bicycle Facility – Class II (north of Doris Avenue) and is proposed to provide a recommended Bicycle Facility – Class II (south of Doris Avenue). Doris Avenue is proposed to provide a recommended Bicycle Facility - Class II (east of Patterson Road). Figure 10 in the TIAR (Appendix K) identifies the proposed bicycle and pedestrian facilities from the City of Oxnard Bicycle & Pedestrian Facilities Master Plan (February 2011). The educational facilities would also be designed to include bicycle racks for students and staff who bicycle to school.

Currently, there are sidewalks along the northern side of Doris Avenue. Sidewalk improvements adjacent to the educational facilities are anticipated as part of the proposed project, which would result in a beneficial impact by improving pedestrian facilities in the area. This would allow students and staff to safely walk to/from the educational facilities and the surrounding neighborhood.

Therefore, project impact on public transit, bicycle, or pedestrian facilities would be less than significant and no mitigation is required.

3.14.2.4 Cumulative Impacts

The Opening Year (2020) traffic volumes were obtained from The Teal Club Specific Plan – EIR Traffic Impact Study (Stantec 2014). It should be noted that the project site is located within the Teal Club Specific Plan; however, the proposed project has been "conservatively" added to the traffic volume forecasts. The traffic volumes were calculated based on the straight line growth from the existing traffic volumes to the Year 2030 traffic volumes obtained from the OTM.

The Interim Year (2021) traffic volumes were obtained from The Teal Club Specific Plan – EIR Traffic Impact Study (Stantec 2014). It should be noted that the project site is located within the Teal Club Specific Plan; however, the proposed project has been "conservatively" added to the traffic volume forecasts. The traffic volumes were calculated based on the straight line growth from the existing traffic volumes to the Year 2030 traffic volumes obtained from the OTM.

The cumulative impacts and mitigation measures for the Existing Plus Project Traffic Conditions, Opening Year (2020) With Project Traffic Conditions and Interim Year (2021) With Project Traffic Conditions are discussed in Section 3.14.2.5.

The County of Ventura also administers a traffic impact mitigation fee program to address the cumulative adverse impacts of development on the County's road network. As the City of Oxnard currently has a reciprocal agreement with the County, the Oxnard School District would be required to pay both City and County of Ventura traffic mitigation fees to mitigate for project related contributions to the City and regional road network.

3.14.2.5 Mitigation Measures

TRAF-1: Victoria Avenue (NS) at Doris Avenue (EW). The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department for intersection improvements at Victoria Avenue (NS) at Doris Avenue (EW) based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2020 school development.

TRAF-2: Victoria Avenue (NS) at Teal Club Road (EW). The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department for intersection improvements at Victoria (NS) at Teal Club Road (EW) based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2020 school development.

TRAF-3: Patterson Road (NS) at Doris Avenue (EW). Implement improvements on Patterson Road between Doris Avenue and Teal Club Road to widen this roadway segment to local arterial standards. The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2025 Phase 2 Teal Club development.

TRAF-4: Patterson Road (NS) at Doris Avenue (EW). The Oxnard School District will be required to pay their fair share contribution for improvements as determined by the City's Traffic Engineering Department based on the project's trip generation and distribution. Payments shall occur prior to occupancy clearance for any portion of 2020 school development.

3.14.2.6 Level of Impact After Mitigation

Based on implementation of, and compliance with, Mitigation Measures TRAF-1, TRAF-2, TRAF-3, and TRAF-4, the potentially significant impacts during the construction of the proposed project related to transportation and traffic would be reduced to less than significant.

3.15 UTILITIES AND SERVICE SYSTEMS

This section analyzes potential impacts to City of Oxnard utility and service systems, including water supply and associated conveyance infrastructure, wastewater conveyance and treatment infrastructure, storm drain infrastructure, and solid waste disposal systems. This section is partially based on the Phoenix Civil Engineering, Inc. *Oxnard School District – Doris Avenue/Patterson Road Educational Facilities – Project Water Resource System Analysis* (2017) (Appendix J), TCSP's Water Supply Assessment prepared by Milner-Villa Consulting in August 2014 and the *Teal Club Development Infrastructure Review* prepared by Kennedy/Jenks in 2007.

3.15.1 Environmental Setting

3.15.1.1 Existing Conditions

Water Supply

The summary of water supply provided in this subsection is based upon the *City of Oxnard 2015 Urban Water Management Plan* prepared by MNS Engineers, Inc. (2016) and the *Water Supply Assessment Teal Club Development* report (WSA) prepared by Milner-Villa Consulting (2015).

Supply Sources. Three sources of water are used by the City: local groundwater supplied by City-owned groundwater wells, groundwater imported under contract with the United Water Conservation District (UWCD), and surface water imported from Calleguas Municipal Water District (CMWD). For the most part, City customers receive a blend of these supplies, of which the proportion changes based on the supplies available to the City. Over time, the City's recycled water system will obtain supplies from the OWTP. Table 3-28 summarizes the projected sources of water for the City of Oxnard through 2040, based upon estimates included within the City of Oxnard 2015 Urban Water Management Plan (MNS Engineers, Inc. 2016).

Table 3-28. Summary of Existing and Projected Water Supplies (acre-feet)[1]

Water Supply	2015[2]	2020	2025	2030	2035	2040
City Groundwater[3]	7,110	14,186	21,186	21,186	21,186	21,186
UWCD	7,344	7,329	7,329	7,329	7,329	7,329
CMWD	10,612	11,826	11,826	11,826	11,826	11,826
Recycled Water	605	14,000	14,000	14,000	14,000	14,000
TOTAL	**25,671**	**40,341**	**54,341**	**54,341**	**54,341**	**54,341**

Notes:
1 Source: *City of Oxnard 2015 Urban Water Management Plan*, MNS Engineers, Inc. 2016
2 2015 supplies represent actual consumption, not a limitation in water supply.
3 The Desalter treats groundwater, therefore is not included as a separate line item of Desalinated Water. Groundwater includes 7,186 AFY from well extraction plus recycled water supply from groundwater recharge, 7,000 AFY in 2020, 14,000 AFY effective 2025. Recycled Water includes the 8,525 AFY of ASR starting in 2025.

The following summarizes the City's various sources of supply and discusses associated environmental or reliability issues.

1. *Local Groundwater Supply.* The Oxnard Plain Pressure Groundwater Basin extends to approximately 2,000 feet bgs within the project area. It is composed of a semi-perched aquifer and clay cap that is exposed at the ground surface, and that is underlain by an Upper Aquifer System (UAS) and a Lower Aquifer System (LAS). The semi-perched aquifer is separated from the underlying UAS by the clay cap that is up to 180 feet thick. Groundwater in the semi-perched aquifer is typically not used due to limited

well yield and poor water quality. The UAS and LAS serve as the primary source of groundwater in the Oxnard region. The UAS is separated from the deeper LAS by a clay lens that averages over 80 feet in thickness. Groundwater recharge in the Oxnard Plain originates mainly from surface and subsurface flows of the Santa Clara River that infiltrate in the Plain Forebay Basin located beneath the El Rio area of northern Oxnard. The City of Oxnard currently operates 10 wells. None of the City's wells are located within the project area.

The local groundwater supplies which the City relies upon are regulated by the Fox Canyon Groundwater Management Agency (FCGMA). The FCGMA was legislatively created in 1983 to manage the main groundwater supply aquifers for the City: the Oxnard Plain and the Oxnard Forebay Basins. The FCGMA promotes responsible groundwater management through the implementation of its Groundwater Management Plan, which was last updated in May 2007. The FCGMA Groundwater Management Plan contains a variety of programs intended to further its goals of preserving the local groundwater basin resources, but two primary strategies are highlighted: a) aggressive development and use of recycled water, and b) reducing local groundwater pumping in areas that are difficult to recharge and are prone to localized over-pumping. The Groundwater Management Plan describes these stressed areas being supplied with alternative sources (e.g., recycled water, surface water, or groundwater obtained from areas easily recharged) and in turn, the conservation credits are transferred for use in and around the Oxnard Forebay Basin since it is easily recharged.

Groundwater allocations are issued by the FCGMA to every municipal and industrial groundwater user within its jurisdiction, including the City of Oxnard. Allocations are monitored by the FCGMA. The City's baseline groundwater pumping allocation is 936 AFY, but obtains additional allocation by way of participation in the UWCD's Good Deed Credit Trust Program (i.e., 1,000 AFY through 2019) and separate agreements with other users (i.e., 700 AFY of credits through 2036). Groundwater users may "bank" any unused groundwater allocation in the form of credits, which can subsequently be used to offset any pumping and surcharges in following years. In April 2014, the FCGMA issued Emergency Ordinance E, which states that, "…conservation credits shall not be obtained and may not be used to avoid paying surcharges for extractions while this emergency ordinance is in effect." It also imposes additional pumping restrictions within the jurisdiction of the FCGMA, including an additional 10% on July 1, 2014, additional 5% on January 1, 2015, and additional 5% on July 1, 2015.

The FCGMA will grant the City additional groundwater allocations when it takes over water service responsibility for newly developed lands (e.g., conversion of agricultural lands to commercial, industrial, and/or residential uses). More specifically, Section 5.3.3 of the FCGMA Ordinance Code allows for the transfer of 2 acre-feet per acre when agricultural lands are converted to municipal uses (2013). Pursuant to Section 5.4 of the FCGMA Ordinance Code, the conversion rate of 2 acre-feet per year is subject to a reduction of 25% in order to eliminate overdraft of the aquifer within the boundaries of the FCGMA.

In addition to the City's own groundwater allocation, it has a water supply contract with UWCD. UWCD diverts water from the Santa Clara River at the Vern Freeman Diversion Dam and delivers a portion of it to the Saticoy and El Rio Spreading Grounds as well as to agricultural users on the Oxnard Plain. Surface water percolated in these spreading basins recharges the Oxnard Forebay Basin and the Oxnard Plain Basin. Eleven UWCD wells used to extract the water and deliver it to customers. Of the 11 wells, three extract water from the LAS, and eight extract water from the UAS. The City's contract with the UWCD holds FCGMA allocations for the benefit of the City. These allocations are exercised by the UWCD upon delivery of groundwater from its wells to the City. **Error! Reference source not found.** indicates the UWCD provided 28.6% (7,344 acre-feet) of the City's supply in 2015, and that the City anticipates purchasing approximately 7,329 acre-feet per year (AFY) of groundwater for the period of 2020 to 2040.

Lastly, the City's Groundwater Recovery Enhancement and Treatment (GREAT) Program will provide approximately 20,000 AFY of additional supply. The Oxnard Wastewater Treatment Plant (OWTP)

currently produces approximately 24 million gallons per day (mgd), or about 32,000 AFY, of secondary treated wastewater and discharges the effluent to the Pacific Ocean through its ocean outfall. The GREAT Program will beneficially reuse up to 90% of treated wastewater resources through advanced water treatment, a recycled water delivery system, groundwater injection wells, groundwater desalination, and a concentrate collection system.

2. *Imported Surface Water Supply*. The CMWD purchases SWP water from the Metropolitan Water District (MWD) of Southern California. MWD delivers water to CMWD via the West Valley Feeder, which is either stored in Lake Bard to be re-treated before distribution or is fed directly to the Springville Reservoir near Camarillo. The water supply projections detailed in CMWD's 2010 UWMP are based on MWD's SWP supply projections, along with anticipated local supplies (Milner-Villa 2014).

   The MWD imports water from two primary sources: the Colorado River and the State Water Project (SWP) operated by the California Department of Water Resources (DWR). MWD's imported water supply projections contained in its 2010 Regional Urban Water Management Plan (2010) are based on the 2009 SWP Reliability Report.

   The State Water Project is owned by the State of California and operated by the DWR. It is the largest state-built project in the country with the primary purpose of delivering water to 29 urban and agricultural water suppliers in Northern California, the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California, including 25 million urban users and 750,000 acres of farmland. Of the contracted water supply, approximately 70% serves urban users and 30% serves agricultural users (Department of Waste Resources 2017). The State Water Project, Final Reliability Report 2013 (2014) provided a projection of DWR's water delivery reliability for a 2013 scenario and future (2033) scenario. The SWP Final Reliability Report 2013 indicated that the SWP, using existing facilities operated under current regulatory and operational constraints and future (2033) anticipated conditions, and with all contractors requesting delivery of their full Table A allocations in most years, could deliver 58% of Table A allocations on a long-term average basis. However, in a single dry-year (worst-case scenario) DWR estimated delivery of an average of only 11% of Table A allocations. In a four-year drought scenario, DWR estimated delivery of an average of 31% of Table A allocations.

City Demand. Table 3-29 depicts the City's water demand projections through the year 2040 (MNS Engineers, Inc. 2016).

Table 3-29. Projected Total Water Demands

	2020	2025	2030	2035	2040
Potable and Raw Water	32,664	34,054	35,445	36,835	38,225
Recycled Water Demand	7,000	7,000	7,000	7,000	7,000
TOTAL	**39,664**	**48,054**	**49,445**	**50,835**	**52,225**

Projected Water Supply Balance. Table 3-30 provides a comparison of the projected water supply and demands for a normal, single-dry, and multiple dry water years (MNS Engineers, Inc. 2016). The City's supplies are sufficient during normal year supply and demand; however, the City's supplies may not be sufficient in 2020 under a single-dry year scenario. The multiple dry year scenario projects the City's supplies may not be sufficient in 2020, 2030, 2035, and 2040. It should be noted that estimates of water demand are highly conservative and include a contingency factor. Additionally, the demands listed do not include anticipated reductions due to drought demand management measures or public conservation efforts during drought conditions. Lastly, additional supplies could also be available from CMWD.

Table 3-30. Projected Water Supply Balance[1]

	2020	2025	2030	2035	2040
Normal Year Supply and Demand					
Supply Total	40,341	54,341	54,341	54,341	54,341
Demand Total	39,664	48,054	49,445	50,835	52,225
Difference	**677**	**6,287**	**4,896**	**3,506**	**2,116**
Single-Dry Year Supply and Demand					
Supply Total	39,247	52,867	52,867	52,867	52,867
Demand Total	39,664	48,054	49,445	50,835	52,225
Difference	(417)	4,813	3,422	2,032	642
Multiple Dry Years Supply and Demand Comparison					
Year 1 Supply Total	38,756	52,206	52,206	52,206	52,206
Year 1 Demand Total	39,664	48,054	49,445	50,835	52,225
Difference	(908)	4,152	2,761	1,371	(19)
Year 2 Supply Total	38,426	51,762	51,762	51,762	51,762
Year 2 Demand Total	39,664	48,054	49,445	50,835	52,225
Difference	(1,238)	3,708	2,317	927	(463)
Year 3 Supply Total	36,383	49,009	49,009	49,009	49,009
Year 3 Demand Total	39,664	48,054	49,445	50,835	52,225
Difference	(3,281)	955	(436)	(1,826)	(3,216)

Notes:
1 Demands listed are conservative as they do not include reductions due to drought demand management measures or public conservation efforts during drought conditions. Additional supplies could also be available from CMWD.

Wastewater

The City of Oxnard Public Works Department, Wastewater Section, owns, operates, and maintains wastewater collection and treatment infrastructure in the City, including over 407 miles of gravity sewers, 23 miles of pressurized force mains, and 15 wastewater pumping stations (Wastewater Collection System Capital Improvement Projects 2017). The collection system conveys wastewater to the OWTP. The OWTP has a current capacity of 31.7 mgd with average daily flows of approximately 24.0 mgd.

The project area is served by the 21-inch Western Trunk Sewer that flows south along Patterson Road then west along Teal Club Road, and by the 42-inch Redwood Trunk Sewer that flows south along Ventura Road (Kennedy/Jenks Consultants 2007). The Redwood Trunk Sewer was designed to accept flows from future growth as projected under full buildout of the 2030 General Plan, including the project Site. The Redwood Trunk Sewer is currently operating below capacity. The Western Trunk Sewer is currently operating near design capacity (Kennedy/Jenks Consultants 2007).

Stormwater

The City of Oxnard relies on storm drain facilities, maintained by the City of Oxnard Public Works Department Operations Division and Ventura County Watershed Protection District (VCWPD), to convey stormwater runoff. The drainage system eventually discharges to the Pacific Ocean. The Site is located within the City of Oxnard's West Fifth Street watershed which drains approximately 802 acres (1.25 square miles). The cumulative site drainage is directed toward a 24-inch corrugated metal pipe culvert under N. Patterson Road at the corner of the Teal Club Rd and N. Patterson Road. This culvert outlets into an open unlined drainage ditch that runs west to

Victoria Avenue along the north side of Teal Club Road, before discharging to the West Fifth Street Drain. The West Fifth Street Drain ultimately discharges to the Edison Canal which is an intake canal to the Mandalay Generating Station owned by NRG Energy.

3.15.1.2 Regulatory Setting

Federal

The federal Clean Water Act establishes regulatory requirements for the raw and treated water quality used as potable water supplies. The City of Oxnard is required to monitor water quality and conform to the regulatory requirements of the CWA.

The federal Safe Drinking Water Act (SDWA) establishes standards for contaminants in drinking water supplies. Maximum contaminant levels and treatment techniques are established for each of the contaminants, which include metals, nitrates, asbestos, total dissolved solids, and microbes.

State

California's Safe Water Drinking Act was enacted in 1976. The California State Water Resources Board, Division of Drinking Water (DDW) has been granted primary enforcement responsibility for the SWDA. Title 22 of the California Administrative Code stipulates drinking water quality and monitoring standards; standards are equal to or more stringent than federal standards.

In January 2014, Governor Brown issued Proclamation No. 1-17-2014 declaring a drought State of Emergency to exist in California due to severe drought conditions presenting urgent problems to drinking water supplies, cultivation of crops, and threatening the survival of animals and plants that rely on California's water resources. In response to the January 2014 Proclamation, the SWRCB adopted in July 2014, Resolution 2014-0038, which defined water conservation regulations including prohibitions for all water users and required actions for all water agencies. On April 1, 2015, Governor Brown issued Executive Order B-29-15, which ordered the SWRCB to impose restrictions to achieve a statewide 25% reduction in potable urban water usage through February 28, 2016, relative to a baseline of 2013 water use (State of California, Executive Order B-29-15, April 2015). In response to Executive Order B-29-15, the SWRCB adopted Resolution No. 2015-0032 and a regulation pursuant to Water Code section 1058.5 that, among other things, required a mandatory 25% statewide reduction in potable urban water use between June 2015 and February 2016. Under the adopted regulation, the City of Oxnard was required to cut its water usage by 12%. Due to higher than average rainfall in California during the 2017 water year, Governor Brown issued Executive Order B-40-17 on April 7, 2017. Executive Order B-40-17 directed the SWRCB to rescind portions of its existing emergency regulations that require a water supply stress test or mandatory conservation standard for urban water agencies, to continue development of permanent prohibitions on wasteful water use, permanent requirements for reporting water use by urban water agencies, and to continue the portions of the emergency regulations that prohibit certain wasteful water practices and require water use reporting as a bridge until permanent requirements are in place.

Pursuant to the Urban Water Management Planning Act (California Water Code §§ 10610 - 10656) urban water suppliers having more than 3,000 service connections or water use of more than 3,000 acre-feet per year (af/yr) for retail or wholesale uses are required to submit an Urban Water Management Plan (UWMP) every five years to the CDWR. UWMPs are prepared to support long-term resource planning and to ensure that reliable and adequate water supplies are available to meet existing and future demands over a 20-year planning horizon during normal, single-dry and multiple-dry year periods. The Water Conservation Act of 2009 (often referred to as SBX7-7) requires increased emphasis on water demand management and requires the state to achieve a 20% reduction in urban per capita water use by December 31, 2020. Retail urban water suppliers are required to report baseline and compliance data in their UWMPs in accordance with the requirements of SBX7-7. The City of Oxnard adopted its current UWMP in 2015.

State Assembly Bill 939 required the City of Oxnard's source reduction and recycling element to include an implementation schedule showing 50% diversion of solid waste from landfill disposal or transformation, on and

after January 1, 2000. SB 1016, which passed in 2008, now requires the 50% diversion requirement to be calculated in a per capita disposal rate equivalent.

Public utilities are under the jurisdiction of the California Public Utilities Commission. According to California Public Utilities Code, Section 451, public utilities have an obligation to serve the public and are required by law to "furnish and maintain…service as necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public." As a result, utility providers are required by law to provide service to any member of the public living within the utility's service area who has applied for service, is willing to pay for the service, and will comply with the applicable rules and regulations.

Local

On January 15, 2008, the City of Oxnard adopted a policy that ensures mitigation measures are imposed as part of approval of new development, so that the associated demand remains consistent with available supplies (the Water Neutrality Policy). The net result of this policy is that project approvals include conditions that: a) control the pace of construction of any given project (and thus the pace at which water demand increases); b) allow participation in the contribution toward the development of additional water supplies that offsets the demand associated with the project; or c) suspend project approval until sufficient supplies are available to support the anticipated project demand. The Water Neutrality Policy requires all new development approved within the City to offset the water demand associated with the project with a supplemental water supply. New development includes all planned (anticipated in the 2030 General Plan) and any unplanned future development. Under the policy, a development can be water neutral by meeting its projected demand through one or more of the following:

- Transfer of existing FCGMA groundwater allocations to the City;
- Contributing to increased efficiency by funding City water conservation programs;
- Funding recycled water retrofit projects; or
- Providing additional water supplies.

The City of Oxnard Municipal Code, Articles VIII, *Water Waste*, and IX, *Water Conservation and Water Shortage Response Procedures,* contains permanent water conservation standards to maximize water use efficiency for non-shortage conditions and provide response actions implemented during water shortage conditions. Pursuant to the Oxnard Municipal Code, during a declared water shortage condition the water sources available to the City will be put to the maximum beneficial use to the greatest extent possible. The primary purpose of Article IX of the Oxnard Municipal Code is to provide response actions for use during water shortages, including procedures that will significantly reduce the consumption of City water over an extended period of time. The aim is to extend the water available to City residents while reducing the hardship on the City and the general public to the greatest extent possible. Pursuant to Article IX of the Oxnard Municipal Code, upon determining the severity of the water shortage emergency, the City Council will establish, by resolution, water conservation goals by stages. Immediately after adoption of a City Council resolution declaring the water conservation goals, water allocations will be in effect and customers will be prohibited from using water in excess of their allocation. Each customer will be solely responsible for managing his/her water uses in such a manner as to not exceed the amount of water allocated. Percentage reduction stages and goals will be in effect with the first full billing period commencing on or after the effective date of the City Council resolution adopting a water shortage plan. During a water shortage emergency, the City Manager will take specific actions in response to the failure of any customer to comply with established water use restrictions.

The FCGMA established a series of water management policies and programs that are intended to protect the long-term integrity and reliability of the local groundwater resources within its jurisdiction. Ordinance 8.1. is FCGMA's primary regulatory tool for achieving its goals, but has also adopted several resolutions. The FCGMA's primary groundwater preservation program is embodied in its comprehensive ordinance code, requiring: a) all groundwater wells to be registered with the agency, b) all groundwater use to be reported to the agency, and c) limits on the amount of groundwater that may be pumped from within the agency's jurisdiction without the payment of a pumping surcharge (financial payment currently set at $725 per acre foot). Emergency Ordinance E

requires additional pumping restrictions within the FCGMA boundary and currently restricts the use of groundwater conservation credits.

The relevant goals and policies applicable to new schools within the City, water supply, stormwater drainage, gas and electric utilities, and water resources as described in Chapter 4 of the City of Oxnard 2030 General Plan (2011) are described as follows.

Chapter 4 Infrastructure and Community Services

- **ICS-1.2, Development Impacts to Existing Infrastructure:** Review development proposals for their impacts on infrastructure (e.g., sewer, water, fire stations, libraries, streets) and require appropriate mitigation measures to ensure that proposed developments do not create substantial adverse impacts on existing infrastructure and that the necessary infrastructure will be in place to support the development.
  - **Goal ICS-11:** Water supply, quality, distribution, and storage adequate for existing and future development.
    - **ICS-11.6, Water Conservation and/or Recycling Connection as Mitigation:** Require the use of water conservation offset measures (efficient low flow fixtures and irrigation systems, drought tolerant landscaping, leak detection programs, water audits, and public awareness and education programs) and/or proportional contributions to recycled water production and/or conveyance infrastructure related to the GREAT Program as mitigation for water supply shortage as determined by a Water Supply Assessment, CEQA documentation, or similar analysis as part of new or master plan development review.
    - **ICS-11.7, Water Wise Landscapes:** Promote water conservation in landscaping for public facilities and streetscapes, residential, commercial and industrial facilities and require new developments to incorporate water conserving fixtures (low water usage) and water-efficient plants into new and replacement landscaping.
    - **ICS-11.10, Water Supply Finding for Smaller Projects:** Prior to approval of a discretionary proposed project not subject to a Water Supply Assessment pursuant to Government Code Section 66473.7, a finding shall be made to ensure an adequate water supply for the proposed development.
    - **ICS-11.12, Water for Irrigation:** Require the use of non-potable water supplies for irrigation of landscape and agriculture, whenever available.
  - **Goal ICS-12:** Adequate capacity at the City Waste Water Treatment Plant to accommodate existing and future development.
    - **ICS-12.3, Wastewater Discharge Monitoring:** Monitor and ensure that discharges comply with approved permits.
    - **ICS-12.5, Sedimentation Control:** Require by conditions of approval that silt and sediment from construction be either minimized or prohibited.
    - **ICS-12.6, Timing of Future Development:** Impose conditions in order to ensure adequate wastewater capacity for proposed new development.

3.15.2 Impact Analysis

3.15.2.1 Methodology

Project impacts to utilities and service systems were evaluated based on information about water supply and associated conveyance infrastructure; wastewater conveyance and treatment infrastructure; storm drain infrastructure; and solid waste disposal systems, described within the Phoenix Civil Engineering, Inc. *Oxnard School District – Doris Avenue/Patterson Road Educational Facilities – Project Water Resource System Analysis*

(2017) (Appendix J), TCSP's *Water Supply Assessment* prepared by Milner-Villa Consulting in August 2014, and the *Teal Club Development Infrastructure Review* prepared by Kennedy/Jenks in 2007.

3.15.2.2 Significance Thresholds

The significance criteria for this analysis is from Appendix G of the State CEQA Guidelines. The proposed project would result in a significant impact if it would:

- Exceed wastewater treatment requirements of the applicable regional water quality control board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed.
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it has does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

3.15.2.3 Project Impacts

Would the project exceed wastewater treatment requirements of the applicable regional water quality control board?

The proposed project would generate an estimated 5,130 gallons of domestic wastewater per day with an approximate flow rate of 10.7 gpm. The domestic wastewater would flow to the OWTP, where it would be treated pursuant to the Los Angeles RWQCB requirements. The OWTP has a current capacity of 31.7 mgd with average daily flows of approximately 24.0 mgd. Therefore the OWTP has sufficient treatment capabilities to address domestic wastewater from the proposed project. The proposed project would not exceed wastewater treatment requirements of the applicable regional water quality control board and project impact would be less than significant.

Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The City of Oxnard 2030 Master Plan uses a demand of 1,500 gallons per day per acre as the planning level consumption for school sites. This is based on the average water consumption of school sites located in the City and increased to account for future fluctuations. Water for the proposed project would be supplied by the City of Oxnard from an existing 12 inch diameter potable water pipeline that is located within Doris Avenue that extends west from Ventura Avenue to the intersection of Doris Avenue and Patterson Road. It supplies water to the residential tract to the north of the project. The daily flow rates associated with the operation of the proposed project are approximately 37,500 gallons per day (1,500 gpd/ac x 25 ac) that would be consumed as follows;

- School site is 13 acres of buildings/hardscape (1,500 gpd/ac x 13 ac = 19,500 gallons per day [gpd]); and
- Irrigation uses constitute 12 acres (1,500 gpd/ac x 12 ac = 18,000 gpd).

That equates to approximately 2,450 gallons per hour (19,500 gallons/8 hours) assuming an 8 hour day for school occupancy and that the irrigation activities will occur during an 8 hour period at night. The school would be sufficiently supplied by the existing 12 inch diameter water pipeline for this flow rate. No additional pipeline improvements are needed for the potable water system (Phoenix 2017).

Project Memorandum (PM) 2.3 of the City of Oxnard, Public Works Integrated Master Plan (Master Plan) (Carollo Engineers 2015) describes the impacts to the City's water distribution system associated with the

projected fire flow demands city-wide. For fire flow for the proposed school, the Master Plan assumed that the facility will be constructed using fire sprinklers. Table B105.1 in the California Building Code (CBC 2016) indicates that a fire flow of 3,000 gallons per minute for 3 hours is required for a building with construction Type IIA (commonly found in new school buildings). A 3,000 gpm flow rate yields a velocity of 8.5 feet per second (fps). Although this is slightly more than the recommended maximum of 7 fps, the duration is short. Therefore, the existing pipeline is adequate for the potable water and firefighting demands of the school. No additional off-site pipeline infrastructure is required to meet the fire demands of the proposed project (Phoenix 2017).

The proposed project has the capability of taking recycled water from the City's Phase 1A backbone system pipeline located along N. Ventura Road for irrigation use. The pipeline originates at the Advanced Water Purification Facility (APWF) in the southern area of Oxnard that extends to the River Park development at the north end of the City. PM 4.2 of the Master Plan (Carollo Engineers 2015), indicates that the backbone pipeline as 14.5 inches in diameter. The OSD could offset the irrigation demand of the project by extending the recycled water infrastructure to the project site, requiring a pipeline approximately 3,300 feet long. An 8 inch diameter pipeline would be required to meet the proposed project irrigation demands (Phoenix 2017; Carollo Engineers 2015).

The project site is approximately 25 acres in size with irrigated areas accounting for approximately 12.8 acres or 48% of the site area. The irrigation demands for existing and future developments are identified in the Master Plan (Carollo Engineers 2015) with magnitudes greater than the proposed project. Assuming a 50% indoor/50% outdoor use split, the irrigation demand would be 750 gpd/ac (1,500 gpd/ac listed in the Master Plan for schools divided by 2), which equates to a potential recycled water demand for the school site of 3.5 AFY (3 irrigation days per week for 40 weeks – assumed due to mild climate over 12.8 acres converted to AFY). This would require a recycled water pipeline extension from N. Ventura Avenue to the project site to serve recycled water to the irrigation system. This would reduce the proposed project potable water demand by 61% (3.5/5.7 AFY) (Phoenix 2017; Carollo Engineers 2015).

The OWTP has a current capacity to treat 31.7 mgd of wastewater with average daily flows of approximately 24.0 mgd. The City anticipates expansion of the plant to 39.7 mgd by 2020. There currently is and will be sufficient capacity to accommodate the wastewater flows from the proposed school project, as well as from other planned developments (Kennedy/Jenks Consultants, 2007). Therefore, the City of Oxnard has adequate capacity to serve the additional wastewater flow that is anticipated from the proposed project and project impact would be less than significant.

Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The 2003 Drainage System Master Plan identified the necessary storm drain infrastructure needed to serve the Teal Club Specific Plan area that includes the project site. This was prior to the implementation of the MS4 requirements in the late 2000s. Those requirements further restricted developments from direct discharge of stormwater without treatment and/or detention or retention on-site (Phoenix 2017).

The 2003 Drainage System Master Plan recommended improvements in the area of the project Site including storm drainage piping on the east side of Patterson Road from Doris Avenue to Teal Club Road. The proposed facilities are a 30 inch diameter reinforced concrete pipe extending approximately to the southern boundary of the proposed project, and a 36 inch diameter reinforced concrete pipe extending to approximately 250 feet from the intersection with Teal Club Road. At Teal Club Road, the storm drainage system would transition to a 42 inch diameter reinforced concrete pipe. These facilities have not been constructed (Phoenix 2017).

The proposed project would incorporate the requirements of the Ventura County TGM (2015), including the detention of the anticipated storm flows generated from certain storm events as well as proprietary filtration systems as part of the post construction best management practices. On-site hydrodynamic treatment systems will treat the stormwater prior to discharge to the off-site system. The proposed project anticipates having to install

the identified storm drainage piping infrastructure along Patterson Road from the Project site to the existing Teal Club Road facility.

The proposed 25-acre project site would include approximately 12.8 acres of pervious areas (48% of the site area, with the remainder comprised of hardscape (pavement, parking lots, and structures). Curb and gutter improvements would be installed along the north and south sides of the project site. A paved access road would be installed along on the east side of the project site with curb and gutter along the west side. These improvements would route stormwater around the parcel from adjacent areas. Post construction BMPs would be employed to manage the storm flows generated by the hardscape project areas. Stormwater improvement at the project site would be designed in accordance with the Ventura County TGM (2015). BMPs such as a dry extended detention basin coupled with hydrodynamic separation devices for the parking lot areas will be used (Phoenix 2017).

The following 24 hour rainfall events for the project site area are listed in the 2017 Ventura County Hydrology Manual:

- 10 year = 4.01 inches;
- 25 year = 4.81 inches;
- 50 year = 5.39 inches; and
- 100 year = 5.97 inches (Phoenix 2017).

Soccer fields occupying an area of 6.7 acres are planned for the southern portion of the project site. The soccer fields would be constructed to collect and detain the storm runoff from the project area by being depressed 8 inches below the surrounding grade or conversely an 8 inch tall earthen berm would be constructed along the western, eastern and southern boundaries. The soccer field area would capable of collecting 195,640 cubic feet (4.5 acre feet) of runoff. This runoff could be detained for up to two days and then the remainder released to the existing agriculture ditch or concrete pipe system recommended in the 2003 Drainage System Master Plan. Preliminary calculations indicate that 5 acre feet of runoff would be generated by a 100 year storm event. The project site could detain that volume with only 0.5 acre feet of runoff discharged off-site (Phoenix 2017).

The parking lot areas would drain to the soccer field detention areas. Stormwater runoff from the parking lot areas would be filtered to collect the trash, debris and oil/petroleum products out of the runoff prior to discharge onto the soccer field detention areas. Each parking lot area would have an individual device for treating stormwater runoff from that specific area. The hydrodynamic filter systems will be identified as part of the project design efforts. Rooftop runoff will be concentrated in gutters and directed to nearby landscape areas located within the campus to promote percolation whenever possible (Phoenix 2017).

Since buildout of the project site was anticipated in the 2003 Drainage System Master Plan and would fulfill the requirements of MS4, the proposed project would not result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects and project impact would be less than significant.

Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

The City of Oxnard would provide water for the proposed project as part of annexation to the City. The City of Oxnard obtains water from local groundwater, groundwater from the UWCD, and imported water from CMWD. The City of Oxnard's historical water supply has fluctuated between 26,919 and 28,826 acre feet per year or an upper limit of 25 million gallons per day (Phoenix 2017). The projected water supplies in the City of Oxnard 2015 Urban Water Management Plan are 40,341 acre feet for 2020, and 54,341 acre feet for 2025, 2030, 2035, and 2040 (MNS Engineers, Inc. 2016).

The CMWD is a wholesale supplier of water to the City of Oxnard. CMWD purchases water from the Metropolitan Water District of Southern California (MWD). Through annexation to the City of Oxnard, the project would be

annexed to CWMD and therefore to the MWD as well, and MWD's approval of the annexation is required (CMWD 2016).

Land on which the proposed projects would be built is not presently within the boundaries of CMWD or MWD. The Administrative Codes of both agencies state that water delivered by their systems may be used only within their respective service area boundaries. CMWD purchases all of its potable water from MWD. MWD supplies water from the Colorado River and the State Water Project for municipal, industrial and agricultural uses within its service area. Annexation to CMWD and MWD of the land under consideration is necessary to allow annexation to and water service by the City of Oxnard (CMWD 2017).

Annexation procedures for MWD are defined in Section 3500 of the Metropolitan Water District Act, which are also observed by CMWD. In addition, annexations to CMWD are subject to Part 8 of CMWD's Administrative Code. Annexation is also subject to approval by the Ventura Local Agency Formation Commission and any terms and conditions the Commission may apply. Pursuant to Section 56017 of Part 1, Chapter 2, of the Cortese/Knox/Hertzberg Local Government Reorganization Act of 2000, annexation means the annexation, inclusion, attachment, or addition of territory to a city or district. This action will require amendment of the Spheres of Influence of CMWD and MWD (CMWD 2017).

CMWD and MWD have in place Water Standby Charges. In the course of annexation, such charges will be fixed for the subject property. Water Standby Charges are assessed to pay for the benefits that properties receive from the projects and facilities provided by CMWD and MWD, whether or not they receive water from CMWD and MWD (CMWD 2017).

This administrative change in water service areas would have a less than significant impact (CMWD 2017).

The City of Oxnard 2030 Master Plan indicates that the City has already exceeded the reduction limits established by the State of California 2010 Urban Water Management Plan (UWMP) assuming the mandated 132 gallons per capita per day (gpcd) value was used. The use of the mandated consumption value for planning purposes was conservative (City of Oxnard 2011).

The project site is currently in active agriculture use and is planted with row crops. The estimated annual water demand for property with similar agricultural use is approximately 3.2 AFY per acre (Milner-Villa 2014). The proposed project is 25 acres. Therefore, the estimated current agricultural water demand for the project site is 80 AFY. This current demand is served by private wells located on the property.

The City of Oxnard 2030 Master Plan uses a demand of 1,500 gallons per day per acre as the planning level consumption for school sites. This is based on the average water consumption of school sites located in the City and increased to account for future fluctuations. The daily flow rates associated with the operation of the proposed project are approximately 37,500 gallons per day (1,500 gpd/ac x 25 ac) that would be consumed as follows:

- School site is 13 acres of buildings/hardscape (1,500 gpd/ac x 13 ac = 19,500 gpd); and
- Irrigation uses constitute 12 acres (1,500 gpd/ac x 12 ac = 18,000 gpd) (Phoenix 2017).

Using the City of Oxnard 2030 Master Plan assumptions presented above and assuming a standard school year education schedule of 181 days, the school site building/hardscape water usage would be 19,500 gpd x 181 days per year = 3,529,500 gallons per year (10.8 AFY). Assuming that the irrigated areas of the school required irrigation 3 days per week for 40 weeks per year, the irrigated area water usage would be 18,000 gpd x 3 days/week x 40 weeks/year = 2,160,000 gallons per year (6.6 AFY). The total estimated annual project water usage would be 17.4 AFY, which is 22% of the current estimated water demand under agricultural land use of 80 AFY.

The City of Oxnard's Water Neutrality Policy was first established in 2008 and reaffirmed in 2011. The Water Neutrality Policy requires that all new development approved within the City must offset the water demand

associated with the project with a supplemental water supply. As noted above, "new development" includes all planned (anticipated in the 2030 General Plan) and any unplanned future development occurring in the City. Under the policy, a development can be water neutral by meeting its projected demand through: existing FCGMA groundwater allocations that are transferred to the City; contributing to increased efficiency by funding water conservation or recycled water retrofit projects; providing additional water supplies; or any combination of these options. While this City policy has not been codified, it has been applied to every development project approved since 2008.

The City of Oxnard's Water Neutrality Policy would require the OSD to demonstrate access to water supplies that meets or exceeds projected demands. The proposed project would achieve neutrality through contributing water rights, water supplies, or financial or physical offsets to the City of Oxnard that would ensure adequate water supply to address Project water demands. This may be achieved through transfers of FCGMA groundwater allocations to the City of Oxnard through agricultural conversion, contributing to expansions of the City's recycled water system through physical or financial contributions, and participation in water conservation projects that produce measurable sustainable water savings. Non-potable water demands, to be met with City recycled water, would be separate. A primary goal is to ensure that the proposed project water supplies consist of 100% local and sustainable sources including local groundwater and recycled water.

The OSD anticipates compliance with the City's Water Neutrality Policy. The OSD will transfer groundwater allocations to the City upon final approval of the project. The FCGMA Ordinance Code allows an allocation of 2 acre-feet per year per acre for converting historical agricultural groundwater allocations to municipal allocations (FCGMA Ordinance Code, Section 5.3.3). In addition, the conversion rate of 2 acre-feet per year is also subject to a reduction of 25% as per FCGMA Ordinance Code, Section 5.4. Therefore, the applicant will transfer approximately 37.5 AFY to the City (25 ac project area x 2 AFY/ac x 0.75). This transfer of historical groundwater extraction allocations is greater than the total estimated annual project water demand (i.e., 17.4 AFY). Therefore, the project would have sufficient water supplies available to serve the project from existing entitlements and resources the project impact would be less than significant.

Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The OWTP has a current capacity to treated 31.7 mgd of wastewater with average daily flows of approximately 24.0 mgd. The City anticipates expansion of the plant to 39.7 mgd by 2020. There would be sufficient capacity to accommodate the wastewater flows from the proposed project, as well as from other planned developments (Kennedy/Jenks Consultants 2007). Therefore, project impact would be less than significant.

3.15.2.4 Cumulative Impacts

The analysis provided is cumulative in nature and considers the demand for water from existing and future development in the City. The planned sources of water supply would be sufficient to accommodate projected citywide demand; therefore the cumulative impacts to water supply would not be significant. Additionally, the proposed project and all future development projects in the City will be required to comply with standard water conservation requirements of the City, State, and California Building Code. These include the use of low-flush toilets and urinals, compliance with statewide efficiency standards for shower heads and faucets, and insulation of pipes to reduce water used before hot water reaches equipment or fixtures. The contribution of the proposed project would not be cumulatively considerable.

The demands on the OWTP would continue to increase with construction of cumulative projects. The plant currently has the capacity to accommodate up to 31.7 mgd (with 7.7 mgd of available capacity) and treatment plant upgrades that would not generate additional capacity are currently in the planning process. Therefore, the current capacity of the OWTP is sufficient to serve planned and pending development. The City general fund monies and wastewater treatment connection fees provide revenue for the necessary replacement and

improvements to the wastewater treatment plant. Therefore, cumulative impacts relating to the local wastewater system are considered less than significant.

3.15.2.5 Mitigation Measures

No Mitigation Measures are required.

3.15.2.6 Level of Impact After Mitigation

No Mitigation Measures are required; project impact would be less than significant.

4.0 OTHER CEQA CONSIDERATIONS

4.1 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGE

According to the CEQA Guidelines, “uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.” Therefore, the purpose of this analysis is to identify any significant irreversible environmental effects of project implementation that cannot be avoided.

Both construction and operation of the proposed project would lead to the consumption of limited, slowly renewable, and non-renewable resources, committing such resources to uses that future generations would be unable to reverse. The new schools would require the commitment of resources that include: (1) building materials; (2) fuel and operational materials/resources; and (3) the transportation of goods and people to and from the project site. Consumption of these resources would occur with any development in the region and is not unique to the proposed project. It is not anticipated that the development of the project would significantly affect local or regional resource supplies.

Implementation of the proposed project would result in the conversion of agricultural land into educational uses, resulting in a permanent loss of 25 acres of Farmland of Statewide Importance. Since this conversion would be extremely unlikely to be reversed, it would represent an irreversible environmental effect of the proposed project on agricultural resources. As identified in Section 3.2 of this EIR, this would be a significant unavoidable impact of the proposed project at a project level and cumulative basis. Therefore, the proposed project would result in significant unavoidable long-term operational impacts related to a nonrenewable resource. No feasible mitigation measures are available to adequately offset such impacts to a nonrenewable resource.

The additional vehicle trips associated with the proposed project would incrementally increase local traffic, noise levels and regional air pollutant emissions. With the implementation of mitigation measures, impacts associated with increase local traffic, noise levels and regional air pollutant emissions would be less than significant.

As discussed in Section 3.5, Cultural and Tribal Cultural Resources, the proposed project has the potential to impact unknown sensitive cultural and tribal cultural resources on the project site. With the implementation of mitigation measures, impacts associated with cultural and Tribal cultural resources would be less than significant.

Title 24 of the California Administrative Code regulates the amount of energy consumed by new development. Nevertheless, the consumption of such resources would represent a long-term commitment of those resources. The commitment of resources required for the construction and operation of the proposed project would limit the availability of such resources for future generations or for other uses during the life of the project. However, continued use of such resources is consistent with the anticipated growth and planned changes on the project site and within the general vicinity.

4.2 GROWTH-INDUCING IMPACTS

Pursuant to the CEQA Guidelines (Section 15126.2(d)): an EIR must address whether a project will directly or indirectly foster growth as follows: “[An EIR shall] discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of wastewater treatment plant, might, for example, allow for more construction in service areas).

Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also, discuss the characteristic of some projects, which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

As discussed below, this analysis evaluates whether the proposed Project would directly or indirectly induce economic, population, or housing growth in the surrounding environment.

Direct Growth-inducing Impacts in the Surrounding Environment

Direct growth-inducing impacts occur when the development of a project induces population growth or the construction of additional developments in the same area of a proposed project, and produces related growth-associated impacts. Growth-inducing projects remove physical obstacles to population growth, such as the construction of a new road into an undeveloped area, a wastewater treatment plant expansion, and projects that allow new development in the service area. Construction of such infrastructure projects are considered in relation to the potential development and the potential environmental impacts.

The proposed project would not directly induce growth as it does not involve residential development. School uses are considered growth accommodating uses, instead of growth-inducing, as new schools are typically built in order to serve the educational needs of the existing and forecast populations. The proposed new elementary (K-5), middle school (6-8) and District administrative center are needed to accommodate existing and anticipated future enrollment in the District. In addition, the proposed project would not remove obstacles to regional growth and related development. Therefore, no significant impacts related to growth inducement would occur.

Indirect Growth-Inducing Impacts in the Surrounding Environment

The proposed project would not indirectly induce growth through substantial increase in employment opportunities or an employment-related increase in population. Construction workers for the proposed project are expected to be drawn from the local labor pool. During operation, the proposed project would have approximately 239 employees. Although it is expected that most of these opportunities would be filled by residents of communities adjacent to the project site, the proposed project could indirectly result in a minimal growth in population of the immediate area. This minimal growth would not represent unplanned population growth in the community or result in economic growth that exceeds levels anticipated in plans adopted by the City. Therefore, no significant impacts related to growth inducement would occur.

4.3 ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

This EIR evaluates the potential environmental impacts of the proposed project and identifies mitigation measures that would avoid, reduce or minimize impacts when feasible. For almost all of the significance criteria, potential impacts would be mitigated to less than significant. However, the proposed project would result in significant unavoidable impacts in the following three areas:

Agriculture (converting Farmland of Statewide Importance to non-agricultural use)

Implementation of the proposed project would result in the development of agricultural land into school uses. The permanent loss of 25 acres of Farmland of Statewide Importance would result in a significant impact. While City policies encourage establishment of a farmland protection program and use of conservation easements and land banking to protect continued agricultural uses throughout the City's SOI, presently the City does not utilize a banking or fee approach to mitigate impacts to agricultural soils or lands (City of Oxnard 2009). The City also has policies and programs that support existing agricultural buffers (such as the SOAR Ordinance) in order to reduce or slow further loss of agricultural resources, however, these policies do not offset an actual loss of farmland acreage. No additional feasible mitigation measures are currently available to reduce this impact to a less than significant level, therefore this impact would remain significant and unavoidable (City of Oxnard 2009).

Airport Hazards

An aircraft accident can occur at any time and at any place. An accident within or near the project site could involve an aircraft taking off from or landing at Oxnard Airport or it could involve an aircraft enroute between two other airports, with no connection to Oxnard Airport. There is no way to completely guard against such occurrences. We can, however, assess the relative probability of an accident occurring within a specific area. One method of estimating aircraft accident potential within or immediately adjacent to the project site resulted in a probability of an occurrence every 462 years. However, there are no “standards” that specifically address this issue. Only local decision-makers can determine if this level of probability is acceptable to a proposed school within the Oxnard community.

The City of Oxnard CEQA Guidelines does identify a risk matrix for upset hazards. Based on this criteria, criticality classifications of upset hazards from an accident could range from negligible to disastrous. A probability of an occurrence every 462 years would have a frequency classification of unlikely (Between once in 100 and once in 10,000 years). An event that could result in no injuries or a few minor injuries would be classified less than significant. An event that could result in up to 10 severe injuries or greater would be classified as significant. (Oxnard 2017). In order to account for the “worst-case scenario” project impact from airport hazards would therefore be considered potentially significant and unavoidable.

5.0 ALTERNATIVES

5.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS FOR ALTERNATIVE ANALYSIS

This section discusses the alternatives to the Doris Avenue/Patterson Road Educational Facilities Project that would potentially avoid or lessen the significant environmental impacts while obtaining most of the basic Project Objectives. Sufficient information about each alternative is included to allow meaningful evaluation, analysis, and comparison with the project. Per Section 15126.6(d) of the CEQA Guidelines, potential significant effects of the alternatives are discussed in less detail than the significant effects of the project as proposed.

Sections 15126.6(a) through 15126.6(f) of the State CEQA Guidelines (14 CCR) provide guidance on the alternatives to a project that must be evaluated in an Environmental Impact Report (EIR). Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (*California Public Resources Code,* Section 21002.1), the discussion of alternatives must focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

An EIR must describe a range of reasonable and of potentially feasible alternatives to the project, or to the location of the project, which would feasibly attain most of the basic Project Objectives but would avoid or substantially lessen any significant effects. The comparative merits of the alternatives must be evaluated.

An EIR need not consider every conceivable alternative, but it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The range of alternatives is governed by a “rule of reason” that requires discussion of only those alternatives necessary for the Oxnard School District (Lead Agency) to make a reasoned choice.

Key provisions of the CEQA Guidelines on alternatives (Section 15126.6[b] through [f]) are summarized below to explain the foundation and legal requirements for the alternatives analysis in the EIR:

- The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly (15126.6[b]).
- The range of potential alternatives to the project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency’s determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (15126.6[c]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as , the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as (15126.6[d]).
- The specific alternative of “no project” shall also be evaluated along with its impact (15126.6[e][1]). The “no project” analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no

notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (15126.6[e][2]).

- The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making (15126.6[f]).
- For alternative locations, "Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR" (15126.6[f][2][A]).
- If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR (15126.6[f][2][B]).
- An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (15126.6 [f][3]).

Pursuant to the CEQA Guidelines previously summarized, a reasonable range of alternatives to the project was considered and evaluated in this Draft EIR.

5.2 PROJECT OBJECTIVES

The objectives of the proposed project include the following:

- Accommodate existing and projected future student enrollment within the District
- Provide new facilities that meet the District's educational specifications
- Provide a new K-5 School to accommodate 700 students in permanent classroom facilities
- Provide a new 6-8 School to accommodate 1,200 students in permanent classroom facilities
- Build and maintain schools that reflect the wise and efficient use of limited land resources
- Provide new District administrative facilities

5.3 SUMMARY OF THE PROJECT AND SIGNIFICANT IMPACTS

5.3.1 Summary of Project

The OSD proposes to construct and operate joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new schools are needed to accommodate existing and anticipated future enrollment in the District. The project site is located within unincorporated Ventura County and within the City of Oxnard SOI area.

Reorganization

The proposed project would require annexation into the City of Oxnard (City). Annexation of the project area to the City would require Ventura LAFCo approval of several changes of organization, collectively called reorganization. The following LAFCo actions would be necessary components of the reorganization:

- Annexation to the City of Oxnard
- Annexation to the Calleguas Municipal Water District
- Annexation into Metropolitan Water District of Southern California
- Detachment from Oxnard Drainage District 1

- Detachment from the Ventura County Resource Conservation District
- Detachment from the Ventura County Fire Protection District
- Detachment from Ventura County Service Area No. 32
- Detachment from Ventura County Service Area No. 33

As part of the reorganization process, sphere of influence amendments will also be needed. Anticipated amendments include the following:

- Amendment of the City of Oxnard's sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Calleguas Municipal Water District sphere of influence to include the adjoining segment of Patterson Road and Agricultural land to the west.
- Amendment of the Oxnard Drainage District No. 1 sphere of influence to remove the adjoining segment of Patterson Road and agricultural land to the west.
- Amendment of the Ventura County Service Area No. 33 sphere of influence to remove the entire proposal area.

The District will process a GPA, Pre-Zone (RZ) and a Reorganization and SOI amendments through the City of Oxnard. The proposed General Plan land use designation is School and the proposed zoning designation is C-R. Schools are an allowed use within the C-R zone with approval of the special use permit (Oxnard Municipal Code Section 16-257). The projects will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with LAFCo. Upon approval of the reorganization and sphere amendments by LAFCo, and a 30-day reconsideration period, the reorganization will be recorded and the site will be annexed into the City of Oxnard and the Calleguas Water District and eligible for all public services.

School Facilities

The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 students on-site. In total, the proposed project would comprise approximately 178,678 sq. ft. of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 students on-site. These facilities include a separate playground for the kindergarten with play structures and open space. There will be lower and upper grade play areas with hard courts for tether ball, basketball, and volleyball and motor skill development as well as play structures. Grass fields will be used for kickball, soccer, softball, track and field challenges, and general play. The elementary school will have a multi-purpose room for some indoor recreational activities during inclement weather and potential after hours community use. An additional drop-off area for the play field area is provided along Patterson Road.

5.3.2 Alternatives Considered and Rejected

Section 15126.6(c) of the *CEQA Guidelines* suggests that an EIR identify alternatives that were considered for analysis but rejected as infeasible, then briefly explain the reasons for their rejection.

According to the CEQA Guidelines, the following factors may be used to eliminate alternatives from detailed consideration: the alternative's failure to meet most of the basic project objectives, the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts.

During the project scoping period OSD received public comments suggesting that the District increase the development intensity at existing school sites as a potential alternative. However, as indicated in the Master Construct and Implementation Program, the District has and continues to make facilities upgrades at District schools. This alternative would not meet the project objectives of providing a new K-5 school to accommodate

700 students in permanent classroom facilities or provide a new 6-8 school to accommodate 1,200 students in permanent classroom facilities. Therefore, it would considered but rejected.

5.3.3 Alternatives To The Proposed Project

Alternatives considered in this EIR include:

- No Project Alternative – This alternative assumes that improvements described for the proposed project would not be implemented. OSD would not implement any changes to the project site that would result in changes to existing project site or existing agricultural uses. Under the No Project Alternative it is assumed that increases in enrollment would have to be accommodated by existing OSD schools.
- Reduced Project Use Alternative – Under the Reduced Project Alternative, total student capacity would be reduce by more than 20% as follows: 900 middle school students in grades 6-8 and 600 elementary school students in grades K-5. With the reduction in capacity, there would be a proportional reduction in classroom square footage. Support facilities (e.g., multipurpose room, food services, library, administration) would also be reduced in size. It is assumed that there would be an overall decrease in square footage by 15%. There would be no change to the District Office component.

5.3.3.1 No Project Alternative

According to the *CEQA Guidelines* (Section 15126.6(e)(3)(b)), the No Project Alternative is defined as the "circumstance under which the project does not proceed." Section 15126.6(e) of the CEQA Guidelines requires analysis of a No Project alternative that (1) discusses existing site conditions at the time the NOP is prepared or the EIR is commenced, and (2) analyzes what is reasonably be expected to occur in the foreseeable future based on current plans if the proposed Project were not approved. Under the No Project Alternative, the proposed Project would not be implemented and the current General Plan Land Use and zoning designations for the Project site would not be amended to allow for the proposed Project. There would be a continuation of the existing agricultural land use. Potential impacts for the No Project Alternative are discussed as follows.

Aesthetics

Under this alternative, the project site would remain under agricultural production and would not include any new type of development or uses on the project site. There would be no obstruction of views of the Ventura-Oxnard Greenbelt, there would be no change to the visual character of the site, and there would be no new sources of light or glare. There would be no impact to aesthetic resources. Impacts would be reduced in comparison to the proposed project.

Agricultural

Under this alternative, the project site would remain under agricultural production and there would be no loss of Farmlands of Statewide Importance. There would be no impact to agriculture. Impacts would be reduced in comparison to the proposed project.

Air Quality

Implementation of this alternative would not create new sources of regional air emissions. There would be no impact to air quality. Impacts would be reduced in comparison to the proposed project.

Biological Resources

The project area has been disturbed by agricultural activities and little if any suitable habitat for sensitive wildlife exists on the project site. Since no changes to land uses are proposed under this alternative, no impacts to existing biological resources on or surrounding the project site would occur. Impacts would be reduced in comparison to the proposed project.

Cultural and Tribal Cultural Resources

The project area has been disturbed by agricultural activities. This alternative would not include any new type of ground-disturbing activities or involve removal of any cultural resources. No impacts to cultural resources or tribal resources would occur. Impacts would be reduced in comparison to the proposed project.

Geology and Soils

Under this alternative, the project site would remain under agricultural production and would not include any new type of development on the project site. This alternative would not expose people or structures to any geological hazards or result in new activities resulting in soil erosion. There would be no impacts associated with geology and soils. Impacts would be reduced in comparison to the proposed project.

Greenhouse Gas Emissions

This alternative does not include uses that would create new sources of regional air emissions and contribute to global climate change. There would be no impact associated with greenhouse gas emissions. Impacts would be reduced in comparison to the proposed project.

Hazards and Hazardous Materials

Under this alternative, the project site would remain under agricultural production and would not include any new type of development on the project site. This alternative would not involve new activities that would expose people or structures to any hazards or hazardous materials. There would be no impacts associated with hazards or hazardous materials. Impacts would be reduced in comparison to the proposed project.

Hydrology and Water Quality

Under this alternative, the project site would remain under agricultural production and would not include any new type of development on the project site. This alternative would not result in new activities resulting in impacts to water quality, depletion of groundwater supplies, changes in drainage or water runoff, or exposure of people or structures to any flooding hazards. There would be no impacts associated with hydrology and water quality. Impacts would be reduced in comparison to the proposed project.

Land Use and Planning

This alternative would not involve any changes to the general plan or zoning designations on the project site. The project site would remain under the Ventura County General Plan land use designation of agricultural-urban reserve and a zoning designation of agricultural exclusive (AE-40). There would be no impacts associated with land use and planning.

Noise

This alternative would not introduce new land uses that would generate construction or operational noise that would increase the ambient noise levels in the surrounding area. No impacts to existing noise levels would occur. Impacts would be reduced in comparison to the proposed project.

Population

This alternative would not introduce new land uses that would generate population growth directly or indirectly. No impacts to population would occur. Impacts would be reduced in comparison to the proposed project.

Public Services

This alternative would not introduce new land uses that would create additional demands on public services at the project site. However, without the construction of new educational facilities, the District would have to accommodate existing and anticipated future students at other District schools that could result in adverse impacts to publics schools. No impacts to public services would occur for police, fire, recreation or other public facilities. Impacts to public schools would be greater in comparison to the proposed project.

Transportation and Traffic

Under this alternative, development of the project site would not occur. The project site would remain predominately under agricultural production and traffic volumes in the surrounding area would not increase as a result of this alternative. This alternative would not have any impacts to the existing transportation system or traffic volumes and no roadway improvements would be provided. Impacts would be reduced in comparison to the proposed project.

Utilities and Service Systems

This alternative would not introduce new land uses that would create additional demands on utilities and service systems. No impacts to utilities and service systems would occur. Impacts would be reduced in comparison to the proposed project.

Conclusion and Relationship to Project Objectives

The No Project Alternative would result in the continuation of existing conditions on the project site. This would be the environmentally superior alternative as no significant unavoidable impacts would occur if the project site were to remain under agricultural production. However, the five Project objectives would not be met.

5.3.3.2 Reduced Project Alternative

Under the Reduced Project Alternative, total student capacity would be reduce by more than 20% resulting in the following: 900 middle school students in grades 6-8 and 600 elementary school students in grades K-5. With the reduction in capacity, there would be a proportional reduction in classroom square footage. Support facilities (e.g., multipurpose room, food services, library, and administration) would also be reduced in size. It is assumed that there would be an overall decrease in square footage by 15%. There would be no change to the District Office component.

Aesthetics

Implementation of the Reduced Project Alternative would develop the same project site and acreage as the proposed project. This alternative would also require similar site improvements required for the proposed project; therefore, impacts to visual character of site would be similar to those identified for the proposed project.

The reduction of intensity may reduce the potential for obstruction of views of the Ventura-Oxnard Greenbelt and the amount of new sources of light or glare. Impacts under both this alternative and the proposed project would be less than significant. Impacts would be reduced in comparison to the proposed project.

Agriculture

Under this alternative, the permanent conversion of Farmland of Statewide Importance to non-agricultural uses would result in a significant unavoidable impact, the same as with the proposed Project. This impact would remain significant and unavoidable. Impacts to agricultural resources under this alternative would be the same as the impacts identified for the proposed project.

Air Quality

As with the proposed project, this alternative would not result in population growth above what is forecasted in the 2030 General Plan and in turn the 2016 AQMP. Therefore, the alternative would not conflict or obstruct implementation of the applicable 2016 AQMP and the impact would be less than significant.

The reduction of intensity would reduce the duration of construction activities associated with this alternative. However, impacts related to daily construction emissions would remain similar to the impacts identified under the proposed project since daily construction activities would be assumed to be similar to the proposed project, but would occur over a shorter overall duration due to the reduction of development. As with the proposed project construction-related impacts to air quality would be less than significant. This alternative would comply with

Mitigation Measure AQ-1 to minimize fugitive dust emissions and to ensure compliance with CARB off-road regulations in accordance with Ventura County recommendations for construction emissions exceeding the county's thresholds of significance of 25 pounds per day for NO_x and SO_x.

Operations-related emissions impacts from this alternative would also be reduced in comparison to the proposed project since the 20% reduction in student numbers would reduce the amount of vehicle trips associated with student drop-off and pickup. Due to the reduction of building space, there would also be a reduction with the emissions associated heating, cooling and upkeep of the buildings. As with the proposed project, operation-related impacts to air quality would be less than significant.

As with the proposed project, emissions from construction or operational sources would not be anticipated to expose sensitive receptors in the nearby residential area to substantial pollutant concentrations. The reduction of intensity under this alternative would further reduce these emissions. Overall, impacts would be reduced in comparison to the proposed project.

Biological Resources

Implementation of the Reduced Project Alternative would develop the same project site and acreage as the proposed project. This alternative would also require similar site improvements required for the proposed project; therefore, impacts to biological resources on the project site would remain the same as those identified for the proposed project (potential to affect nesting birds and disturbing on-site agricultural irrigation ditches). Mitigation measures similar to those identified in Section 3.4 would be required, which would reduce impacts related biological resources to less than significant levels. Impacts to biological resources under this alternative would be the same as the impacts identified for the proposed Project.

Cultural and Tribal Cultural Resources

Implementation of the Reduced Project Alternative would develop the same project site and acreage as the proposed project. This alternative would also require similar site improvements required for the proposed project. Thus, impacts to cultural resources on the project site would remain the same as those identified for the proposed Project (potential to impact unknown archaeological resources, human remains, and paleontological resources). Mitigation measures similar to those identified in Section 3.5 would be required, which would reduce impacts related to cultural resources to less than significant levels. Impacts to cultural resources under this alternative would be the same as the impacts identified for the proposed project.

Geology and Soils

The reduction of intensity would reduce the amount of people and structural square footage exposed to geological hazards as identified for the proposed project (strong seismic ground shaking, seismic-related ground failure including liquefaction, differential settlements, and lateral spreading, and expansive soils). Mitigation measures similar to those identified in Section 3.6 would be required, which would reduce impacts related to geological hazards to less than significant levels. Impacts would be reduced in comparison to the proposed project.

Implementation of the Reduced Project Alternative would develop the same project site and acreage as the proposed project, therefore potential soil erosion impacts associated with construction activities would be the same with this alternative. A mitigation measure similar to those identified in Section 3.6 would be required, which would reduce impacts related to soil erosion to less than significant levels. Impacts associated with soil erosion under this alternative would be the same as the impacts identified for the proposed project.

Greenhouse Gas Emissions

Under the Reduced Project Alternative, development intensity would be reduced, which would potentially reduce the number of vehicle trips. In addition, energy usage would be expected to be reduced through the reduction of approximately 15% of the square feet of school uses; therefore, the GHG emissions from this alternative would be

reduced in comparison to the proposed project. Impacts under both this alternative and the proposed project would be less than significant. Impacts would be reduced in comparison to the proposed project.

Hazards and Hazardous Materials

The reduction of intensity would reduce the amount of people and structural square footage exposed to hazards and hazardous materials as identified for the proposed project. Mitigation measures similar to those identified in Section 3.8 would be required, which would reduce impacts related to hazards and hazardous materials to less than significant levels, except for impacts associated with airport hazards. These hazards would be considered potentially significant and unavoidable. Impacts would be reduced in comparison to the proposed project.

Hydrology and Water Quality

Implementation of the Reduced Project Alternative would develop the same project site and acreage as the proposed project, therefore hydrology and water quality impacts associated with development of the site would be the same with this alternative (impacts to water quality associated with encountering perched groundwater and increased stormwater runoff from the project site). A mitigation measure similar to those identified in Section 3.8 would be required, which would reduce impacts to less than significant levels. Impacts associated with hydrology and water quality under this alternative would be the same as the impacts identified for the proposed project.

The reduction of intensity would reduce the amount of people and structural square footage exposed to dam flooding hazards as identified for the proposed project. Mitigation measures similar to those identified in Section 3.9 would be required, which would reduce impacts related to geological hazards to less than significant levels. Impacts would be reduced in comparison to the proposed project.

Land Use and Planning

The reduced project alternative would need the same discretionary and non-discretionary land use permits and approvals as the proposed project including GPA, Pre-Zone, Re-organization, and SOI amendments. Impacts associated with land use planning would be the same as the proposed project.

Noise

The reduction of intensity would reduce the duration of construction activities associated with this alternative. However, impacts related to construction noise impacts would remain similar to the impacts identified under the proposed project since daily construction activities would be assumed to be similar to the proposed project, but would occur over a shorter duration due to the reduction of development. Mitigation measures similar to those identified in Section 3.11 for the proposed project would be required, which would reduce construction-related impacts to less than significant.

Operations-related noise impacts from this alternative would also be reduced in comparison to the proposed project since the 20% reduction in student numbers would reduce the amount of vehicle trips associated with student drop-off and pickup. As with the proposed project, operation-related impacts to air quality would be less than significant. Impacts would be reduced in comparison to the proposed project.

Population

As with the proposed project, this alternative would support existing and future students and infrastructure improvements would not indirectly cause an increase in population growth and impacts would be less than significant. Impacts associated with population under this alternative would be the same as the impacts identified for the proposed project.

Public Services

Under the Reduced Project Alternative, the development density on the project site would be reduced and demands on public services would be reduced proportionately. Impacts to public services under the proposed Project are considered less than significant. Since, this alternative would reduce the intensity of land uses,

thereby reducing the demand on public services, impacts to public services would be less than the impacts under the proposed project except for potential impacts on public schools. The reduced school capacity would require that additional students be accommodated elsewhere in the District. Therefore, impact on public schools would be greater than the proposed project.

Transportation and Traffic

The reduction of intensity would reduce the duration of construction activities associated with this alternative. However, impacts related to construction traffic impacts would remain similar to the impacts identified under the proposed project since daily construction activities would be assumed to be similar to the proposed project, but would occur over a shorter duration due to the reduction of development. As with the proposed project, impacts would be less than significant.

Operations-related traffic impacts from this alternative would also be reduced in comparison to the proposed project since the 20% reduction in student numbers would reduce the amount of vehicle trips associated with student drop-off and pickup. Mitigation measures similar to those identified in Section 3.14 for the proposed project would be required, which would reduce operation-related impacts to less than significant. Impacts would be reduced in comparison to the proposed project.

Utilities and Service Systems

Under the Reduced Project Alternative, the development density on the Project site would be reduced and demands on utilities and service systems would be reduced proportionately. Impacts to utilities and service systems under the proposed project are considered less than significant. Since this alternative would reduce the intensity of land uses, thereby reducing the demand on water supply service systems, impacts to utilities and service systems would be less than the impacts under the proposed Project. Mitigation measures similar to those identified in Section 3.15 for the proposed project would be required, which would reduce impacts to less than significant. Impacts would be reduced in comparison to the proposed project.

Conclusion And Relationship To Project Objectives

The Reduced Project Alternative would result in a slight reduction in environmental impacts. However, most impacts are substantially similar to the proposed project and significant and unavoidable impacts related to agriculture and airport hazards would remain. This alternative would achieve most of the objectives of the proposed project but would accommodate 20% fewer students; therefore, would not fully achieve Project Objectives.

5.3.4 Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. This would ideally be the alternative that results in fewer (or no) significant and unavoidable impacts. CEQA Guidelines Section 15126(d)(2) states that if the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives.

Table 5-1 provides a comparison of each alternative. The No Project Alternative would result in no impacts to any of the issue areas. The Reduced Project Alternative would reduce potential impacts of the proposed project, although would still result in significant and unavoidable impacts. The No Project Alternative would be the environmentally superior alternative, but would not meet any of the project objectives. The environmentally superior development alternative would likely be the Reduced Project Alternative since this alternative would result in slightly less impacts due to decrease of development intensity on the project site.

Table 5-1. Summary of Project Alternatives

Issue Area	Proposed Project	No Project	Reduced Project
Aesthetics	LTS	NI	LTS
Agriculture	S	NI	S
Air Quality	LTS/M	NI	LTS/M
Biological Resources	LTS/M	NI	LTS/M
Cultural and Tribal Cultural Resources	LTS/M	NI	LTS/M
Geology and Soils	LTS/M	NI	LTS/M
Greenhouse Gas Emissions	LTS	NI	LTS
Hazards and Hazardous Materials	S	NI	S
Hydrology and Water Quality	LTS/M		LTS/M
Land Use and Planning	LTS	NI	LTS
Noise	LTS/M	NI	LTS/M
Population	LTS	NI	LTS
Public Services	LTS	NI	LTS
Transportation	LTS/M	NI	LTS/M
Utilities and Service Systems	LTS	NI	LTS

NI = No Impact
LTS = Less Than Significant
LTS/M = Less Than Significant with Mitigation
S = Significant and Unavoidable

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APPENDICES

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APPENDIX C: AIR QUALITY

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A NOP/IS AND COMMENT LETTERS RECEIVED

NOTICE OF PREPARATION (NOP)
OF AN ENVIRONMENTAL IMPACT REPORT AND
NOTICE OF PUBLIC SCOPING MEETING
DORIS PATTERSON EDUCATIONAL FACILITIES PROJECT

Notice Is Hereby Given that Oxnard School District (OSD) will be the lead agency and will prepare an environmental impact report (EIR) for the proposed Doris Patterson Educational Facilities Project. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The scoping process is intended to provide OSD with the information the public feels is necessary to establish the appropriate scope for preparing the environmental analysis. Please submit your comments, input, suggestions for project alternatives, and any other pertinent information that may enable us to prepare a comprehensive EIR for the proposed project. The Notice of Preparation (NOP) comment period begins on **May 11, 2017 and ends on June 9, 2017**. Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 30 days after receipt of the notice.

Please submit written comments to:
Ms. Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South "A" Street,
Oxnard, CA 93030

Project Title: Doris Patterson Educational Facilities Project

Project Location: Southeast corner of Doris Avenue and North Patterson Road, Ventura County, CA. The project site is located in unincorporated Ventura County, California and is within the Ventura County Save Open-Space and Agricultural Resources (SOAR) boundary. The project site is also within the City of Oxnard's Sphere of Influence (SOI), City Urban Restriction Boundary (CURB), and within the Oxnard Airport SOI. The Site comprises a portion of Lot 158, in the City of Oxnard, County of Ventura, State of California as shown on the Map of Patterson Ranch, recorded in Book 8, Page 1 of Maps in the office of the Ventura County Recorder (Portion of APN: 183-0-070-090). The project site consists of 1,088,824.84 square feet (approximately 25 acres).

The project area is relatively flat and currently used for agriculture. It is surrounded by adjacent agricultural uses to the south, east, and west. Located to the north of the project site is a residential neighborhood. Access to the project site is provided by North Patterson Road to the west and Doris Avenue to the north.

Project Description: OSD proposes to construct and operate a new elementary, middle school and District administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road. The new school is needed to accommodate existing and anticipated future enrollment in the District. The project site is located within unincorporated Ventura County and within the City of Oxnard SOI area. The project will include a proposed reorganization which will be comprised of an annexation into the City of Oxnard and the

Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33.

Pursuant to Government Code Section 66428(a)(2), and in compliance with City of Oxnard Municipal Code Section 15-11, under a statutory exemption in the Subdivision Map Act, a tentative map is not required for property transferred to or from a government agency proceeding under Government Code section 66428(a)(2).

The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and an Annexation through the City of Oxnard. The projects will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with the Ventura Local Agency Formation Commission (LAFCo). Upon approval of the annexation by LAFCo, and a 30-day reconsideration period, the annexation will be recorded and the site will be annexed into the City of Oxnard and eligible for all public services.

The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 students onsite. In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 student's onsite. These facilities include soccer fields, tennis courts, hard courts, and play fields that are located to the south of the school buildings. An additional drop-off area for the play field area is provided along Patterson Road. A conceptual site plan is included as Figure 2. The project site will have a drought tolerant landscape that meets the 2009 Model Water Efficiency Landscape Ordinance (MWELO) regulations adopted by the Department of Water Resources (DWR).

A two-story 23,665 sq. ft. District Office is proposed on the northwest corner of the site with 62 parking stalls provided to the south and east of the building. Access to this parking area would be provided from Doris Avenue. An elementary school drop-off and pick-up area would separate the district office space from the elementary school buildings. Access to the elementary school drop-off and pick-up area would be from Patterson Road with traffic following in a single direction exiting on Doris Avenue. The elementary school buildings are clustered together to the east of the District office area with primary access provided from Patterson Road. These buildings are anticipated to include:

- Multi-Purpose & Food Services (8,975 sq. ft.)
- 2-Story/ 23 Classroom Building (22,560 sq. ft.)
- Administration Building (3,005 sq. ft.)
- Media Center & Student Support Services (4,210 sq. ft.)
- Kindergarten (6,400 sq. ft.)

A parking lot with 42 spaces is provided adjacent to the elementary school buildings to the north with access provided from Doris Avenue and an additional 20 parking spaces are provided within the drop-off and pick-up area to the west.

The middle school buildings are located near the northeast corner of the site and are anticipated to include:

- Administration Building (3,005 sq. ft.)
- Media Center (2,000 sq. ft.)
- Visual Arts & Music (3,200 sq. ft.)
- Student Support/Conference Center (3,800 sq. ft.)
- Food Services (3,900 sq. ft.)

- Two-Story/ 41 Classroom Building (45,312 sq. ft.)
- Science Building (2,600 sq. ft.)
- Restrooms (3,000 sq. ft.)
- Gymnasium (13,150 sq. ft.)

Approximately 96 parking stalls would be provided adjacent to the middle school buildings to the east. The bus drop-off and pick-up area for the middle school would be from Doris Avenue. An additional drop-off and pick-up area and parking lot would be provided to the east of the middle school buildings with access provided from a new road. The proposed access road is expected to terminate at the southernmost access to the parking lot for the school.

The proposed project includes utility connections including water, sewer, gas, electric, data/telecommunications, and storm water collection. Water, wastewater, and recycled water need to be extended to the site. Power is located on the east side of Patterson Road. The nearby residential neighborhood to the north of the site has phone and cable/communication facilities that would need to be extended to the site.

Phased construction is anticipated to begin in 2019 and each school would take approximately 15 to 16 months to construct. Operation of the new K-5 elementary school is anticipated for the 2020-2021 school year followed by the 6-8 middle school for the 2022-2023 school year.

Topics Identified for Study in an EIR. OSD prepared an Initial Study (IS). Based on the environmental review contained in the IS, OSD determined that implementation of the proposed project may have a significant effect on the environment and an EIR is required. The EIR will be prepared to evaluate potentially significant impacts related to the following issues:

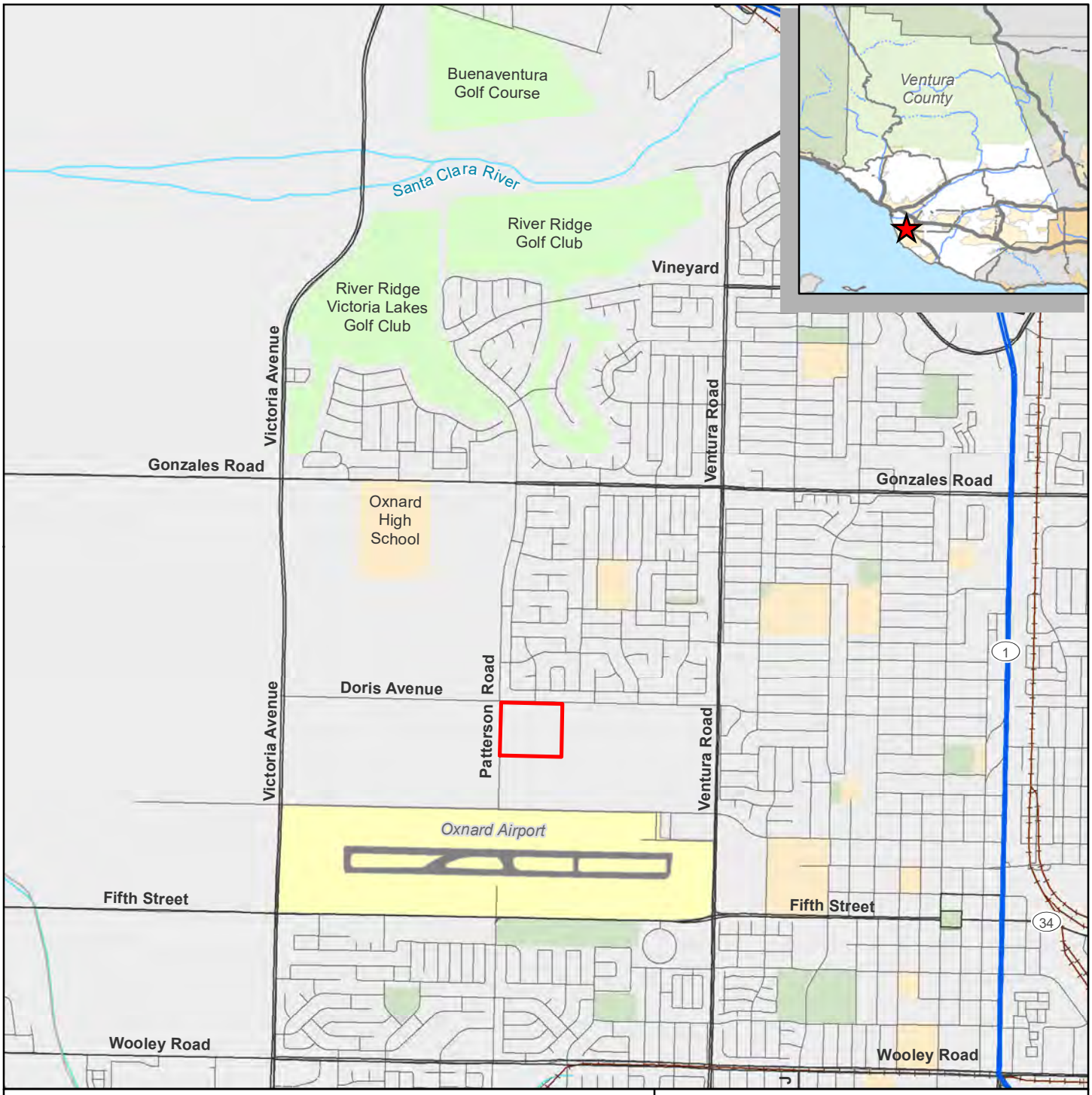
- Aesthetics
- Agriculture
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Tribal Cultural Resources
- Hydrology/Water Quality
- Land Use Planning
- Noise
- Population
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

Based on the analysis contained within the IS, impacts related to Forestry, Mineral Resources, and Housing are anticipated to be less than significant. Therefore, these topics will not be studied in detail in the EIR.

Scoping Meeting: OSD will conduct a public scoping meeting for the proposed project. The purpose of the scoping meeting is to solicit and receive public comment and input regarding the appropriate scope and content in the preparation of the EIR. Participation in the public meeting by agencies, organizations, and persons is encouraged. The Scoping Meeting for the Environmental Impact Report for the Doris Patterson Educational Facilities Project is scheduled for **May, 22 2017, at 3:00 p.m.** at the Oxnard School District Board Room, 1051 South "A" Street, Oxnard, CA 93030.

In addition to the public scoping meeting, comments can also be submitted in writing, attention: Ms. Lisa Cline, at the address provided above.

Document Availability: The NOP and IS are available for public review at the District Office at 1051 South "A" Street Oxnard, CA 93030 during normal business hours. They are also posted online on the District's website at: http://www.oxnardsd.org/pages/Oxnard_School_District/Departments/Facilities



Legend

Project Boundary

N
W E
S

0 0.25 0.5 1 Miles

Background Map sources: ESRI, Ventura County GIS, Tetra Tech

Oxnard School District

Project Location and Vicinity Map

Doris Patterson
Educational Facilities Project

TETRA TECH
5383 Hollister Avenue
Suite 130
Santa Barbara, CA 93111

TC NO.	DATE	DRAWN BY	MAP NO.	FIGURE
34007.05	4/27/2017	REYNOLDS	9885	1-1

Job No. 34007-05

Initial Study
Doris Avenue/Patterson Road Educational Facilities Project
Ventura County, California

Prepared for:

Ms. Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South A Street
Oxnard, California 93030

Prepared by:

Tetra Tech, Inc.
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May 2017

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1.0 PROJECT INFORMATION

Project title:	Doris Patterson Educational Facilities Project
Lead agency name and address:	Oxnard School District 1051 S. A Street, Oxnard, CA 93030
Contact person and phone number:	Ms. Lisa Cline (805) 385-1501
Project location:	Southeast corner of Doris Avenue and North Patterson Road
Project sponsor's name and address:	Ms. Lisa Cline Oxnard School District 1051 S. A Street, Oxnard, CA 93030
General Plan Designation:	Ventura County: Agricultural- Urban Reserve City of Oxnard: Public/Semi-public, Open Space and Park,
Zoning Designation:	Ventura County: Agricultural Exclusive (AE-40) City of Oxnard: No zoning for unincorporated lands
Surrounding land uses:	North: Residential South: Agricultural East: Agricultural West: Agricultural

1.1 PROJECT LOCATION

The project site is located in unincorporated Ventura County, California and is within the Ventura County Save Open-Space and Agricultural Resources (SOAR) boundary. The project site is also within the City of Oxnard's Sphere of Influence (SOI) and City Urban Restriction Boundary (CURB). A Project Location and Vicinity Map is provided as Figure 1-1, The Site comprises a portion of Lot 158, in the City of Oxnard, County of Ventura, State of California as shown on the Map of Patterson Ranch, recorded in Book 8, Page 1 of Maps in the office of the Ventura County Recorder (Portion of APN: 183-0-070-090). The project site consists of 1,088,824.84 square feet (approximately 25 acres).

The project area is relatively flat and currently used for agriculture. It is surrounded by adjacent agricultural uses to the south, east and west. Located to the north of the project site is a residential neighborhood. Access to the project site is provided by North Patterson Road to the west and Doris Avenue to the north.

The project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the project site. Oxnard Airport is an active general aviation/small scheduled service airport with approximately 107 based aircraft and approximately 54,500 operations a year. The project site is located within Safety Zone 6, identified as the Traffic Pattern Zone (Caltrans 2014).

1.2 PROJECT DESCRIPTION

The Oxnard School District (District or OSD) proposes to construct and operate a new elementary, middle school and District administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road. The new schools are needed to accommodate existing and anticipated future enrollment in the District. The project site is located within unincorporated Ventura County and within the City of Oxnard SOI area. The project will include a proposed reorganization which will be comprised of an annexation into the City of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33.

Pursuant to Government Code Section 66428(a)(2), and in compliance with City of Oxnard Municipal Code Section 15-11, under a statutory exemption in the Subdivision Map Act, a tentative map is not required for property transferred to or from a government agency proceeding under Government Code section 66428(a)(2).

The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and an Annexation through the City of Oxnard. The projects will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with the Ventura Local Agency Formation Commission (LAFCo). Upon approval of the annexation by LAFCo, and a 30-day reconsideration period, the annexation will be recorded and the site will be annexed into the City of Oxnard and eligible for all public services.

The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 students- onsite. In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 student's onsite. These facilities include soccer fields, tennis courts, hard courts, and play fields that are located to the south of the school buildings. An additional drop-off area for the play field area is provides along Patterson Road. A conceptual site plan is included as Figure 2. The project site will have a drought tolerant landscape that meets the 2009 Model Water Efficiency Landscape Ordinance (MWELO) regulations adopted by the Department of Water Resources (DWR).

A two-story 23,665 sq. ft. District Office is proposed on the northwest corner of the site with 62 parking stalls provided to the south and east of the building. Access to this parking area would be provided from Doris Avenue. An elementary school drop-off and pick-up area would separate the district office space from the elementary school buildings. Access to the elementary school drop-off and pick-up area would be from Patterson Road with traffic following in a single direction exiting on Doris Avenue. The elementary school buildings are clustered together to the east of the District office area with primary access provided from Patterson Road. These buildings are anticipated to include:

- Multi-Purpose & Food Services (8,975 sq. ft.)
- 2-Story/ 23 Classroom Building (22,560 sq. ft.)
- Administration Building (3,005 sq. ft.)
- Media Center & Student Support Services (4,210 sq. ft.)
- Kindergarten (6,400 sq. ft.)

A parking lot with 42 spaces is provided adjacent to the elementary school buildings to the north with access provided from Doris Avenue and an additional 20 parking spaces are provided within the drop-off and pick-up area to the west.

The middle school buildings are located near the northeast corner of the site and are anticipated to include:

- Administration Building (3,005 sq. ft.)
- Media Center (2,000 sq. ft.)
- Visual Arts & Music (3,200 sq. ft.)
- Student Support/Conference Center (3,800 sq. ft.)
- Food Services (3,900 sq. ft.)
- Two-Story/ 41 Classroom Building (45,312 sq. ft.)
- Science Building (2,600 sq. ft.)
- Restrooms (3,000 sq. ft.)
- Gymnasium (13,150 sq. ft.)

Approximately 96 parking stalls would be provided adjacent to the middle school buildings to the east. The bus drop-off and pick-up area for the middle school would be from Doris Avenue. An additional drop-off and pick-up area and parking lot would be provided to the east of the middle school buildings with access provided from a new road. The proposed new access road is expected to terminate at the southernmost access to the parking lot for the school.

The proposed project includes utility connections including water, sewer, gas, electric, data/telecommunications, and storm water collection. Water, wastewater, and recycled water need to be extended to the site. Power is located on the east side of Patterson Road. The nearby residential neighborhood to the north of the site has phone and cable/communication facilities that would need to be extended to the site.

Phased construction is anticipated to begin in 2019 and each school would take approximately 15 to 16 months to construct. Operation of the new K-5 elementary school is anticipated for the 2020-2021 school year followed by the 6-8 middle school for the 2022-2023 school year.

1.3 OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

Other public agencies whose approval is required for permits, financing approval, or participation agreement, for example, is as follows:

- California Department of Education
- California Department of the State Architect
- California Department of Transportation, Aeronautics Division
- California Department of Toxic Substances Control
- California Geological Survey
- City of Oxnard

- County of Ventura
- Ventura County Local Agency Formation Commission
- Ventura County Airport Commission
- Calleguas Municipal Water District
- Metropolitan Water District of Southern California

2.0 ENVIRONMENTAL CHECKLIST

2.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☒Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☒ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials	☒ Hydrology/Water Quality
☒ Land Use/Planning	☐ Mineral Resources	☒ Noise
☒ Population/Housing	☒ Public Services	☒ Recreation
☒ Transportation/Traffic	☒ Utilities/Service Systems	☒ Tribal Cultural Resources
		☒ Mandatory Findings of Significance

2.2 DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Lisa Cline 5-10-17			
Signature	Date	Signature	Date
Lisa Cline			
Print Name		Print Name	

2.3 EVALUATION OF ENVIRONMENTAL IMPACTS

(1) A brief explanation is required for all answers except "no impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "no impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "no impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take account of the whole action involved, including off site as well as on site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

(3) Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially significant impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "potentially significant impact" entries when the determination is made, an EIR is required.

(4) "Negative declaration: less than significant with mitigation incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "potentially significant impact" to a "less than significant impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

(5) Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063[c][3][D]). In this case, a brief discussion should identify the following:

   a. Earlier analysis used. Identify and state where earlier analyses are available for review.

   b. Impacts adequately addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. Mitigation measures. For effects that are "less than significant with mitigation incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

   For purposes of this Initial Study, the City's General Plan and Zoning Code Update Final EIR (May 2011) is hereby incorporated by reference.

(6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.

(7) Supporting information sources. A source list should be attached and other sources used or individuals contacted should be cited in the discussion.

(8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

(9) The explanation of each issue should identify:

a. The significance criteria or threshold, if any, used to evaluate each question, and

b. The mitigation measure identified, if any, to reduce the impact to a less than significant level.

(10) The proposed Project includes compliance with applicable local, regional, state, and federal laws, regulations, and rules.

2.4 ENVIRONMENTAL IMPACT ANALYSIS

2.4.1 AESTHETICS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Have a substantial adverse effect on a scenic vista?			X	
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?				X
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?	X			
d.	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	X			

Discussion:

a. Would the project have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. Ventura County's natural visual resources are largely composed of the varied topography, exposed geological formations, heterogeneous vegetation, beaches and waterways (Ventura 2015). According to the Ventura County General Plan, the conservation of scenic resources is most critical where the resources will be frequently and readily viewed, as from a highway, or where the resource is particularly unique. The project site is not located within or adjacent to a designated scenic resource area based on the Ventura County General Plan Resource Protection Map.

In the City of Oxnard, key view corridors include local waterways, agricultural open space, beaches, mountains, and a variety of urban landscapes (Oxnard 2011). The Santa Clara River (waterway) is not visible from the project site nor is the site located within a coastal area that could adversely impact coastal or beach views. The Oxnard-Ventura Agricultural Greenbelt is located to the west of the project site across Patterson Road. Views of these agricultural areas would primarily be from travelers on local roadways in the vicinity of the project site including Patterson Road and Doris Avenue. These are short duration viewers. Development of the proposed project would occur on the southeast corner of Doris Avenue and Patterson Road. Therefore, travelers' views of the Greenbelt located to the west would not be substantially impacted on Patterson Road. On Doris Avenue, development of the project may obstruct westbound travelers' views across the site to the Oxnard-Ventura Agricultural Greenbelt for a short duration in comparison to existing conditions. While this would be a visual change, it would not be a significant impact since the proposed project is located in area planned for future development in the City

of Oxnard General Plan and westbound travelers would be coming from similar developed areas. Eastbound travelers on Doris Avenue would be leaving the Greenbelt viewing area and traveling toward more developed urban areas in the City of Oxnard. Other viewers in the area include residents in the homes to the north of the project site. However, residents' views along Doris Avenue and Patterson road are generally obstructed by the existing wall and street trees. Therefore, the proposed project would have a less than significant impacts on scenic vistas and this issue will not be further analyzed in the EIR.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The project site is relatively flat and currently used for agriculture. The project site is not located adjacent to a designated State scenic highway or eligible State scenic highway, as identified on the California Scenic Highway Mapping System (Caltrans 2017). Therefore, the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway and this issue will not be discussed further in the EIR.

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Potentially Significant Impact. The project site is relatively flat and currently used for agriculture. It is surrounded by adjacent agricultural uses to the south, east and west. Located to the north of the project site is a residential neighborhood. Development of the proposed project will result in a visual change from construction and operation of the new educational facilities in comparison to existing conditions. Therefore, potential impacts to the visual character or quality of the site and its surroundings will be analyzed further in the EIR.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Potentially Significant Impact. The proposed project will include exterior lighting around the buildings and for walkways and parking as needed for adequate safety and security at night. It is anticipated that the school would be used in the evening for community meetings and periodic school activities. As such, the proposed project could represent a new source of light or glare which could potentially impact nighttime views in the area. Therefore, the EIR will analyze potential light and glare impacts.

2.4.2 AGRICULTURE AND FOREST RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	X			
b.	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	X			
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?				X
d.	Result in the loss of forest land or conversion of forest land to non-forest use?				X
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	X			

Discussion:

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Potentially Significant Impact. The project site is currently used for agriculture and is identified as being farmland of statewide importance on the Ventura County Important Farmland Map prepared by the California Department of Conservation (CDOC 2014). Therefore, this issue will be further analyzed in the EIR.

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

Potentially Significant Impact. The project site is zoned in Ventura County as Agricultural Exclusive (AE-40) and is located within the Ventura County SOAR boundary. The California Land Conservation

Act (LCA) also known as the Williamson Act, provides property owners of qualifying land with tax incentives to protect agricultural land and open space from being rezoned and subdivided for higher density development (Ventura 2017). The project site is not under contract according to the Ventura County 2014 Land Conservation Act Contracts Map (Ventura 2014). Therefore, the proposed project would not conflict with an LCA/ Williamson Act contract. However, the project site is zoned for agricultural use. Therefore, this issue will be analyzed in the EIR.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)) or timberland (as defined in PRC Section 4526)?

No Impact. Ventura County does not contain land which produces timber commercially for eventual use as lumber or pulp. However, there are six Christmas tree farms zoned Timberland Preserve (T-P) pursuant to the provisions of the Timberland Preserve Zone of the County Zoning Ordinance. Five of these six properties are located in the Ojai Valley area and one in the Piru area. (Ventura 2011). The project site is zoned AE-40 and there is no forest timberland located on the project site. Therefore, the proposed project would not conflict with zoning for, or cause rezoning of, forest land or timberland and this issue will not be further analyzed in the EIR.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. There is no forest land located on the project site. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to a non-forest use and this issue will not be further analyzed in the EIR.

e. Would the project involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use or conversion of forest land to non-forest use?

Potentially Significant Impact. There is no forest land located on or adjust to the project site. Therefore, the proposed project would not individually or cumulatively result in the loss of Farmland to non-forest use and this issue will not be further analyzed in the EIR. The project site is currently used for agriculture and implementation of the proposed project would convert the site to a non-agricultural use. Therefore, this issue will be evaluated in the EIR.

2.4.3 AIR QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Conflict with or obstruct implementation of the applicable air quality plan?	X			
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	X			
d.	Expose sensitive receptors to substantial pollutant concentrations?	X			
e.	Create objectionable odors affecting a substantial number of people?	X			

Discussion:

a. Would the project conflict with or obstruct implementation of the applicable air quality plans?

Potentially Significant Impact. The project site is located within Ventura County and within the sphere of influence of the City of Oxnard. To pursue improvement of air quality in Ventura County, the Ventura County Air Pollution Control District (VCAPCD) has prepared the 2007 Air Quality Management Plan (AQMP), which presents a comprehensive list of pollution control strategies aimed at attaining Ventura County's federal 8-hour ozone standard as required by the Clean Air Act Amendments of 1990 and the VCAPCD's Triennial Assessment and Plan Update required by the California Clean Air Act of 1988. These strategies are developed, in part, based on regional population, housing, and employment projections prepared by the Southern California Association of Governments and reflected in local general plans. An air quality study will be conducted for the proposed project and this issue will be analyzed in the EIR.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially Significant Impact. The proposed project is located within Ventura County, which is subject to the Ventura County Air Pollution Control District (VCAPCD) regulations. Pollutant concentrations within the Ventura County are assessed relative to both the federal and state ambient air quality standards. Ventura County is in attainment for all federal standards except the 8-hour O_3 standard (U.S. EPA 2017 and all state standards except O_3 and PM_{10} standards (CARB 2016). The release of various criteria pollutants from both short-term construction and long-term operation related activities for the proposed project are expected but which by itself, are not be expected to generate significant air emissions. Nonetheless, an air quality study will be conducted for the proposed project and this issue will be analyzed in the EIR.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Potentially Significant Impact. The proposed project would result in significant cumulative impacts if it exceeds daily thresholds of significance established by VCAPCD or if it incurs an increase of emissions beyond what is planned in the General Plan. An air quality study will be prepared for the proposed project and this issues will be analyzed further in the EIR.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. The proposed project includes two schools to help meet the educational needs of District students. The proposed project is anticipated to have a less than significant impact on sensitive receptors. Nonetheless, an air quality study will be prepared for the proposed project and this issues will be analyzed further in the EIR.

e. Would the project create objectionable odors affecting a substantial number of people?

Potentially Significant Impact. Construction and operation of the proposed project is not anticipated to create objectionable odors. The project would be adjacent to agricultural fields which may subject the project to objectionable odors during application of fertilizers, herbicides or pesticides. Therefore, this issue will be analyzed further in the EIR.

2.4.4 BIOLOGICAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	X			
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f.	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?				X

Discussion:

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in

local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Potentially Significant Impact. A query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted to determine known locations of any special-status species (sensitive, endangered, rare, or candidate species) within and adjacent to the project area. Table 2-1 and Table 2-2 list the special-status wildlife and plant species that have been observed within the Oxnard quadrangle and the five adjacent quadrangles around the project site, based on a CNDDB database query. None of the species listed in Tables 2-1 and 2-2 have been observed on or within one mile from the project site. Species from the CNDDB search for which there is no potential habitat at the site or immediately adjacent to the site (for example, species that only inhabit dunes or marshes) have not been included within Tables 2-1 and 2-2. Additional assessment on the potential for the project site to support particular special-status and sensitive species will be conducted.

Table 2-1. Special-Status Wildlife Species with Potential to Occur within or Near the Project Site

Common Name	Scientific Name	Federal Status / State Status	Other Status
Birds			
White-tailed kite	*Elanus leucurus*	-	FP, BLM-S
Ferruginous hawk	*Buteo regalis*	-	WL, BCC
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT / SE	BCC, BLM-S, USFS-S
Burrowing owl	*Athene cunicularia*	-	SSC, BCC, BLM-S
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE / SE	-
California horned lark	*Eremophila alpestris actia*	-	WL
Bank swallow	*Riparia riparia*	- / ST	BLM-S
Coastal California gnatcatcher	*Polioptila californica californica*	FT / -	SSC
Least Bell's vireo	*Vireo bellii pusillus*	FE / SE	-
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	- / SE	-
Tricolored blackbird	*Agelaius tricolor*	- / SCE	SSC, BCC, BLM-S
Mammals			
Mexican long-tongued bat	*Choeronycteris mexicana*	- / -	SSC
Pallid bat	*Antrozous pallidus*	- / -	SSC, BLM-S, USFS-S
Western mastiff bat	*Eumops perotis californicus*	- / -	SSC, BLM-S
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	- / -	SSC
American badger	*Taxidea taxus*	- / -	SSC
Reptiles			
Western pond turtle	*Emys marmorata*	- / -	SSC, BLM-S, USFS-S
Silvery legless lizard	*Anniella pulchra pulchra*	- / -	SSC, USFS-S
Coast horned lizard	*Phrynosoma blainvillii*	- / -	SSC, BLM-S
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	- / -	SSC
South coast gartersnake	*Thamnophis sirtalis* ssp.*infernalis*	- / -	SSC
Two-striped gartersnake	*Thamnophis hammondii*	- / -	SSC, BLM-S, USFS-S
Invertebrates			
Monarch - California overwintering population	*Danaus plexippus*	- / -	USFS-S

Notes: Results based on CNDDB query for six regional quadrangles.
FE = Federally Listed Endangered FT = Federally Listed Threatened
SE = State Listed Endangered ST = State Listed Threatened SCE = State Candidate Endangered
BCC = USFWS Birds of Conservation Concern

SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List
BLM-S = Bureau of Land Management Sensitive
USFS-S = US Forest Service Sensitive

Table 2-2. Special-Status Plant Species with Potential to Occur within or Near the Project Site

Common Name	Scientific Name	Federal Status / State Status	Other Status
Woven-spored lichen	*Texosporium sancti-jacobi*	- / -	3
Orcutt's pincushion	*Chaenactis glabriuscula* var. *orcuttiana*	- / -	BLM-S, 1B.1
White rabbit-tobacco	*Pseudognaphalium leucocephalum*	- / -	2B.2
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	- / -	BLM-S, 1B.1
Mexican malacothrix	*Malacothrix similis*	- / -	2A
Chaparral ragwort	*Senecio aphanactis*	- / -	2B.2
Aphanisma	*Aphanisma blitoides*	- / -	1B.2
Coulter's saltbush	*Atriplex coulteri*	- / -	1B.2
South coast saltscale	*Atriplex pacifica*	- / -	1B.2
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	- / -	1B.2
Estuary seablite	*Suaeda esteroa*	- / -	1B.2
Blochman's dudleya	*Dudleya blochmaniae* ssp. *blochmaniae*	- / -	1B.1
Verity's dudleya	*Dudleya verityi*	FT / -	1B.1
Braunton's milk-vetch	*Astragalus brauntonii*	FE / -	1B.1
Ventura Marsh milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*	FE / SE	1B.1
White-veined monardella	*Monardella hypoleuca* ssp. *hypoleuca*	- / -	1B.3
Gerry's curly-leaved monardella	*Monardella sinuata* ssp. *gerryi*	- / -	1B.1
Conejo buckwheat	*Eriogonum crocatum*	- / SR	1B.2
Ojai navarretia	*Navarretia ojaiensis*	- / -	USFS-S, 1B.1
Salt marsh bird's-beak	*Chloropyron maritimum* ssp. *maritimum*	FE / SE	1B.2
Plummer's mariposa-lily	*Calochortus plummerae*	- / -	4.2
Late-flowered mariposa-lily	*Calochortus fimbriatus*`	- / -	BLM-S, USFS-S, 1B.3

Notes: Results based on CNDDB query for six regional quadrangles.
FE = Federally Listed Endangered FT = Federally Listed Threatened
SE = State Listed Endangered SR = State Listed Rare
BLM-S = Bureau of Land Management Sensitive
USFS-S = US Forest Service Sensitive

CNPS CRPR (California Native Plant Society, California Rare Plant Rank)
1B = Plants Rare, Threatened, or Endangered in California and elsewhere
2A = Plants presumed extirpated in California, but common elsewhere
2B = Plants Rare, Threatened, or Endangered in California, but common elsewhere
3 = Plants about which more information is needed (Review List)
4 = Plants of limited distribution (Watch List)
0.1 = Seriously threatened in California (over 80% of occurrences threatened)
0.2 = Moderately threatened in California (20-80% occurrences threatened)
0.3 = Not very threatened in California (less than 20% of occurrences threatened)

The project site has historically and is currently used for agricultural row crop production. The surrounding areas are predominantly agricultural and urban residential with a high level of human

activity. Due to the disturbed and agricultural nature of the site (i.e., lack of natural vegetation and suitable habitat), the potential to support the majority of the special-status and sensitive species listed in Table 2-1 and Table 2-2 is low. Species expected to occur at the site would be common weeds and animal species (raccoons [*Procyon lotor*], sparrows [*Passer* spp.], mice [*Mus* spp.], etc.) that are often found in croplands and disturbed areas. Nonetheless, a biological site visit will be conducted that will assess the presence of special-status and sensitive species and further investigate the potential for the project site to support such species. If needed, mitigation measures will be identified. Therefore, this issue will be further analyzed in the EIR.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. The CNDDB identified nine sensitive habitat types within a six quadrangle search around the project site:

- Southern California coastal lagoon
- Southern California steelhead stream
- Valley needlegrass grassland
- Southern coastal salt marsh
- Coastal and valley freshwater marsh
- Southern coast live oak riparian forest
- Southern sycamore alder riparian woodland
- Southern riparian scrub
- California walnut woodland

The nearest identified sensitive habitats to the project site are patches of southern riparian scrub approximately 1.8 miles to the north, and coastal and valley freshwater marsh approximately 2.7 miles to the northwest. The project site is currently used only for agricultural row crop production. No sensitive habitats are known to occur within or directly bordering the project, nor would the proposed project result in habitat impacts outside the site boundaries. Therefore, the proposed project would have no impact on riparian habitat or other sensitive natural communities, and this issue will not be addressed in the EIR.

A biological site visit is scheduled to occur as part of the EIR biological analysis (as noted above). In the unlikely event that potential riparian or sensitive habitats are identified onsite during the visit, they would be assessed in the EIR.

c. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The CNDDB database indicated that southern California coastal lagoon, southern California steelhead stream, southern coastal salt marsh, and coastal and valley freshwater marsh are present within a six quadrangle search around the project site. None of these wetland habitats are present on or within one mile of the project site. The U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) identified riverine channels running along portions of Teal Club Road and Doris Avenue, beginning approximately 0.25 mile northwest and 0.25 mile south and southwest of the project site. Additionally, un-vegetated and frequently maintained man-made irrigation drainage ditches occur south of the project site. These ditches were created for agricultural purposes and have no formal jurisdictional delineation.

No other types of wetlands are known to occur within one mile of the site. Furthermore, no wetlands are known to occur within or directly bordering the project site and no impact would occur to these resources. Therefore, this issue will not be addressed in the EIR. However, in the unlikely event, that potential wetlands are identified onsite during the biological site visit that is scheduled to occur as part of the EIR process then they will be assessed in the EIR.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. The project site is currently and historically agricultural. The surrounding area consists of agricultural and urban residential uses with high levels of human activity. The project site is not located within or directly adjacent to any known or mapped wildlife corridors or nursery sites. The drainages near the site may serve as limited habitat for some common wildlife species, but are not likely to provide habitat for native or migratory species. It is also feasible that off-site trees in the vicinity of the project site may provide a resting site for monarch butterflies (*Danaus plexippus*) during migration to overwintering areas. However, monarchs have not been observed at the site and are unlikely to reside in these highly disturbed areas. Based on the agricultural nature of the site and fragmentation from high quality habitat due to surrounding agricultural and urbanized land uses, the site is unlikely to be used as a wildlife corridor or nursery site. Therefore, there would be less than significant impact to these resources, and this issue will not be addressed in the EIR.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The project site is highly disturbed and is currently used for agricultural production. Additionally, there are no trees present within the site. The proposed project would not conflict with any local policies or ordinances protecting biological resources. Therefore, this issue will not be addressed in the EIR.

f. Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project site is not included in any state, regional, or local habitat conservation plans. Therefore, no impacts would occur and this issue will not be addressed in the EIR.

2.4.5 CULTURAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	X			
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	X			
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	X			
d.	Disturb any human remains, including those interred outside of formal cemeteries?			X	

Discussion

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Potentially Significant Impact. The project site lacks any buildings or structures and is currently used for agriculture row crops. Due to agricultural use, the project site soils have been disced and plowed and are considered disturbed within the plow zone (approximately 0-30 centimeters below surface). . Section 15064.5(a) (3) of the CEQA Guidelines defines a "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or determined eligible for listing in, the California Register of Historical Resources (CRHR); or
- A resource listed in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code (PRC); or
- Identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC; or
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California that

may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC, § 5024.1, Title 14 California Code of Regulation [CCR], Section 4852) including the following:

- An association with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- An association with the lives of persons important to local, California, or national history.
- An embodiment of the distinctive characteristics of a type, period, region, or method of construction, or a representation of the work of a master, or possesses high artistic values.
- A resource that has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The South Central Coastal Information Center (SCCIC) is one of twelve regional Information Centers that comprise the California Historical Resources Information System (CHRIS). CHRIS works under the direction of the California Office of Historic Preservation (OHP) and the State Historic Resources Commission (Fullerton 2017). A literature and records search will be conducted of the cultural resource site and project file collection at the SCCIC for the project site. As part of the record search, the SCCIC database of survey reports and overviews, documented cultural resources, cultural landscapes, and ethnic resources will be consulted. Additionally, the search will include a review of the following publications and lists: OHP Historic Properties Directory/National Register of Historic Properties, OHP Archaeological Determinations of Eligibility, California Inventory of Historical Resources/California Register of Historic Resources, *California Points of Historical Interest*, *California Historical Landmarks*, ethnographic information, historical literature, historical maps, and local historic resource inventories. The record search will focus specifically on the project site, area of potential affect (APE) and a 1-mile buffer around the APE (the project study area). In 2012, the Native American Heritage Commission (NAHC) previously conducted a Sacred Lands File (SLF) search for a larger project that included the proposed project site and Native American cultural resources were not identified (NAHC 2012). Nonetheless, a new SLF search of the project site will be conducted since it has been over 5 years since the previous NAHC SLF search.

Assembly Bill (AB) 52 requires a lead agency to evaluate a project's potential to impact "tribal cultural resources." In addition, AB 52 requires the lead agency to consult with any California Native American tribe that has previously requested that the lead agency provide the tribe with notice of such projects and consultation, and is traditionally and culturally affiliated with the geographic area of a proposed project. Consultations must include discussing the type of environmental review necessary, the significance of tribal cultural resources, and the significance of the project's impacts on the tribal cultural resources (as applicable), and alternatives and mitigation measures recommended by the tribe. In order to begin this process, the District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation.

Therefore, the EIR will evaluate the potential for the proposed project to result in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

b. b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Potentially Significant Incorporated. As noted above, Native American consultation and a records search will be conducted and the potential for any adverse change(s) in the significance of archaeological resource(s) evaluated in the EIR.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact. In Ventura County, paleontological remains, typically identified in Pleistocene-age alluvial deposits, include examples from throughout most of geological history, including the Paleozoic (600-225 million years ago), Mesozoic (225-70 million years ago) and Cenozoic (70 million years ago-present) eras. Based on the geological map of Ventura County, Oxnard quadrangle, the project site is underlain by Holocene age (10,000 years before present (BP) to recent) alluvial fan deposits composed of soils that are predominately of clay with interbeds of sand and occasional gravel (Koury 2014, Calhan 2003). Holocene deposits may overlie older alluvium of Plesitocene age (2.6 million years ago to 10,000 years BP). Holocene age deposits are considered to have a low sensitivity for yielding paleontological resources. In 2010, a paleontological record search of the museum collection records maintained by the Natural History Museum of Los Angeles County (LACM) was conducted for the Oxnard Airport Land Easement Acquisition Project, approximately 0.40 miles south of the project site (SWCA 2009). The record search included a one mile radius around the airport and indicated that no previously identified paleontological localities occurred within the search area, nor had any resources been reported within the same Holocene age geological unit as the current project site (SWCA 2009). Based on the Holocene-age deposits, surficial ground disturbance is unlikely to encounter or cause a substantial adverse change in significance to a paleontological resource. However, if project ground disturbing construction depths exceed the Holocene age deposits or encounters shallow Pleistocene deposits, paleontological resources may be exposed. Paleontological resources in Ventura County include many widely dispersed outcrops of fossil bearing formations (Ventura 2011). Therefore, the EIR will address potential impacts to paleontological resources.

d. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. The project site is currently used for agriculture. Existing regulations require that if human remains and/or cultural items defined by the Health and Safety Code, Section 7050.5, are inadvertently discovered, all work in the vicinity of the find would cease and the Ventura County Coroner would be contacted immediately. If the remains are found to be Native American as defined by Health and Safety Code, Section 7050.5, the coroner will contact the NAHC by telephone within 24 hours. The NAHC shall immediately notify the person it believes to be the Most Likely Descendant (MLD) as stipulated by California PRC, Section 5097.98. The MLD(s), with the permission of the landowner and/or authorized representative, shall inspect the site of the discovered remains and recommend treatment regarding the remains and any associated grave goods. The MLD shall complete their inspection and make their recommendations within 48 hours of notification by the NAHC. Any discovery of human remains would be treated in accordance with Section 5097.98 of the Public Resources Code (PRC) and Section 7050.5 of the Health and Safety Code. SCCIC record search results and Tribal consultation. Therefore, with compliance with existing regulations, project impact would be less than significant.

2.4.6 GEOLOGY AND SOILS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
	ii.) Strong seismic ground shaking?	X			
	iii.) Seismic-related ground failure, including liquefaction?	X			
	iv.) Landslides?			X	
b.	Result in substantial soil erosion or the loss of topsoil?	X			
c.	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	X			
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?				X

Discussion:

a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less Than Significant Impact. The project site is not located within a designated Alquist-Priolo (A-P) Earthquake Hazard Zone. There are no known active faults beneath or trending toward the site, the probability of surface rupture due to faulting at the site is considered low. The nearest A-P Earthquake Hazard Zones are on three faults located between 4 and 6 miles of the site, with traces that do not project into the site vicinity. Therefore, project impact would be less than significant and this issue will not be discussed further in the EIR.

ii.) Strong seismic ground shaking?

Potentially Significant Impact. The Ventura County General Plan Hazard Appendix (County of Ventura 2013) indicates that even though the historic record indicates that no strong earthquakes or surface displacement have occurred along the faults in southern Ventura County in the site area, the likelihood of the occurrence of one or more of such events within the next 50 to 100 years is not insignificant The site is likely to be subjected to strong ground shaking associated with earthquakes generated on nearby and distant faults at some time in the future.

The project site is located in an area with a potential for strong ground motion during earthquakes. The site is located in an area underlain by unconsolidated Holocene deposits, which are considered to be potentially hazardous with respect to ground motion potential. Koury Geotechnical Services, Inc. (Koury) evaluated the seismic ground shaking potential for a 20-acre portion of the Site in 2014. Because the mapped 1-second spectral response period (S_1) for the portion of the project site evaluated in 2014 is 0.912g, which is greater than 0.75g, in accordance with Section 1616A.1.3 the 2013 CBC a site specific ground motion hazard analysis should be performed for the project site (Koury 2014). Therefore, potential impact from strong seismic ground shaking will be analyzed further in the EIR.

iii.) Seismic-related ground failure, including liquefaction?

Potentially Significant Impact. Generally, there is a potential for liquefaction when the following three conditions are met: (1) a site is located on Holocene age, unconsolidated, coarse-grained sediments; (2) the site is in area of potentially strong ground motion; and (3) groundwater is less than 50 feet below ground surface (bgs). The *Seismic Hazards* Zone *Report for the Oxnard 7.5-Minute Quadrangle, Ventura County California* (CGS 2002), *State of California Seismic Hazard Zones Oxnard Quadrangle, Revised Official Map* (CGS 2002), and Figure 2.4b of the *Ventura County General Plan, Hazards Appendix* (County of Ventura 2013) indicates that the Site is located in a recognized geological hazard zone for earthquake induced liquefaction. This findings in these data are based on the assumptions that the Site area is underlain by coarse grained Holocene age sediments, which are generally considered have a significant liquefaction potential, and because the depth to groundwater for the Site area is estimated to be less than 50 feet bgs. Groundwater was encountered in exploratory soil borings drilled at the Site by

Koury in 2014 at between 16 and 19 feet bgs, which is much shallower than the 50 feet bgs depth used as the maximum depth criterion for potentially liquefiable conditions.

Koury evaluated the liquefaction potential for a 20-acre portion of the Site in accordance with the 2013 CBC (CBSC 2013) and the methods in the *Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117A* (CGS 2008). Koury concluded that considering the soil types and groundwater conditions at the Site, there is a potential for liquefaction to occur. If liquefaction were to occur at the site, the repercussions would likely be in the form of dynamic settlement; loss of soil bearing strength and lateral spreading are not anticipated (Koury 2014). The existing data is incomplete and additional site-specific geotechnical analysis must be performed at the locations of all proposed buildings. Therefore, potential impact from liquefaction will be analyzed further in the EIR.

iv.) Landslides

Less Than Significant Impact. A review of the CGS Seismic Hazards Map for the 7.5 Minute Series Oxnard Quadrangle (CGS 2002), Figure 2.7.1b of the *Ventura County General Plan, Hazards Appendix* (County of Ventura 2013), and Section 6.2.2 of the *City of Oxnard General Plan Draft Background Report* (City of Oxnard 2006) indicates that the Site is not in an area prone to landslides and slope instability. Therefore, project impact would be less than significant and this issue will not be analyzed further in the EIR.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Potentially Significant Impact. Soil erosion would potentially occur during construction activities, including site grading, structure assembly, and utility extension. This impact can be reduced to a less than significant level with erosion mitigation measures developed through preparation of a site-specific Stormwater Pollution Prevention Plan and adherence to applicable regulatory guidelines and standards. These measures would also reduce potential air quality impacts and sedimentation. Additional site-specific analysis must be performed for construction of the proposed structures. Therefore, potential impact from soil erosion or loss of topsoil will be analyzed further in the EIR.

c. Is the project located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse?

Less than Significant Impact. Based on the results of the 2014 Koury liquefaction analysis for a subset area of the Project, the potential for loss of soil bearing strength and lateral spreading at the Site was determined to be low. Lateral spreading can occur when a soil mass either slides laterally on liquefied soil layers towards a free slope face, or when a soil mass moves downslope on gently sloping ground. There are no free slope faces or significant sloping ground present in the project area that would allow for lateral spreading to occur. Therefore, potential impact from this issue will not be analyzed further in the EIR.

d. Is the project located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Potentially Significant Impact. The *Soil Survey Geographic Database, Ventura Area, California* (USDA 2016) indicates that the naturally occurring soils at the Site (Camarillo loam [Cd]) are non-plastic to medium plastic poorly drained loam to up to 24 inches below ground that transitions to a stratified sandy loam to clay loam up to 50 inches below ground.

During a geotechnical investigation conducted at a 20-acre subset of the Project site in 2014, Koury reported that loam tested in one instance at the site exhibited an Expansion Index (EI) of 38 (EI ranges between 20 and 50 are considered low). However, Koury also noted that the field consolidation test was conducted on soil with a relatively high degree of in-situ saturation and suggested that saturation might result in an artificially low EI. Koury stated that the heterogeneous nature of the alluvial deposits in the area would also suggest that expansive soils could be located elsewhere on the site (Koury 2014).

Koury concluded that additional investigation of soil expansion potential should be performed to determine appropriate grading and foundation design criteria (Koury 2014). Therefore, potential impact from expansive soils will be analyzed further in the EIR.

e. Would the project have soils that are incapable of supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would not use septic tanks or alternative wastewater disposal systems and no project impact would result. Therefore, this issue will not be analyzed in the EIR.

2.4.7 GREENHOUSE GAS EMISSIONS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b.	Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	X			

Discussion:

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact. The proposed project would generate GHGs during construction and operation activities. Pursuant to state law (CEQA Guidelines 15064.7), VCAPCD is authorized to adopt thresholds of significance for GHG emissions. To date, VCAPCD has evaluated multiple options, but has not made a decision to adopt any of these options. VCAPCD is leaning towards the adoption of thresholds of significance for land use development consistent with those adopted by the South Coast Air Quality Management District (SCAQMD). On 5 December 2008, SCAQMD Governing Board adopted a proposal for an interim GHG threshold of significance for projects where the SCAQMD is lead agency. The threshold of significance is applicable for stationary sources and can be used for determining significant impacts for proposed projects (SCAQMD 2008). Under the interim thresholds of significance, projects can emit up to 10,000 MT per year of CO_2e before being deemed as having significant impacts. Therefore, GHGs resulting from the Proposed Project will be calculated using CalEEMod and this issue will be further analyzed in the EIR.

b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact. As noted above, GHGs resulting from the Proposed Project will be calculated using CalEEMod and included in the EIR. Based on these results, the proposed project will be evaluated in the EIR for potential conflict(s) with applicable plans, policies or regulations of an agency adopted for the purpose of reducing the emissions of GHGs.

2.4.8 HAZARDS AND HAZARDOUS MATERIALS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c.	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	X			
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	X			
e.	Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	X			
f.	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?				X
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h.	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			X	

Discussion:

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The proposed project would not handle or generate large quantities of hazardous materials. Potential hazardous materials used onsite include those needed during short term temporary construction activities such as architectural coatings and sealants. During long term operations, small quantities of potential hazardous materials stored at the school would include cleaners (e.g., disinfectants, bleach) and office supplies (e.g., toner). As is standard for schools, these materials would be kept in cabinets or supply rooms and therefore, would not be considered a hazard to students, staff, or the public. Therefore, the project impact would be less than significant.

b. Would the project create a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

Less Than Significant Impact. The proposed project would not create a significant hazard to the public or the environment involving the likely release of hazardous materials. As noted in response 2.4.8 a), the proposed project would not handle or generate large quantities of hazardous materials. Common hazardous materials needed for routine maintenance and operations would be stored in small quantities in cabinets and supply rooms except during use. Since hazardous materials on campus would be limited and stored away from students and the public, project impact would be less than significant.

c. Would the project emit hazardous emissions or handle hazardous materials or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Potentially Significant Impact. The proposed project includes public school facilities that would not generate hazardous emissions or use materials in hazardous quantities. Therefore, project impact would be less than significant from operations.

However, radon is a naturally occurring, odorless, colorless gas produced by certain geologic materials. It is known to be a human carcinogen and can pose a cancer risk greater than one in one million in humans at activities equal to or greater than 4 picocuries per liter (pCi/L). The proposed project site is located in a Radon Zone Level 1 area, which has predicted average indoor radon levels greater than 4 pCi/L. Zone 1 areas have a predicted average indoor screening level greater than 4 pCi/L. The EDR database search reported that of 38 sites listed in the California Radon database that have been tested for the site Zip Code 93030, one had radon at levels greater than 4 pCi/L. The Federal Area Radon Information database reported 9 sites tested for radon in Zip Code 93030. The average concentration of tested sites was 0.478 pCi/L in first floor living areas, with 100 percent of the tests reported as less than 4 pCi/L (EDR 2015). Since the U.S. EPA has listed Ventura County as Radon Zone 1, there is a potential that enclosed areas of the school may contain radon at concentrations that exceed the one-in-one million cancer risk to humans. Therefore, this issue will be evaluated further in the EIR.

d. Is the project located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Potentially Significant Impact. The project site is listed as a potential school site in the EnviroStor database maintained by the Department of Toxic Substances Control (DTSC 2017). The findings of a Phase I Environmental Site Assessment (ESA) showed the following: the project site was used for

agriculture from 1940 to present; a closed Leaking Underground Storage Tank (LUST) site is located approximately 2,000 feet east of the site, which received regulatory closure in 1998; and a plugged and inactive oil well is located approximately 475 feet south of the project site and the Site is located in the Montalvo West oil field (Ninyo & Moore 2015a). In addition, Ninyo & Moore recommended that a pipeline risk assessment be performed to analyze the risk from the presence of a natural gas pipeline located approximately 990-feet south of the project site and from a 12-inch water pipeline beneath Doris Avenue as required by California Code of Regulations (CCR) Title 5, Section 14010(h) (Ninyo & Moore 2015b). A pipeline risk assessment was completed for a 20-acre portion of the project site.

Based upon findings of the Phase I ESA, a draft Preliminary Environmental Assessment (PEA) has been prepared for the project site by ATC Group Services, Inc. (ATC) to evaluate the site for potential human health risk from historical agricultural pesticide use, as well as potential health and safety risks from methane and hydrogen sulfide vapor leakage from the Montalvo West oil field and a nearby abandoned oil well (ATC 2017). The presence of the closed UST site was not further investigated in the PEA.

The PEA evaluated soil for organochlorine pesticides (OCPs), arsenic, and oil field related soil gases (methane and hydrogen sulfide). Methane was detected in a single soil gas sample at the northeast corner of the Site at 15 parts per million and was therefore not considered to pose a hazard at the project site. Only toxaphene and arsenic were detected in surface soil at concentrations above the U.S. EPA Region 9 Regional Screening Levels (RSLs). The concentrations of arsenic fall below the regional background concentration of 12 mg/kg for Southern California and were excluded from further evaluation. The results of OCP sampling were applied to a human health screening evaluation (HHSE) to determine the cumulative health risks from nine detected pesticides for four potential site receptors: future residents, future site workers, future site students, and future construction workers. The HHSE showed the proposed project is not expected to result in increased non-cancer health risks for any of the potential receptors from pesticides in soil. However there was a cancer risk ($1.3x10^{-6}$) for hypothetical future residential receptors above the point of departure of one-in-one million risk ($1x10^{-6}$) for increased cancer incidence. No other use scenario showed an increase in cancer risk from pesticide exposure above the point of departure ($1x10^{-6}$) for other potential receptors. The project site is not proposed for residential use, but for use as a public school. The HHSE did not indicate an increase in risk for cancer to receptors (students and site workers) under these proposed site uses.

Since the findings of the PEA showed there are no significant health and safety risks from OCPs and methane in soil gas from the Montalvo West oil field, the project impact would be less than significant.

A pipeline risk assessment has been completed for only a 20-acre portion of the project site to evaluate risk from a 10-inch natural gas distribution pipeline located approximately 990-feet south of the project site or from a 12-inch water pipeline beneath Doris Avenue. Therefore, the EIR will evaluate the potential for the proposed project to result in a safety hazard for pipeline failure risk for the entire project site.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Potentially Significant Impact. The project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the project site. The county-owned Oxnard Airport is an active general aviation/small scheduled service airport with approximately 107 based aircraft and approximately 54,500 operations a year (Caltrans 2014). Therefore, the EIR will

evaluate the potential for the proposed project to result in a safety hazard for people residing or working in the project area.

f. For a project located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The proposed site is not located near a private airstrip. Therefore, there would be no impact on the safety of people residing or working within the project area.

g. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed project includes educational facilities that would not impair implementation of or physically interfere with an adopted emergency response plan. The proposed project would primarily utilize the existing roadway network. Furthermore, the school is designed to ensure adequate emergency access. Therefore, project impact would be less than significant.

h. Would the project expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact. All areas of Ventura County are subject to periodic wildfire episodes with the exception of flat farmlands in the Oxnard Plain and certain other areas. The project site is not identified as being within a severity zone (very high, high, or moderate) on the Ventura County Fire Hazard Severity Zones Local Responsibility Areas map prepared by the California Department of Forestry and Fire Protection (Cal Fire 2010). Furthermore, the placement of buildings, pavement, and landscaping is less conducive to the spreading of wildland fires and the educational facilities would be maintained in accordance with the City of Oxnard fire department standards. Therefore, the project impact would be less than significant and this issue will not be examined further in the EIR.

2.4.9 HYDROLOGY AND WATER QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	X			
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	X			
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?	X			
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?	X			
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	X			
f.	Otherwise substantially degrade water quality?	X			
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?				X
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	X			

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	X			
j.	Contribute to inundation by seiche, tsunami, or mudflow?				X

Discussion:

a. Would the project violate any water quality standards or waste discharge requirements?

Potentially Significant Impact. The project would need to connect to a sanitary sewer main which conveys domestic wastewater to the OWTP. The OWTP, owned and operated by the City of Oxnard, is a secondary treatment facility located at 6001 South Perkins Road, Oxnard, California (Oxnard Public Works 2015). The OWTP treats and discharges wastewater pursuant to National Pollutant Discharge Elimination System Order No. R4-2013-0094, adopted by the Los Angeles Regional Water Quality Board on June 6, 2013. The project would generate domestic wastewater from restroom facilities, which would be treated by the OWTP.

There is currently no connection to the sanitary sewer at the project site. It is unknown if the nearest connection can support the proposed project. Therefore, this issue will be further analyzed in the EIR.

b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Potentially Significant Impact. The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 students onsite. This will entail construction of significant hardscape surfaces that my impede groundwater infiltration and increase runoff. Therefore, potential impacts associated with groundwater recharge will be analyzed in the EIR.

The OSD institutes a standard educational schedule, resulting in approximately 181 school days. Applying an average demand factor of 5.4 gallons per student per school day (Mays 2001), the project will require an additional 1,857,060 gallons (5.7 acre-feet) of water annually. Therefore the impacts to groundwater resources will be further analyzed in the EIR.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?

Potentially Significant Impact. The project would result in a change in the runoff patterns in the local area because the site would be converted from agricultural uses to educational uses, thereby increasing the amount of hardscape on the site and potentially increasing runoff in the area. The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 student's onsite. This will entail construction of significant hardscape surfaces that my impede groundwater infiltration and increase runoff. The potential project erosion impacts and storm water impacts to the City of Oxnard Storm Water Drainage System have not been analyzed, therefore the impacts to drainage patterns will be further analyzed in the EIR.

d. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?

Potentially Significant Impact. The project is not located near the Santa Clara River or perennial surface streams. Therefore, the proposed project would not alter the course of a stream or river. However, the proposed project will entail construction of significant hardscape surfaces that my impede groundwater infiltration and increase runoff. Therefore, potential impacts from stormwater drainage will be analyzed in the EIR.

e. Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Potentially Significant Impact. Refer to responses 2.4.9c and 2.4.9d. The new facilities would increase the total impervious surface area of the site by more than 5,000 square feet; therefore, the project must comply with the *Ventura County Technical Guidance Manual (TGM) for Stormwater Quality Control Measures* (Ventura County Watershed Protection District 2011). The TGM provides guidance for the implementation of storm water management control measures in new development and redevelopment projects in the County of Ventura and the incorporated cities therein for any project that would increase impervious surfaces by more than 5,000 square feet. These issues will be evaluated further in the EIR.

f. Would the project otherwise substantially degrade water quality?

Potentially Significant Impact. The new facilities would increase the total impervious surface area of the site by more than 5,000 square feet; therefore, the project must comply with the *Ventura County TGM for Stormwater Quality Control Measures* (Ventura County Watershed Protection District 2011). The TGM provides guidance for the implementation of storm water management control measures in new development and redevelopment projects in the County of Ventura and the incorporated cities therein. Potential project related impacts to water quality will be evaluated further in the EIR.

g. Would the project place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. No housing is located on the project site and no housing is proposed as part of the project. Therefore, no project impact to housing would result.

h. Would the project place within a 100-year floodplain structures that would impede or redirect flood flows?

Potentially Significant Impact. As shown in the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) for Ventura County and Incorporated Areas, the Site is located within a Zone X Other Flood Area (FEMA 2010a and 2010b). According to the legend included on FIRM Panels 06111C0905E (FEMA 2010a) for Ventura County and Incorporated Areas, the Zone-X Other Flood Areas designation indicates areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than one foot, or with drainage areas less than one square mile; and areas protected by levees from the 1% annual chance flood. The Santa Clara River levee that lines the northwest Site boundary is accredited by FEMA. A note on the FEMA map for the Site area states:

> "Note: this area is shown as being protected from the 1-percent-annual-chance of greater flood hazard by a levee system that has been provisionally accredited. Overtopping or failure of any levee system is possible. For additional information, see the "provisionally accredited levee note" in the Notes to Users."

The "provisionally accredited levee note" in the Notes to Users States:

> "Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance action level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner of community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by December 1, 2009. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and flood proofing or other protective measures."

The project site is located approximately 1.75 miles south of the Santa Clara River 1 (SCR-1) Levee System. The SCR-1 levee system is comprised of 4.72 miles of levee including multiple groins, drains, and gates with potential impacts to the City of Oxnard as well as unincorporated areas of Ventura County. The levee system was designed and constructed by the U.S. Army Corps of Engineers (USACE) in 1961 and is currently owned and maintained by the Ventura County Watershed Protection District (VCWPD) (Tetra Tech 2015).

The SCR-1 levee system was originally designed to control the USACE's calculated Standard Project Flood discharge of 225,000 cubic feet per second emanating from the Santa Clara River watershed. The existing levee height varies from approximately four feet to 13 feet. The compacted fill embankment slopes at (2H to 1V) on both the landward and riverward sides of the levee and has a top width of 18 feet. The riverward side of the embankment has a 1.5-foot to 2-foot thick rock revetment, and was grouted

with concrete in the vicinity of the highway bridges. The rock revetment extends from the top of the embankment to varying depths (Tetra Tech 2015).

Pursuant to the FEMA Levee Certification program, the SCR-1 levee system does not currently meet requirements under Title 44 of the Code of Federal Regulations (44 CFR) Section 65.10 which outlines the minimum design, operation, and maintenance standards levee systems must meet in order to be recognized as providing protection from the base flood on a Flood Insurance Rate Map. As part of work associated with FEMA Levee Certification, Tetra Tech performed a field investigation that identified deficiencies in the SCR-1 levee system which require rehabilitation (Tetra Tech 2015).

In addition, the most recent USACE periodic inspection report, *Santa Clara River 1 Levee System, Periodic Inspection Report No. 1*, dated August 2011, rated the SCR-1 levee segment/system as "unacceptable", resulting in the levee systems being put on "inactive" status in the USACE PL 84-99 Program. As such, the SCR-1 levee system is currently ineligible for federal funding for repairs if damaged during a flood event. The VCWPD is currently seeking conditional reinstatement of PL 84-99 eligibility by developing and executing a System-Wide Improvement Framework (SWIF) Plan to correct complex deficiencies (Tetra Tech 2015).

The SCR-1 levee is not fully accredited; therefore, evaluation of potential flood hazard at the site will be further analyzed in the EIR.

i. Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

Potentially Significant Impact. As noted in response 2.4.9 h, the Federal FEMA FIRM for Ventura County and Incorporated Areas, indicate that the Site is located within a Zone X Other Flood Area (FEMA 2010), and in an area protected from the 1-percent-annual-chance of greater flood hazard by the SCR-1 levee system that has been provisionally accredited by FEMA. Pursuant to the FEMA Levee Certification program, the SCR-1 levee system does not currently meet requirements under Title 44 of the Code of Federal Regulations (44 CFR) Section 65.10 which outlines the minimum design, operation, and maintenance standards levee systems must meet in order to be recognized as providing protection from the base flood on a Flood Insurance Rate Map.

A dam that stores more than 1,000 acre-feet of water, is higher than 150 feet, and has the potential to cause downstream property damage is classified as a high hazard dam by FEMA. A review of Section 2.11 and Figures 2.11.1 and 2.11.2 of the *Ventura County General Plan, Hazards Appendix* (County of Ventura 2013) and Section 4.3.3.1 and Tables 4-5, 4-6, and, 4-7, and Figure 4-3 of the *Multi-Jurisdictional Hazard Mitigation Plan for Ventura County, California* (County of Ventura 2005) indicates that there are four major reservoirs in the Santa Clara River watershed upstream of the project site that are FEMA high hazard dams that would inundate the Site area in the event of a reservoir failure. Information for each of these dams is summarized below.

Santa Felicia Dam: The Santa Felicia Dam (Lake Piru) is operated by the United Water Conservation District (UWCD), can hold up to 100,000 acre-feet of water, and is located on Piru Creek approximately 35 miles upstream of the Site (Figure 3-4).

Castaic Dam. The Castaic Dam is operated by the California Department of Water Resources (CDWR), can hold up to 325,000 acre-feet of water, and is located on Castaic Creek approximately 45 miles upstream of the Site.

Pyramid Dam. The Pyramid Dam is operated by the CDWR, can hold up to 179,000 acre-feet of water, and is located on Piru Creek approximately 20 miles upstream of the Santa Felicia Dam and 55 miles upstream of the Site.

Bouquet Canyon Dam. The Bouquet Canyon Dam is operated by the Los Angeles Department of Water and Power (LADWP), can hold up to 36,500 acre-feet of water, and is located approximately 60 miles upstream of the Site.

There is a risk for hazard involving flooding, including flooding as a result of the failure of a levee or dam from failure of SCR-1 levee and the potential for failure of four dams in the Santa Clara River watershed. Therefore, the impacts from the failure of a levee or dam are potentially significant and will be evaluated further in the EIR.

j. Would the project contribute to inundation by seiche, tsunami, or mudflow?

No Impact. The project site is located at an average mean sea level elevation of approximately 44 feet, and there are no enclosed large bodies of water in the immediate vicinity of the property. The project site is located in an area of relatively flat topography and is not near any hills or watercourses that would generate mud flows. The site is located outside areas mapped as subject to Tsunami/Seiche as delineated in the *Ventura County General Plan, Hazards Appendix* (County of Ventura 2013). Therefore, tsunamis and seiche are not considered to be potential hazards to the site and there is no impact.

2.4.10 LAND USE AND PLANNING

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Physically divide an established community?			X	
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	X			
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion:

a. Would the project physically divide an established community?

Less Than Significant Impact. The proposed project would not physically divide an established community. Access to the surrounding area would still be available via the existing roadway network including Patterson Road and Doris Avenue. Therefore, issue will not be discussed further in the EIR.

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact. The project site is located in unincorporated Ventura County and is within the Ventura County SOAR boundary. It is also within the City of Oxnard's SOI, City Urban Restriction Boundary (CURB), and the Oxnard Airport SOI. The project would include a proposed reorganization which will be comprised of an annexation into the City of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33. Therefore, the EIR will evaluate the potential for the proposed project to conflict with applicable land use plans, policies and regulations.

c. Would the project conflict with any applicable habitat conservation plan or natural communities conservation plan?

No Impact. The project site is not included in any state, regional, or local habitat conservation plans. Therefore, no impacts would occur and this issue will not be addressed in the EIR.

2.4.11 MINERAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X

Discussion:

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The project site is not located within a mineral resource area based on the Ventura County General Plan Resource Protection Map (Ventura 2010). Therefore, no project impact on known mineral resources would result and this issue will not be further evaluated in the EIR.

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The project site has been previously disturbed by agricultural activities and is not identified as a mineral resource area in the Ventura County General Plan. Further, mineral resource recovery operations are not considered a compatible land use within close proximity to existing residential development, so even if the resource still existed in this location, establishment of a mineral resource recovery operation on the project site would not be recommended. As such, project implementation would not result in the loss of availability of a locally important mineral resource recovery site and this issue will not be evaluated further in the EIR.

2.4.12 NOISE

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	X			
b.	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	X			
c.	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	X			
d.	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	X			
e.	Be located within an airport land use plan area, or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	X			
f.	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?				X

Discussion:

a. Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact. A technical noise analysis will be prepared to evaluate the potential impacts from the construction and operation of the proposed project related to applicable noise standards and this issue will be addressed in the EIR.

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact. Operation of the school would not generate perceivable vibration levels; however, construction of the classroom buildings and site grading would require the use of equipment that could generate significate vibration levels. Possible sources of vibration may include bulldozers, dump trucks, backhoes, rollers, and other construction equipment that produces vibration. Therefore, this issue will be analyzed in the EIR.

c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact. The existing dominant noise sources in the vicinity of the project site include traffic noise associated with Doris Avenue and Patterson Road. Other sources of noise in the vicinity may come from nearby residents' and from agricultural operations (equipment). The proposed project would add a new K-5 elementary school and 6-8 middle school to the project site that may periodically increase ambient noise levels. Therefore, this issue will be analyzed in the EIR

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact Mitigation. Construction of the proposed school is anticipated to begin in 2019 and may result in a temporary or short-term periodic increase in ambient noise levels associated with construction equipment. Therefore, this issue will be analyzed in the EIR.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Potentially Significant Impact. The project site is located within the Oxnard Airport SOI. The airport runway midfield point is located approximately 1,800 feet south of the project site. Oxnard Airport is an active general aviation/small scheduled service airport with approximately 107 based aircraft and approximately 54,500 operations a year (Caltrans 2014). Therefore, the EIR will evaluate the potential for the proposed project to expose people residing or working in the project area to excessive noise levels.

f. For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. Maps and aerial photos for the project region show no private airstrips close enough to generate a significant noise impact at the proposed site. Therefore, there would be no impact to the proposed project from private airstrips and this issue will not be addressed in the EIR.

2.4.13 POPULATION AND HOUSING

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	X			
b.	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?				X
c.	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?				X

Discussion:

a. Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes and business) or indirectly (e.g., through extension of roads or other infrastructure)?

Potentially Significant Impact. The proposed project is needed to accommodate existing and anticipated future enrollment in OSD. Increased demand for school services is generally linked to changes in local land use patterns such as the construction of new dwelling units and the generation of new jobs that encourages new people to move into the area. No housing is proposed as a part of the project. The proposed project would generate some new jobs. Additional staff would include teachers, administrative, and support staff. Most or all of the additional staff could be hired from the existing qualified applicant pool already residing within or near the District. However, if teachers or other staff are hired outside the District area to fill a specific role(s), it may result in a few new people and their families moving into surrounding neighborhoods, thus creating a slight increase in the local population. The proposed project does include infrastructure improvements that may indirectly induce population growth. Therefore, this issue will be evaluated in the EIR.

b. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is vacant undeveloped land that does not contain any housing. Therefore, the proposed project would not displace housing necessitating the construction of replacement housing elsewhere and no project impact would result.

c. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is vacant undeveloped land that does not contain any housing. Therefore, no people would be displaced requiring replacement housing and no project impact would result.

2.4.14 PUBLIC SERVICES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
	i.) Fire protection?	X			
	ii.) Police protection?	X			
	iii.) Schools?				X
	iv.) Parks?			X	
	v.) Other public facilities?			X	

Discussion:

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i.) Fire Protection; and

ii.) Police Protection

Potentially Significant Impact. The project includes a proposed reorganization which will be comprised of an annexation into the City of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33. The proposed project would be designed and constructed to meet required fire protection standards including adequate emergency access. As a public school, the proposed project would be anticipated to generate similar types of calls as the residential uses located

nearby. Nonetheless, the EIR will evaluate the potential physical impacts on the environment for fire and police protection services and this issue will be analyzed further in the EIR.

iii.) Schools

No Impact. The proposed project includes educational facilities including a new K-5 elementary school and 6-8 middle school needed to accommodate existing and anticipated future enrollment in the OSD. The increased school capacity with the proposed project would have a beneficial impact on public school facilities. Therefore, no adverse project impact on public school facilities would result.

iv.) Parks

Less Than Significant Impact. The proposed project is not dependent upon City parks for student recreational needs. The proposed project includes educational facilities including a new K-5 elementary school and 6-8 middle school that are designed to meet the educational and recreational needs of K-8 students' onsite. Recreational facilities to be provided on campus include soccer fields, tennis courts, hard courts, and play fields. Therefore, project impact would be less than significant and this issue will not be further analyzed in the EIR.

v.) Other Public Facilities

Less Than Significant Impact. The proposed project would not result in substantial increased demand for other public facilities such as libraries. The proposed project is designed to meet the educational and recreational needs of K-8 students' onsite. Therefore, project impact is less than significant and this issue will not be further analyzed in the EIR.

2.4.15 RECREATION

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b.	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	X			

Discussion:

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact. The City of Oxnard Recreation & Community Services Department provides park and recreation services in the City. The proposed project is not dependent upon City parks for student recreational needs. The proposed project includes educational facilities including a new K-5 elementary school and 6-8 middle school that are designed to meet the educational and recreational needs of K-8 students' onsite. Recreational facilities to be provided on campus include soccer fields, tennis courts, hard courts, and play fields. Therefore, project impact would be less than significant and this issue will not be further analyzed in the EIR.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Potentially Significant Impact. The proposed project includes educational facilities designed to meet the educational and recreational needs of K-8 students' onsite. Recreational facilities to be provided on campus include soccer fields, tennis courts, hard courts, and play fields. Potential environmental impacts associated with the proposed project, including recreational areas, are discussed by environmental resources topic throughout this Initial Study (IS). Per CEQA Guidelines Section 15378, a "project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. Therefore, topics identified for further analysis in the EIR will include analysis for the whole project including potential impacts related to new recreational facilities.

2.4.16 TRANSPORTATION/TRAFFIC

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	X			
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	X			
c.	Result in a change in air traffic patterns including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d.	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	X			
e.	Result in inadequate emergency access?	X			
f.	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	X			

Discussion:

a. Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Potentially Significant Impact. A traffic study will be conducted for the proposed project. As part of this study, traffic counts at up to eight intersections will be collected for AM and PM peak hours. Trip generation estimates will be determined for the project site based on anticipated enrollment and standard trip generation rates and other sources. The trip generation will be coordinated with City staff. Trips will be distributed based on school routes and student information. The traffic study will calculate intersection levels of service for existing conditions, cumulative conditions and 2030 General Plan conditions with and without the proposed project. The traffic study will identify feasible mitigation measures where applicable. Cumulative conditions will be developed based on a list of related (approved and pending) projects provided by City staff and 2030 General Plan traffic data from the Oxnard Traffic Model. The results of the traffic study will be summarized in the EIR. Therefore, the potential for the proposed project to conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system will be evaluated in the EIR based on the results of the traffic study.

b. Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Potentially Significant Impact. A traffic study will be prepared for the proposed project and the potential for the proposed project to conflict with applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways will be evaluated in the EIR.

c. Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The nearest airport to the project site is Oxnard Airport, which is 1,800 feet south of the site. Establishment of educational facilities on the project site is not anticipated to affect air traffic levels at the Oxnard Airport, or change the location of the flight paths. Therefore, no project impact would result.

d. Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact. The proposed project would be designed and constructed to meet required standards including adequate emergency access. A review of project site access and circulation plan, including bicyclist and pedestrian access and safety will be conducted as part of the traffic study. Therefore, this issue will be further evaluated in the EIR.

e. Would the project result in inadequate emergency access?

Potentially Significant Impact. The proposed project would be designed and constructed to meet required standards including adequate emergency access. While no impacts to emergency access are anticipated, a review of project site access will be conducted as part of the traffic study and the results documented in the EIR.

f. Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Potentially Significant Impact. The proposed project includes educational facilities that are not anticipated to conflict with adopted policies, plans, or programs regarding public transit. Nonetheless, a traffic study is being prepared for the proposed project and this issue will be addressed in the EIR.

2.4.17 UTILITIES AND SERVICE SYSTEMS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Exceed wastewater treatment requirements of the applicable regional water quality control board?	X			
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X			
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X			
d.	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	X			
e.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	X			
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g.	Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Discussion:

a. Would the project exceed wastewater treatment requirements of the applicable regional water quality control board?

Potentially Significant Impact. The project site is located within the jurisdiction of the Los Angeles RWQCB. Since the project would disturb greater than one acre of land during construction, the project

must comply with State Water Resources Control Board Order No. 2009-0009-DWQ, *National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit). Therefore, this issue will be analyzed in the EIR.

b. Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact. The proposed project includes a reorganization which will be comprised of an annexation into the Calleguas Municipal Water District. Water, wastewater, and recycled water need to be extended to the site. Therefore, potential impacts on water and wastewater treatment facilities with implementation of the proposed project will be evaluated in the EIR.

c. Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact. The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 student's onsite. This will entail construction of significant hardscape surfaces that my impede groundwater infiltration and increase runoff. Therefore, potential impacts from stormwater drainage will be analyzed in the EIR.

d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Potentially Significant Impact. The proposed project includes a reorganization which will be comprised of an annexation into the Calleguas Municipal Water District. Implementation of the proposed project would require water service. Therefore, potential impacts to water supply will be evaluated in the EIR.

e. Has the wastewater treatment provider that serves or may serve the project determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Potentially Significant Impact. Implementation of the proposed project would require wastewater treatment services and connection to the project site. Therefore, potential impacts to wastewater treatment capacity will be evaluated in the EIR.

f. Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact. Waste in the City of Oxnard is primarily transported to the Simi Valley Landfill & Recycling Center (SVLRC) and Toland Road Landfill (CalRecycle 2015). The Toland Road Landfill is a permitted and active landfill that can accept mixed municipal, construction/demolition, agricultural, industrial, and sludge (biosolids) waste. As of June 1, 2006 the remaining capacity was 21,983,000 cubic yards with an estimated closure date of May 31, 2027 (CalRecycle 2017). The SVLRC

is a fully permitted non-hazardous municipal solid waste landfill and recycling facility. The SVLRC provides approximately 60% of Ventura County's daily refuse disposal needs, and 75% of all tons accepted at the SVLRC originate in Ventura County. The SVLRC is permitted to accept up to 3,000 tons per day of refuse and can accept 6,250 tons of recyclable materials. The SVLRC, on average, recycles approximately 25% of all tons accepted (Waste Management 2017). As of April 3, 2012 the remaining landfill capacity was 119,600,000 cubic yards and has an estimated closure date of January 31, 2052 (CalRecycle 2017). Therefore, the proposed project would be served by a landfill with sufficient capacity and project impact would be less than significant.

g. Would the project comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact. The proposed project would not generate a substantial amounts of solid waste and the project would comply with applicable federal, state, and local statutes and regulations related to solid waste. Project construction waste would be recycled to the extent feasible. Recycle bins for paper, bottles and cans would be provided on campus as part of long-term school operations. Therefore, project impact would be less than significant.

2.4.18 TRIBAL CULTURAL RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
a.	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i.	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	X			
ii.	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe	X			

Discussion

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Potentially Significant Impact. As discussed in section 2.4.5 Cultural Resources, a literature and records search will be conducted of the cultural resource site and project file collection at the SCCIC for the project site and a one-mile buffer. As part of this search, the local register(s) for historical resources and

the California Inventory of Historical Resources/CRHR will be reviewed for CRHR eligible or listed properties, historic districts, and historic landmarks. In addition, pursuant to AB 52 (as amended) requires a lead agency to evaluate a project's potential to impact "tribal cultural resources" (as defined by PRC § 21074 (a)). Under AB 52, the lead agency is also required to consult with any California Native American tribe that has previously requested that the lead agency provide the tribe with notice of such projects and consultation, and is traditionally and culturally affiliated with the geographic area of a proposed project. Consultations must include discussing the type of environmental review necessary, the significance of tribal cultural resources, and the significance of the project's impacts on the tribal cultural resources (as applicable), and alternatives and mitigation measures recommended by the tribe. In order to begin this process, the District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation. This issue will be evaluated in the EIR.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe

Potentially Significant Impact. As discussed above and in section 2.4.5 Cultural Resources, a literature and records search will be conducted of the cultural resource site and project file collection at the SCCIC to identify CRHR eligible or listed properties, historic districts, and historic landmarks. Also discussed above, pursuant to AB 52 (as amended) the lead agency will initiate consultation with California Native American tribe to identify and address the significance of, and potential project adverse impacts to tribal cultural resources (as defined by Public Resource Code § 21074 (a)). The District sent letters to Native American contacts whom have requested notification of projects within their geographic area of traditional and cultural affiliation. A clear determination cannot be made at this time, therefore this issue will be evaluated in the EIR.

2.4.19 MANDATORY FINDINGS OF SIGNIFICANCE

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
MANDATORY FINDINGS OF SIGNIFICANCE					
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	X			
b.	Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	X			
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	X			

Discussion:

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact. As noted in this Initial Study analysis, several resources topics will be analyzed further in the EIR. While it is unlikely that the proposed project would substantially degrade the environment for biological or cultural resources, a clear determination cannot be made at this time and this issue will be analyzed in the EIR.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are

considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Potentially Significant Impact. As noted in this Initial Study analysis, several resources topics will be analyzed further in the EIR. The potential for the proposed project, when combined with other foreseeable projects in the area, to result in cumulative impacts will be evaluated in the EIR.

c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. The proposed project would be designed and constructed to meet required safety standards. As identified in this Initial Study, several resources topics will be analyzed further in the EIR. Therefore, a clear determination cannot be made at this time and this issue will be analyzed in the EIR.

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3.0 LIST OF PREPARERS

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FIGURES

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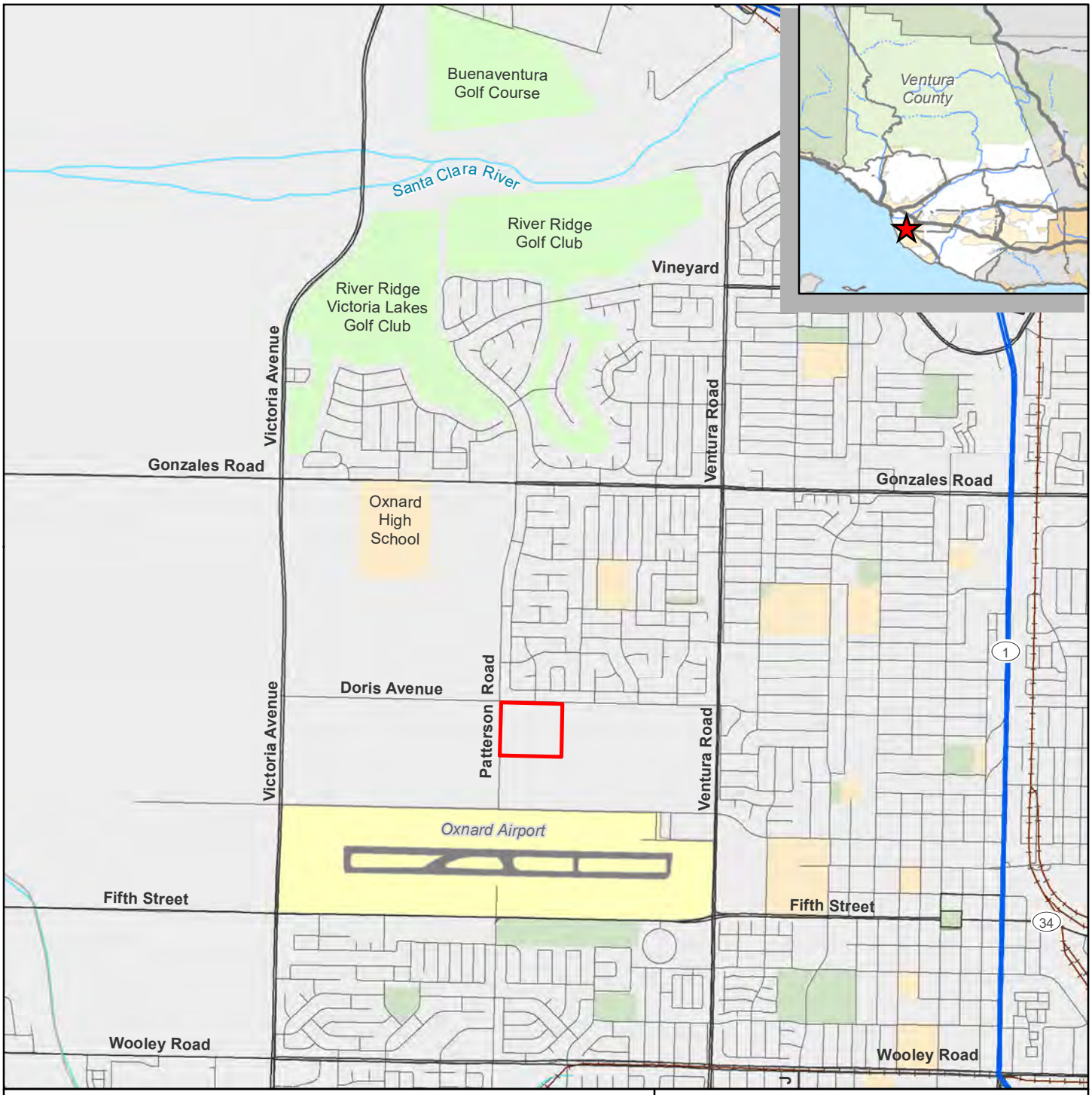

Legend

Project Boundary

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0 0.25 0.5 1 Miles

Background Map sources: ESRI, Ventura County GIS, Tetra Tech

Oxnard School District

Project Location and Vicinity Map

Doris Patterson
Educational Facilities Project

TETRA TECH
5383 Hollister Avenue
Suite 130
Santa Barbara, CA 93111

TC NO.	DATE	DRAWN BY	MAP NO.	FIGURE
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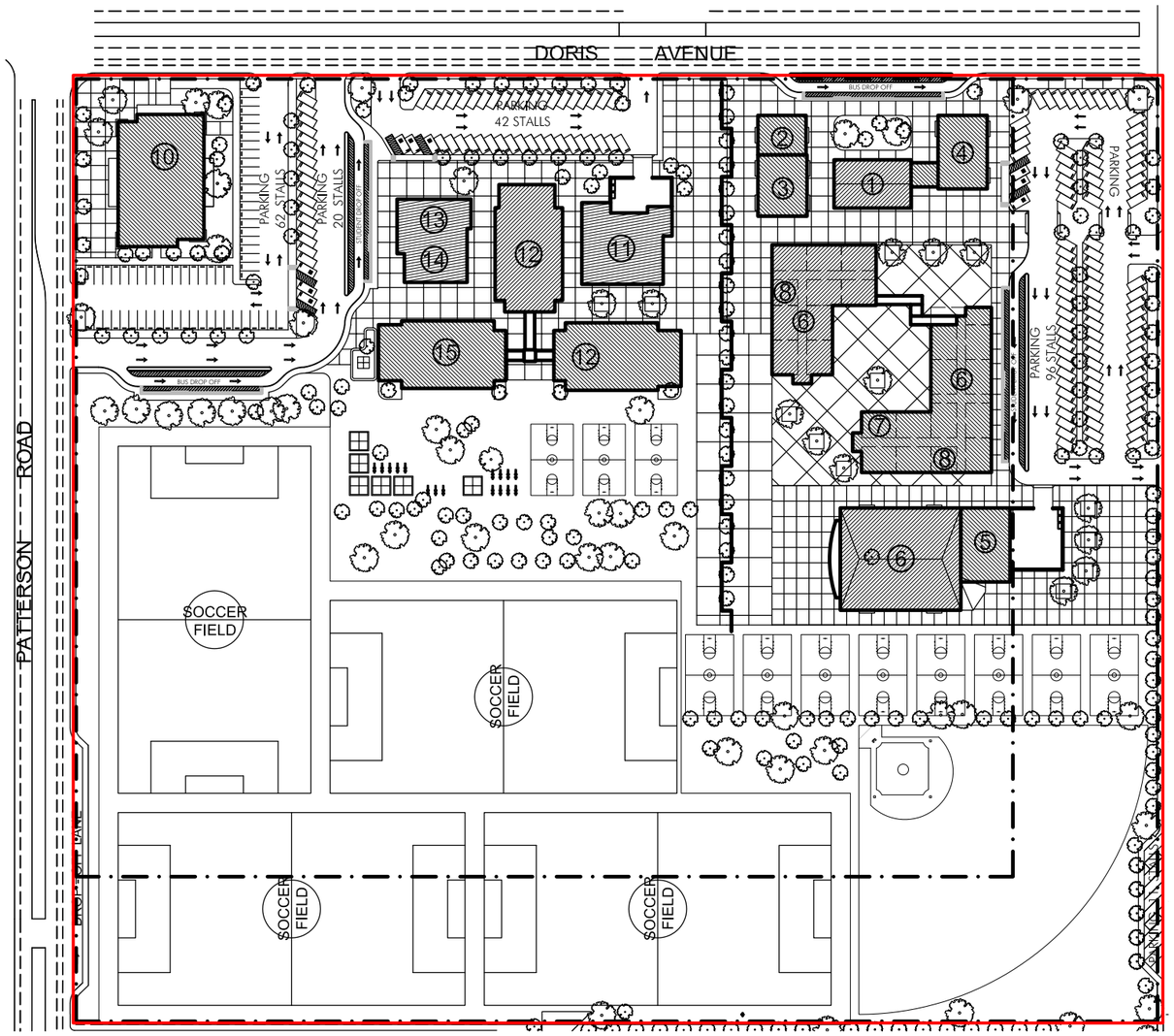

LEGEND

SCHOOL SITE BOUNDARY

1.	ADMIN. BLDG.	3,005 S.F.
2.	MEDIA CENTER	2,000 S.F.
3.	VISUAL ARTS & MUSIC	3,200 S.F.
4.	STUDENT SUP. PARENT/ CONFERENCE CENTER	3,800 S.F.
5.	FOOD SERVICES	3,900 S.F.
6.	2 STORY / 41 C.R. BLDG	45,312 S.F.
7.	SCIENCE BLDG	2,600 S.F.
8.	RESTROOMS - TOTAL AREA:	3,000 S.F.
9.	GYMNASIUM	13,150 S.F.
10.	2 STORY DISTRICT OFFICE	23,665 S.F.
11.	MULTI-PURPOSE & FOOD SERV. BLDG	5,375 S.F 3,600 S.F.
12.	2 STORY / 23 C.R. BLDG	22,560 S.F.
13.	ADMIN.	3,005 S.F.
14.	MEDIA CENTER & STUDENT SUPPORT SERV.	2,700 S.F. 1,510 S.F.
15.	KINDERGARTEN	6,400 S.F.

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APPROXIMATE SCALE
(feet)

Oxnard School District

Conceptual Site Map

Doris Patterson
Educational Facilities Project

TETRA TECH, INC.
Tetra Tech, Inc.
5383 Hollister Ave., Suite 130
Santa Barbara, CA 93111

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Map source: Conceptual Doris/Patterson Site Preliminary Study, Job No. 2749 (Flewelling & Moody).

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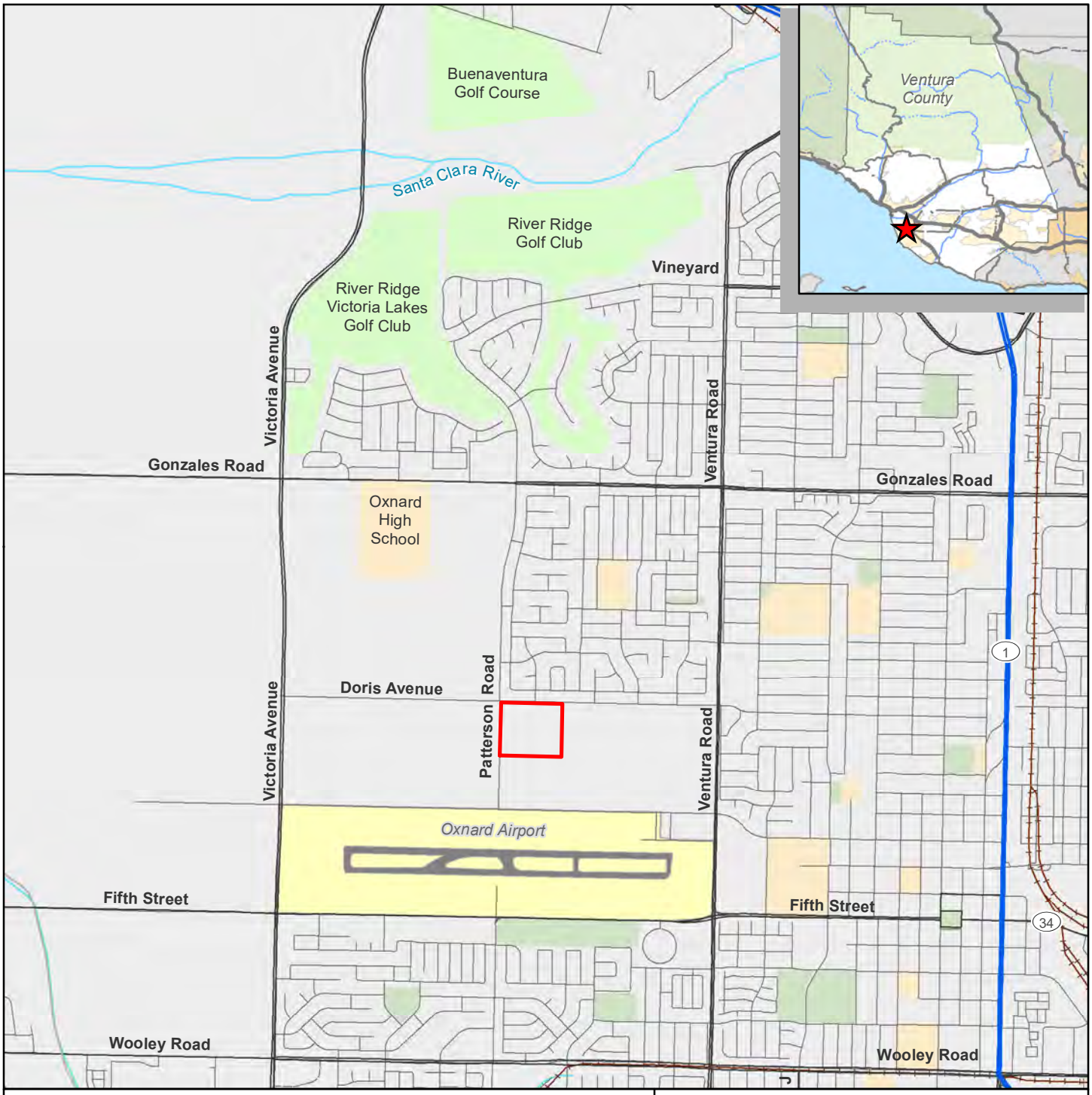

Legend

Project Boundary

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0 0.25 0.5 1 Miles

Background Map sources: ESRI, Ventura County GIS, Tetra Tech

Oxnard School District

Project Location and Vicinity Map

Doris Patterson
Educational Facilities Project

TETRA TECH
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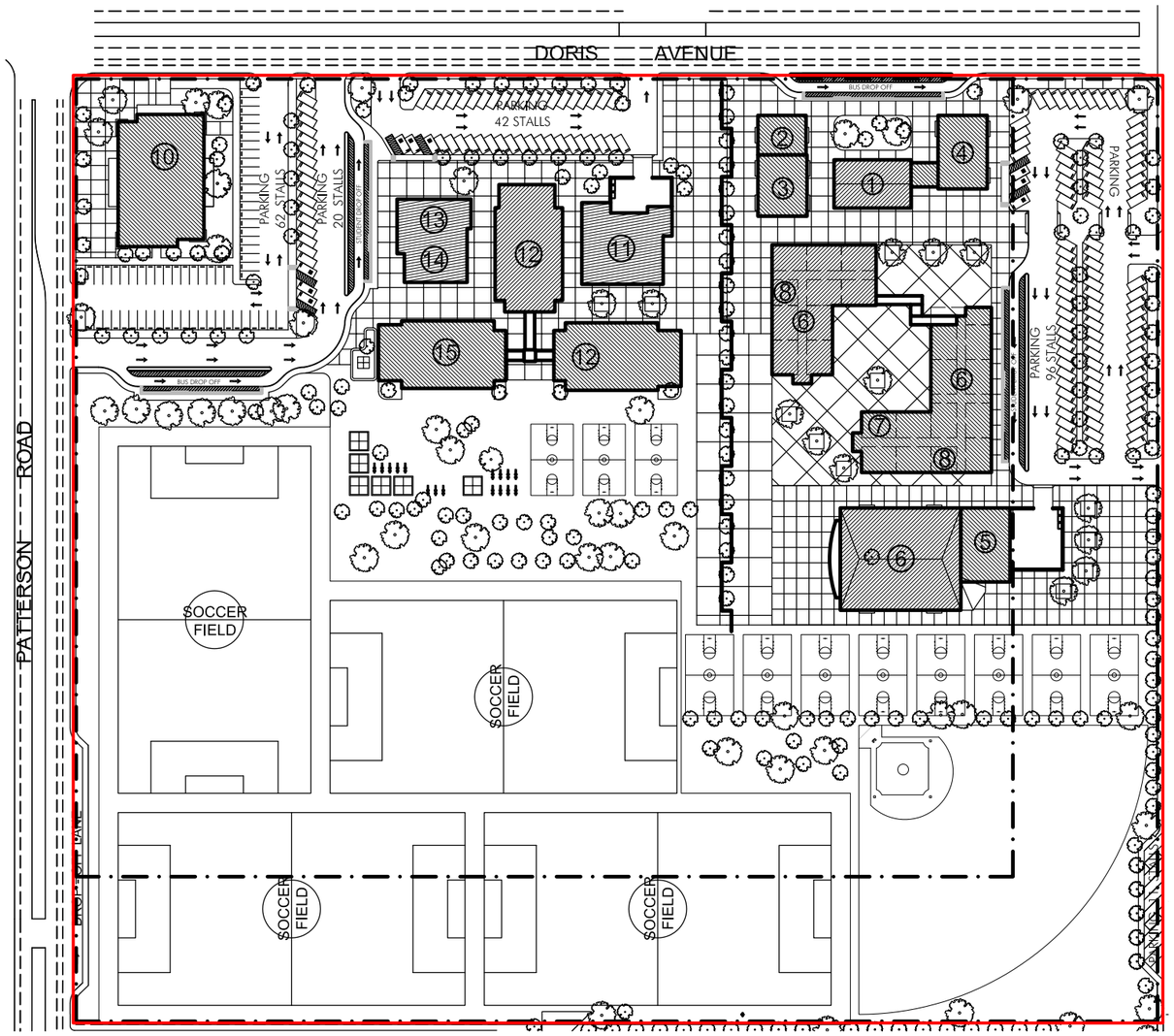

LEGEND

SCHOOL SITE BOUNDARY

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N

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APPROXIMATE SCALE
(feet)

Oxnard School District

Conceptual Site Map

Doris Patterson
Educational Facilities Project

TETRA TECH, INC.
Tetra Tech, Inc.
5383 Hollister Ave., Suite 130
Santa Barbara, CA 93111

TC NO.	DATE	DRAWN BY			FIGURE
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Map source: Conceptual Doris/Patterson Site Preliminary Study, Job No. 2749 (Flewelling & Moody).

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Public Scoping Meeting for the Doris/Patterson Educational Facilities Project Environmental Impact Report

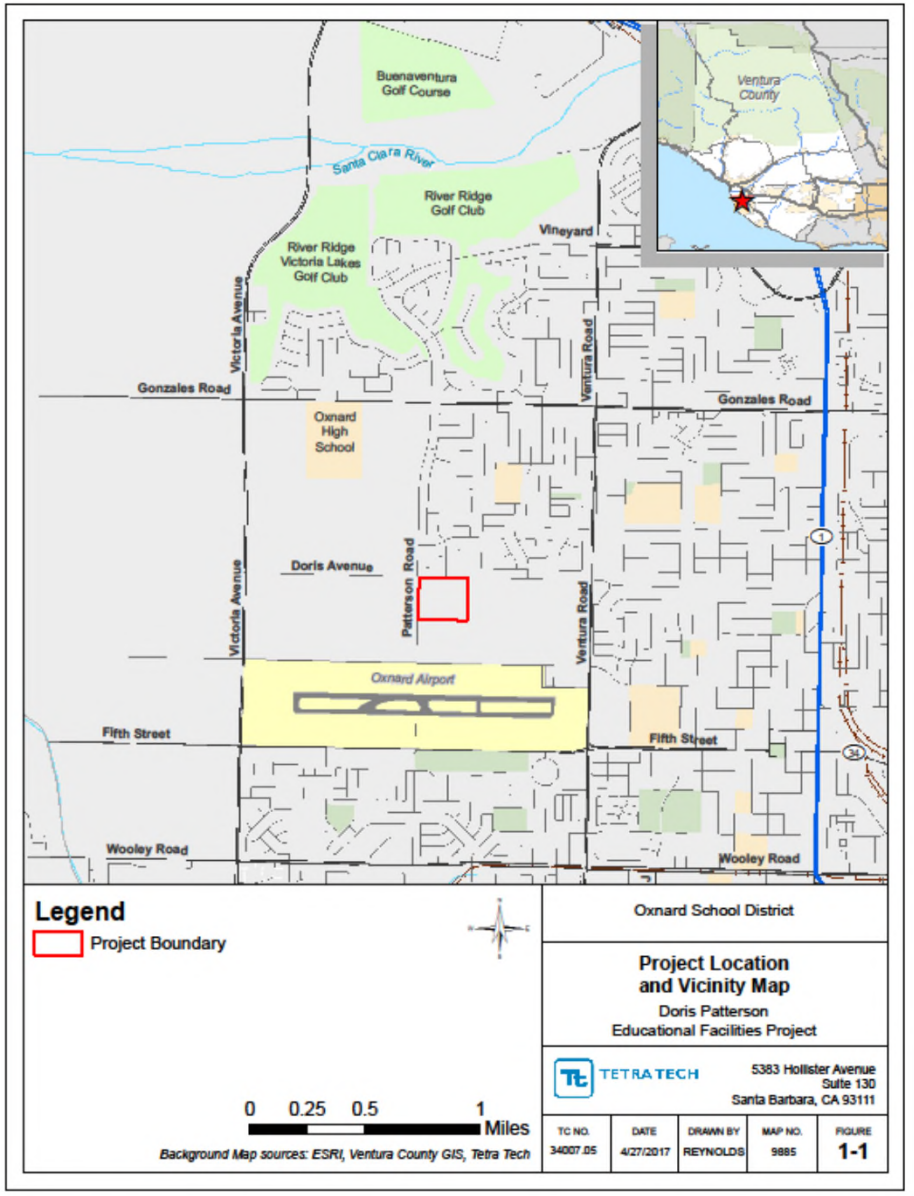
MAY 22, 2017

Scoping Meeting Agenda:

- Introductions
- Description of Proposed Project
- Summary of the Environmental Review Process
- Public comments

Project Location

- Southeast corner of Doris Avenue and North Patterson Road, Ventura County, CA.
- The project site is located in unincorporated Ventura County.
- The project site is also within the City of Oxnard's Sphere of Influence (SOI), City Urban Restriction Boundary (CURB), and within the Oxnard Airport SOI.


Buenaventura Golf Course
Santa Clara River
River Ridge Golf Club
River Ridge Victoria Lakes Golf Club
Vineyard
Victoria Avenue
Ventura Road
Gonzales Road
Oxnard High School
Doris Avenue
Patterson Road
Oxnard Airport
Fifth Street
Wooley Road
Ventura County
Legend
Project Boundary
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Background Map sources: ESRI, Ventura County GIS, Tetra Tech
Oxnard School District
Project Location and Vicinity Map
Doris Patterson Educational Facilities Project
TETRA TECH
5383 Hollister Avenue
Suite 130
Santa Barbara, CA 93111
TC NO. 34007.05
DATE 4/27/2017
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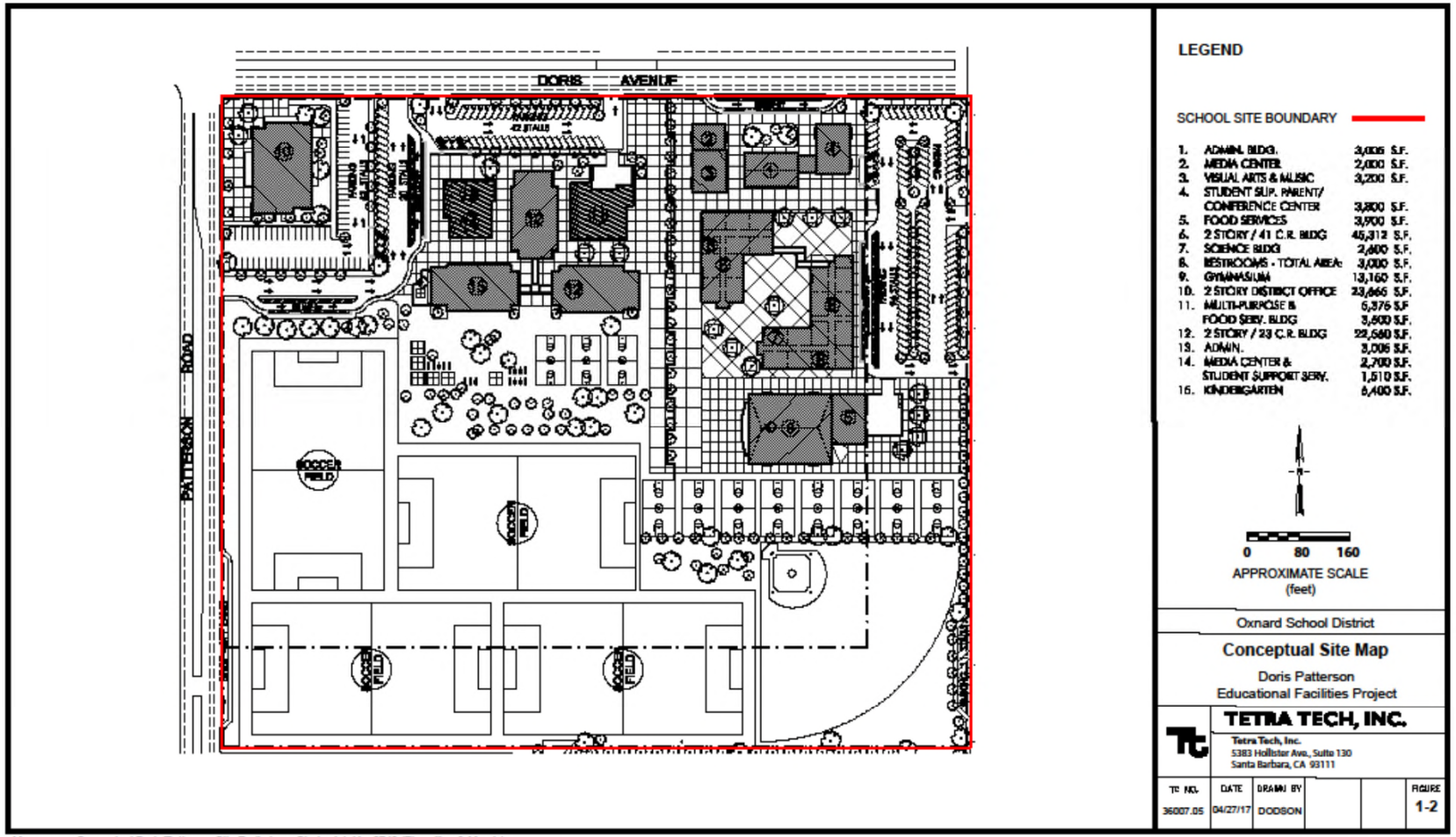
MAP NO. 9885
FIGURE 1-1

Proposed Project

- Oxnard School District proposes to construct and operate joint-use facilities to support 700 elementary school students in grades K-5, 1,200 middle school students in grades 6-8, and a potential future district office.
- The school facilities are designed to meet the educational and recreational needs of K-8 students onsite.
- In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite.
- The proposed project includes utility connections including water, sewer, gas, electric, data/telecommunications, and storm water collection.

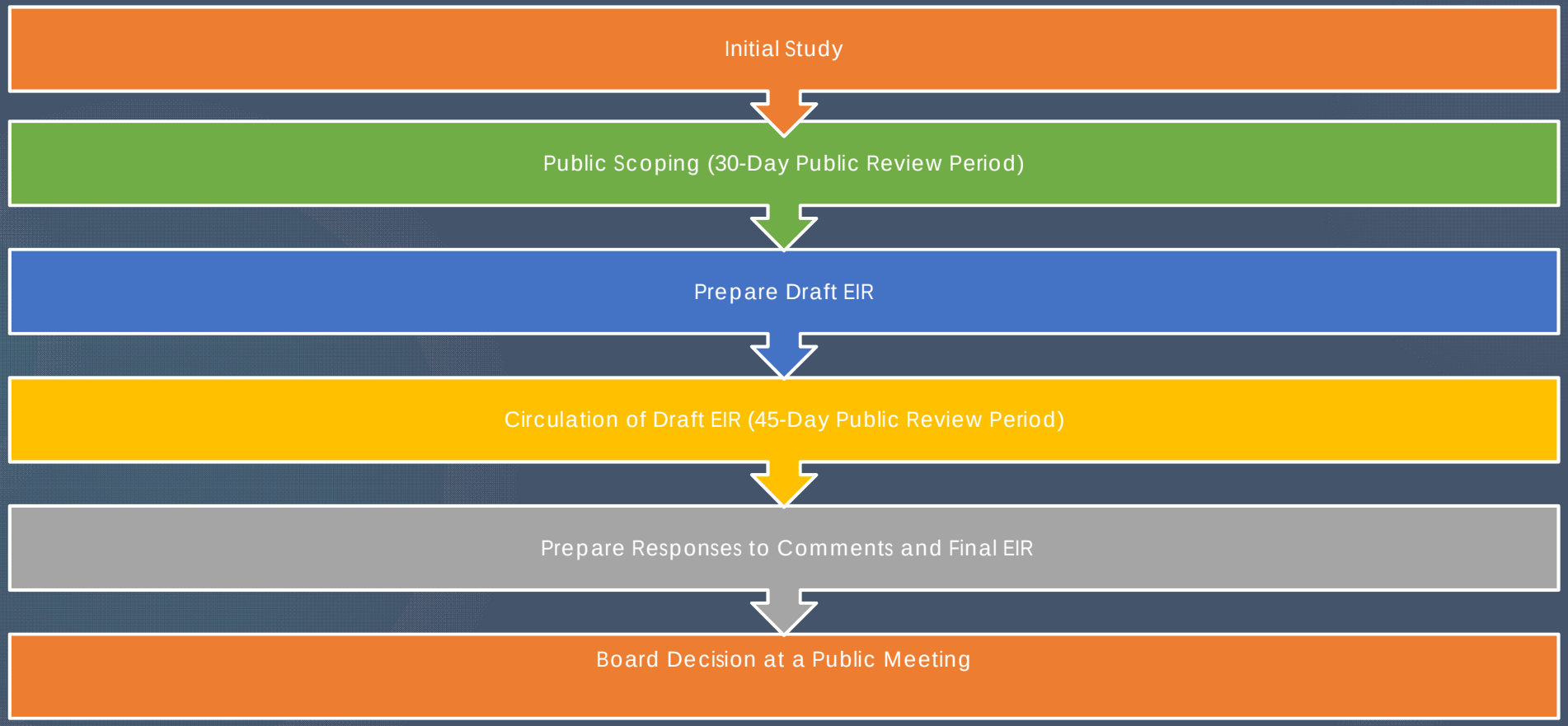


Map source: Conceptual Doris/Patterson Site Preliminary Study, Job No. 2749 (Flewelling & Moody).

Proposed Project

- The project would include a proposed reorganization which would be comprised of an annexation into the City of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33.
- The District would process a General Plan Amendment (GPA), Pre-Zone (RZ) and an Annexation through the City of Oxnard. The projects will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action.
- If the project is approved by the City Council, the City will file a Resolution of Application with the Ventura Local Agency Formation Commission (LAFCo). Upon approval of the annexation by LAFCo, and a 30-day reconsideration period, the annexation will be recorded and the site will be annexed into the City of Oxnard and eligible for all public services.

Environmental Review Process



Initial Study

- Oxnard School District has prepared an Initial Study and determined that an Environmental Impact Report (EIR) is required.
- The EIR will be prepared to evaluate potentially significant impacts related to the following issues:
  - Aesthetics
  - Agriculture
  - Air Quality
  - Biological Resources
  - Cultural Resources
  - Geology/Soils
  - Greenhouse Gas Emissions
  - Hazards/Hazardous Materials
  - Hydrology/Water Quality
  - Land Use Planning
  - Noise
  - Population
  - Public Services
  - Recreation
  - Transportation/Traffic
  - Tribal Cultural Resources
  - Utilities/Service Systems

Public Scoping

- The Notice of Preparation comment period began on May 11, 2017 and ends on June 9, 2017.
- The public scoping process is intended to provide Oxnard School District (as the Lead Agency for CEQA) with the information the public feels is necessary to establish the appropriate scope for preparing the Environmental Impact Report (EIR).
- Please provide your comments, input, suggestions for project alternatives, and any other pertinent information that may enable us to prepare a comprehensive EIR for the proposed project.

Public Comments

- In addition to speaking at today's meeting; comments can also be submitted in writing:

  Ms. Lisa Cline
  Deputy Superintendent, Business & Fiscal Services
  Oxnard School District
  1051 South "A" Street,
  Oxnard, CA 93030

- Please submit written comments by June 9, 2017. Due to the time limits mandated by State Law, your response must be sent at the earliest possible date but not later than 30 days after receipt of the Notice of Preparation.

VENTURA COUNTY WATERSHED PROTECTION DISTRICT
WATERSHED PLANNING AND PERMITS DIVISION
800 South Victoria Avenue, Ventura, California 93009
Sergio Vargas, Deputy Director – (805) 650-4077

MEMORANDUM

DATE: June 8, 2017

TO: Ms. Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South A Street
Oxnard, CA 93030

FROM: Sergio Vargas, Deputy Director *S.V.*

SUBJECT: NOP-EIR - Oxnard School District - Doris Patterson Educational Facilities Project - WC2017-0038

Pursuant to your request, this office has reviewed the Initial Study for Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California, and offers the following comments.

PROJECT LOCATION:

The project is located at southeast corner of Doris Avenue and North Patterson Road, Ventura County, CA.

PROJECT DESCRIPTION:

The Oxnard School District (OSD) proposes to construct and operate a new elementary, middle school and District administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road. The project will include a proposed reorganization which will be comprised of an annexation into the City of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, The Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33.

WATERSHED PROTECTION DISTRICT COMMENTS:

1. The proposed project will convert the currently agricultural land use into urban land uses with added impervious surface areas resulted from streets, building roofs, parking spaces, and so on. The initial study has correctly realize the potentially significant hydrologic, hydraulic, and water quality impacts the proposed project may have on local drainage systems and on the District's flood control facilities. The initial study indicates these potentially significant impacts will be further analyzed in EIR. The District expects any hydrologic, hydraulic, and water quality impacts will be mitigated on-site. The District expect to review and comment on the EIR when it is completed.

END OF TEXT

FOX CANYON GROUNDWATER MANAGEMENT AGENCY

A STATE OF CALIFORNIA WATER AGENCY

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EXECUTIVE OFFICER
Jeff Pratt, P.E.

June 7, 2017

Ms. Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

SUBJECT: COMMENTS REGARDING DORIS AVENUE / PATTERSON ROAD EDUCATIONAL FACILITIES PROJECT INITIAL STUDY, DATED MAY 2017

Dear Ms. Cline:

Thank you for the opportunity to review the Initial Study for the proposed Doris Avenue/ Patterson Road Educational Facilities Project (Project), prepared by Tetra Tech, Incorporated. The Project is within the Oxnard Groundwater Subbasin. The Fox Canyon Groundwater Management Agency (Agency) manages the groundwater underlying the Project site and vicinity. The Agency is in the process of developing a Groundwater Sustainability Plan (GSP) for the Oxnard Subbasin in compliance with the Sustainable Groundwater Management Act (SGMA). The Project Initial Study, dated May 2017, was reviewed by Agency staff and comments are provided below along with a summary of background information.

Background
The Oxnard School District (OSD) is proposing to construct an educational facility on the southeast corner of Doris Avenue and North Patterson Road in unincorporated Ventura. The project site is within the City of Oxnard's Sphere of Influence (SOI) on approximately 25 acres of the 107.00–acre parcel identified as Assessor's Parcel Number (APN) 183-0-070-090. It is proposed that the site be annexed into the City of Oxnard and Calleguas Municipal Water District.

The Project includes joint-use facilities to support a two-story district office, a 700-student elementary school (grades K through 5) and a 1,200-student middle school (grades 6 through 8). The proposed project is to comprise approximately 148,782 square feet of building and structures, 220 parking spaces, and a variety of playing fields including but not limited to soccer fields, tennis courts, and hard courts. The Project includes utility connections for water and sewer.

Discussion / Comments
Following are discussion and Agency comments:

1) The Initial Study does not clearly state the source of water supply for the Project. The source of the proposed water supply should be clearly identified.

2) The Initial Study does not indicate what portion of the water supply is to be groundwater extracted from within the Agency boundaries and what portion is to come from other sources such as imported water.

3) An estimate of the proposed water demand of "an additional" 5.4 AFY is provided in the Initial Study, but the volume does not appear to include the water demand for the OSD office, irrigation of playing fields and landscaped areas, and special events. The water demand broken down by each of the three facilities and use such as applied irrigation water as well as total project-water demand should be provided. In addition, the source of water to meet the water demand should be clearly identified in the proposed Environmental Impact Report (EIR), including the portions that are to be supplied by groundwater and imported water.

4) Currently, the land on which the proposed Project is to be constructed is used for agricultural purposes. The EIR should provide an analysis which determines if the Project will result in a new or increased groundwater demand.

5) The EIR should provide a discussion and analysis of both the individual and cumulative impacts of the Project on the Oxnard Subbasin, downgradient groundwater users. The data and analysis should be consistent with current hydrogeologic knowledge and understanding gained during development of the Oxnard Subbasin GSP. Technical studies, data, and draft documents are available on the Agency's website at www.fcgma.org. The EIR should include mitigation measures to minimize potential impacts of the Project to groundwater quantity and quality.

If you have any questions, please contact Kathleen Riedel, at (805) 654-2954, or me at (805) 650-4083.

Sincerely,

Kimball R. Loeb, PG, CEG, CHG
Groundwater Manager

Cc: Jeff Pratt, P.E., Executive Officer

RESOURCE MANAGEMENT AGENCY
county of ventura

Planning Division
Kimberly L. Prillhart
Director

June 7, 2017

Oxnard School District
Attn.: Ms. Lisa Cline, Deputy Superintendent
Business & Fiscal Services
1051 S. "A" Street
Oxnard, CA 93030

Subject: Notice of Preparation of an Environmental Impact Report for the proposed Doris Patterson Education Facilities Project

Dear Ms. Cline,

Thank you for providing the opportunity to provide comments for the Oxnard School District's (District) Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the proposed Doris Patterson Education Facilities Project. The District also prepared an Initial Study that identified potentially significant impacts related to the proposed project. The District proposes to construct and operate a new elementary, middle school, accessory school facilities, and an administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Paterson Road in the unincorporated area of Ventura County. The proposal includes a request to annex into the City of Oxnard boundary.

The EIR should include analysis of the following issues and/or possible impacts that may not have been identified in the Initial Study/Environmental Checklist for the proposed educational facilities:

- The proposed project will be located within an area currently zoned (by Ventura County) as Agricultural Exclusive, 40-acre minimum parcel size, and within the Ventura County Save Open-Space and Agricultural Resources (SOAR) Ordinance boundary. Schools are prohibited within the County's Agriculture zone. As the City of Oxnard has not zoned the proposed project area, the District will need to identify a new zone and General Plan Land Use designation that allows schools. If the proposed zone will not be agricultural, it should be analyzed carefully in light of the SOAR Ordinance in order to determine if the proposed zone and land use designation will require voter approval.
- Conversion of agricultural land (identified as Statewide Importance by Ventura County's Important Farmland Inventory map) that is currently in agricultural production to an institutional use. The loss of Important Farmland caused by the proposed project, and possible mitigations for the loss of farmland, should be analyzed.
- The EIR should address potential compatibility conflicts between the proposed education facilities project and adjacent agricultural operations. The EIR should include a discussion of the Ventura County Agriculture Commissioner's current

800 South Victoria Avenue, L# 1740, Ventura, CA 93009-1740 (805) 654-2481 Fax (805) 654-2509

agricultural-urban buffer policy. Please include an analysis of the distance and type of buffer(s) between the proposed school and the adjacent farm activities. If buffers will not be utilized in the proposed project or as mitigation measures, please explain why.

If you have any questions, please feel free to contact me.

Sincerely,

Charles Anthony, Senior Planner
Long Range Planning Section
Ventura County Planning Division
805.654.3683
charles.anthony@ventura.org

county of ventura

PUBLIC WORKS AGENCY
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Agency Director

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Watershed Protection District
Glenn Shephard, Director

June 8, 2017

Lisa Cline, Deputy Superintendent
Business & Fiscal Services
Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

Subject: RMA Ref. # 17-014, NOP and Initial Study for EIR

Dear Ms. Cline:

As requested, the Ventura County Watershed Protection District (VCWPD) – Groundwater Resources Division has reviewed the Initial Study Doris Avenue / Patterson Road Educational Facilities Project (Initial Study) in accordance with the County of Ventura Initial Site Assessment Guidelines (ISAG) and provides the following comments:

Project Location
The proposed project is located in the unincorporated area of Ventura County and overlies the Oxnard Plain Basin (Bulletin 118 Basin No. 4-4.02), which was identified as a high priority basin and in a condition of critical overdraft by the Department of Water Resources (DWR). The proposed project will occupy approximately 25 acres in the northwest corner of a 107-acre size parcel (APN 183-0-070-090). There is one groundwater well associated with the parcel (SWN 02N22W33N05) and used for agricultural irrigation. The site is currently used for agriculture.

Project Description
The Oxnard School District proposes to construct and operate a new elementary school, middle school, and administrative center. The proposed project includes facilities to support a district office, 700 elementary school students (grades K-5), and 1,200 middle school students (grades 6-8). The new school facilities are designed to meet the educational and recreational needs of enrolled students. The proposed project would comprise a total of approximately 148,782 square feet (sq. ft.) of buildings, structures and recreational areas that include soccer fields. The proposed project will incorporate drought tolerant landscape in accordance with the Model Water Efficiency Landscape Ordinance (MWELO) regulations adopted by the DWR.

Environmental Impact Analysis: Water Supply – Quantity

The Initial Study states the project will require an additional 5.7 acre-feet (AF) of water annually (page 2-29). This additional water quantity is the estimated future water demand for student population and does not consider additional water use that will be required for other areas such as the Cafeteria, Administrative Building, and landscape. Also, the additional water quantity of 5.7 AF/year does not take into account any current or historical water use for agricultural activities on the portion of the site the school will occupy. To estimate the additional water demand for the proposed project, a more detailed water study must be conducted that incorporates (but is not limited to) the elements listed above.

The project will also propose annexation into the City of Oxnard. According to the 2010 City of Oxnard Urban Water Management Plan and the 2010 Water Conservation Master Plan, the Oxnard City Council established a "water neutrality" policy in 2008 that requires all new development within the City of Oxnard to offset water demand associated with the project. 'New development' is defined as all planned and unplanned future development. Implementation of water conservation efforts must be permanent and quantifiable. The water neutrality policy has not been codified, but has been applied to every development approved project since 2008. Under the policy, a development can be water neutral by meeting its projected demand through:

- existing FCGMA groundwater allocations that are transferred to the City of Oxnard;
- contributing to increased efficiency by funding water conservation or recycled water retrofit projects;
- providing additional water supplies; or,
- any combination of these options.

The Environmental Impact Report must analyze whether compliance with the "water neutrality" policy is required and discuss how compliance is expected to be met.

Please feel free to contact me at (805) 654-5164 or alma.quezada@ventura.org to discuss any further questions.

Sincerely,

Alma Quezada
Groundwater Specialist

Ms. Lisa Cline
Deputy Superintendent, Business & Facilities Service
Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

June 8, 2017

RE: Oxnard School District seeking to build a campus on Doris and Patterson

Dear Oxnard Elementary School District,

I am opposed to the new construction of an elementary school at the corner of Doris and Patterson for a number of reasons. According to the Ventura County Star articles over the years, there have been quite a number of crash incidents in the local area that have involved small aircraft. In the past few weeks alone, fatal crashes have occurred near Ventura and in Camarillo. As for Oxnard, there have also been a number of plane incidents in the flight path of Oxnard Airport. In 1995 a single engine plane crashed at the beach while attempting to land at Oxnard Airport with no visibility due to heavy fog. In 2013, 2 people were killed when their plane crashed in a field near Victoria Avenue and Wooley Road shortly after takeoff. (It exploded on impact) I personally remember within the past 10 years or so, when a plane trying to make an emergency landing missed the school bus maintenance garages only by a few feet (near 2nd and H Street -previous Oxnard High School site). The only reason it did not cause more damage was because the pilot was able to steer the aircraft into a baseball cage (that was left behind by the school) and the plane got stuck in the fencing. A few years before that, a plane skidded off the runway at Oxnard Airport and skidded onto Victoria Avenue. I also have heard that many years back a plane crashed into one of the homes in the Strawberry Fields Tract. Planes circle the landing strip routinely. The Oxnard School District already recently constructed Juan Soria and Thurgood Marshall Elementary School. Enough is enough. Stop putting children in harm's way.

Furthermore, how will the placement of an elementary school impact the training exercises coordinated between Point Mugu, Camarillo Airport and Oxnard Airport? Who will be paying for all the infrastructure improvements for the new school? Traffic is already impacted on Gonzales, Patterson, and Victoria during the morning & afternoon hours due to Oxnard High School and Thurgood Marshall Elementary. How are the residents supposed to exit the Summerfield, Lionsgate, and Strawberry Field Tracts onto Doris if you place a school there? Wasn't a fire station originally supposed to be constructed there? Why the sudden change of plan? Where are the children coming from that you plan to bus there if the Teal Club development never commences? The Oxnard School District has plenty of land. Why don't you work on improving existing school campuses and constructing a 2 or 3 story classroom building to accommodate students in the schools that are most impacted if they are overcrowded instead of just sticking more single story trailers there and constructing more single story schools? Clearly if you have enough funding for an entire new campus, you have money to improve existing schools. What do other communities do in other cities to address the problem when they do not have land to acquire to build another school? Why don't you look into some of those for a viable long-term solution instead of short term fixes?

Sincerely,

Susan A. Bonucchi

Summerfield Tract Resident

VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT
Memorandum

TO: Clay Downing, Planning DATE: June 8, 2017

FROM: Alicia Stratton

SUBJECT: Request for Review of Notice of Preparation for an Environmental Impact Report for the Doris Patterson Educational Facilities Project, Oxnard School District (Reference No. 17-014)

Air Pollution Control District staff has reviewed the subject notice of preparation (NOP) for an environmental impact report (EIR) for the project, which proposes construction and operation of a new elementary and middle school and District administrative center on a 25-acre site. The proposed project would support a district office, 700 elementary school students in grades K-5 and 1,200 middle school students in grades 6-8. The project includes a proposed reorganization that will be comprised of an annexation into the City of Oxnard and the Callegues Municipal Water District and a detachment from the Ventura County Fire Protection District, Ventura County resource Conservation District and Ventura County Service Areas 32 and 33. The project location is the southeast corner of Doris Avenue and North Patterson Road in Oxnard.

Page 3 of the NOP indicates that the project identified may have potential significant impacts related to air quality. The *Air Quality* section of the Initial Study on Page 2-9 also indicates that the project would have potentially significant impacts on air quality. This discussion indicates that an air quality study will be prepared for the project and air quality impacts would be analyzed in the EIR. District staff recommends the EIR evaluate all potential air quality impacts that may result from the project. Specifically, the air quality assessment should consider all reactive organic compounds, nitrogen oxide emissions and particulate matter from all project-related motor vehicles and construction equipment from the project.

Further, we note that the project site is surrounded by agricultural uses to the south, east and west; and located north of the project site is a residential neighborhood. Because the project would be adjacent to agricultural fields, application of fertilizers, herbicides and pesticides are a potential air quality issue that should be also analyzed in the EIR.

This project will involve a large amount of grading of soil (25 acres). The California Air Resources Board (CARB) has identified diesel exhaust particulate matter as a Toxic Air Contaminant (TAC). Diesel exhaust includes hundreds of different gaseous and

particulate components, many of which are toxic. The earthmoving equipment has the potential to expose sensitive populations in the vicinity to elevated levels of diesel exhaust.

The District recommends that a screening health risk assessment be conducted for the project to assess the potential health risks on the nearby sensitive receptors. Mitigation measures should also be identified and discussed if the assessment indicates a significant risk. Additional information on TACs can be obtained from the District's website at http://www.vcapcd.org/air_toxics.htm.

A carbon monoxide screening analysis should be conducted for any project-impacted roadway intersection that are currently operating, or that are expected to operate at, Levels of Service D, E, or F, or at any project-impacted roadway intersection that may be a CO hotspot. If a potential hotspot is identified, the District recommends that a complete CALINE3 or CALINE4 carbon monoxide analysis be conducted for that intersection.

Thank you for the opportunity to review this project. If you have any questions, please call me at (805) 645-1426 or email alicia@vcapcd.org.

Ventura County Transportation Commission

June 8, 2017

Ms. Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South A Street
Oxnard, CA 93030

RECEIVED

JUN 10 2017

BUSINESS & FISCAL SERVICES

Subject: Doris Patterson Educational Facilities Project

Dear Ms. Cline:

The Ventura County Transportation Commission (VCTC) which also serves as the Ventura County Airport Land Use Commission (ALUC) appreciates the opportunity to comment on the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Doris Patterson Educational Facilities Project. The VCTC and ALUC offers the following comments referenced to Initial Study Sections:

Section 1.3 Other Public Agencies Whose Approval Is Required

The Ventura County Airport Land Use Commission should be listed as a public agency whose approval is required due to the proposed project's location within Airport Study Area for Oxnard Airport as defined in the Airport Comprehensive Airport Plan. The District should submit the proposed project for an ALUC consistency review prior to a General Plan Amendment.

Section 2.4.10 b Land Use Planning

The EIR should consider whether the proposed project is consistent with the adopted Ventura County Airport Comprehensive Airport Plan. The proposed project's location is within Airport Study Area for Oxnard Airport and more specifically within the Traffic Pattern Zone (TPZ) which restricts and/or conditions certain land uses.

2.4.12 Noise

The EIR should consider potential noise impacts on the student population from Oxnard Airport and ensure that proper mitigations are considered inside and outside of classrooms.

2.4.16 b Transportation/Traffic

The EIR should clearly identify the impacts of the traffic generated by school trips from all areas that that the school facilities will draw from. Limiting the traffic study to the immediate area surrounding the facilities is not sufficient to determine the significance of impact due to traffic. A full discussion of mitigation through Traffic Demand Measures (TDMs) should be included in the EIR.

Again, the Ventura County Transportation Commission (VCTC) which also serves as the Ventura County Airport Land Use Commission (ALUC) appreciates the opportunity to comment on the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Doris Patterson Educational Facilities Project. If you have any questions concerning the above comments please feel free to contact me at (805) 642-1591 Ext. 103.

Sincerely,

Steve DeGeorge
Director of Planning

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0067
FAX (213) 897-1337
www.dot.ca.gov

Serious drought!
Making Conservation
a California Way of Life.

June 9, 2017

Lisa Cline
Oxnard School District
1051 South A Street
Oxnard, CA 93030

RE: Doris Ave Educational Facilities
Vic: VEN-1 / PM: 18.874
GTS# 07-VEN-2017-00067
SCH# 2017051041

Dear Ms. Cline,

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project consists of constructing joint-use facilities to support a district office, 700 elementary school students and 1,200 middle school students. In total, the proposed project would comprise approximately 148,782 sf of building and provide 220 on-site car parking spaces.

After reviewing the Notice of Preparation (NOP), Caltrans has the following comments:

State-level policy goals related to sustainable transportation seek to reduce the number of trips made by driving, reduce greenhouse gas emissions, and encourage alternative modes of travel. Caltrans' Strategic Management Plan has set targets of tripling trips made by bicycling and doubling trips made by walking and public transit by 2020. The Strategic Plan also seeks to achieve a 15% reduction in statewide per capita vehicle miles traveled by 2020. Similar ambitious goals are embedded in Caltrans' 2040 Transportation Plan, and Southern California Association of Governments' Regional Transportation Plan. Statewide legislation such as AB 32 and SB 375, as well as Executive Orders S-3-05 and B-16-12, echo the need to pursue more sustainable development. Such climate change goals can only be achieved through support from local partners.

In light of state legislation SB 743, the lead agency may choose to proceed with a vehicle miles traveled (VMT) transportation analysis instead of a more traditional level of service (LOS) analysis for the traffic study. However, irrespective of methodology used, any transportation-related impacts should be addressed through appropriate multi-modal mitigation measures to reduce the number of vehicle trips generated by the project. Measures could include: installing safe and secure bicycle parking/storage for students and visitors; reducing the amount of parking associated with the project; and/or providing incentives for employees to carpool or take alternative means of transportation. Measures that promote alternatives to car use are especially opportune as the school serves children- a portion of the population physically and legally unable to drive independently.

Note existing research on parking suggests that providing free and plentiful car parking encourages and enables *more* driving while increasing development costs. Please acknowledge the role parking plays in generating car use, and consider alternative measures to promote carpooling, active transportation and public transit.

According to the NOP, there may be significant impacts related to air quality, greenhouse gas emissions, and transportation. Although these elements are analyzed separately they are interrelated. The mode of transportation people use to access the site can directly impact air quality and affect greenhouse gas emissions produced in relation to the site. While it may be determined that there is no significant impact in any of these categories, efforts can and should be made to encourage alternatives to driving such as carpooling, bicycling, walking, and bus/shuttle use.

Absent from the NOP is any mention of bicycle parking. With nearly 2,000 students accommodated - in addition to faculty and staff - it is likely a portion of the facility's population will bicycle to school out of necessity or individual choice. As such, strong consideration should be given to providing safe, pleasant, and convenient on-site bicycle parking and other amenities such as skateboard or scooter parking. The presence of high-quality bicycle parking can encourage bicycle use. Conversely, an absence of high-quality and secure bicycle parking can *discourage* bicycle use. Although the project site is in unincorporated Ventura County, the site is within the City of Oxnard's Sphere of Influence. Oxnard has off-street bicycle parking requirements per City Code Section 16-616, which states "off-street bicycle parking facilities shall be provided for any new building constructed…" Caltrans would like to see a discussion of bicycle parking and other efforts to reduce vehicle trips generated in relation to the project.

Be aware any transportation of heavy construction equipment and/or materials which requires use of oversized-transport vehicles on State highways will need a Caltrans transportation permit. We recommend large size truck trips be limited to off-peak commute periods. Also, storm water run-off is a sensitive issue for Los Angeles and Ventura counties. The project needs to be designed to discharge clean run-off water.

If you have questions regarding these comments, please contact project coordinator Severin Martinez at (213)-897-0067 or severin.martinez@dot.ca.gov and refer to GTS# 07-VEN-2017-00067.

Sincerely,

DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

VENTURA LOCAL AGENCY FORMATION COMMISSION
COUNTY GOVERNMENT CENTER • HALL OF ADMINISTRATION
800 S. VICTORIA AVENUE • VENTURA, CA 93009-1850
TEL (805) 654-2576 • FAX (805) 477-7101
WWW.VENTURA.LAFCO.CA.GOV

June 9, 2017

SENT VIA E-MAIL

Ms. Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

Subject: Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Oxnard School District's Doris/Patterson Educational Facilities Project

Dear Ms. Cline:

Thank you for providing the Ventura Local Agency Formation Commission (LAFCo) with the opportunity to review the NOP for Doris/Patterson Educational Facilities Project Draft EIR. As a responsible agency under the California Environmental Quality Act (CEQA), LAFCo is charged with ensuring that environmental documents prepared by lead agencies address the issues that relate to LAFCo's scope of authority. Please note that the Commission has not reviewed the NOP, and these comments are solely those of the LAFCo staff.

LAFCo's purposes are to (1) discourage urban sprawl, (2) preserve open space and prime agricultural land, (3) ensure efficient provision of government services, and (4) encourage the orderly formation and development of local agencies, such as cities (Government Code § 56301). The Ventura LAFCo has adopted local policies that it must consider when making decisions on reorganization proposals. Specifically, the policies found in Divisions 3 and 4 of the Handbook apply to the proposed project.

Project Description

The Oxnard School District (OSD) is the lead agency for the subject project. If approved, the project would involve the construction and operation of: (1) an elementary school (accommodating 700 students), (2) a middle school (accommodating 1,200 students), and (3) a district administrative center. The development would be located on a 25-acre site at the southeast corner of Doris Avenue and Patterson Road, immediately south of the City of Oxnard's existing boundaries. The facility would include classrooms, offices, and various other buildings in support of the two schools, as well as internal driveways, parking lots, and several play fields.

It appears that implementation of the project would result in improvements and widening of the Patterson Road right-of-way (immediately west of the proposed facility), so that the right-of-way aligns with the existing Patterson Road right-of-way north of Doris Avenue. This would involve acquisition of a portion of the neighboring property to the west. The project description should

therefore include this area. Additionally, the request should contain an amendment to the City's sphere of influence (to include this area in the City's sphere) and an amendment to the Ventura-Oxnard Greenbelt Agreement (to exclude this area from the Greenbelt), as discussed below.

The project site has historically been used for crop production. It has a County General Plan land use designation of *Agricultural – Urban Reserve* and a zoning designation of *Agricultural Exclusive (40 acre minimum parcel size)*. The project area contains City General Plan designations of *Park*, *Public/Semi Public*, and *Open Space*. The territory immediately west of the proposed facility that involves road widening to accommodate the project is designated by the City's General Plan as *Agriculture*. The project description states that the OSD is proposing a General Plan Amendment and pre-zoning, but should also specify the proposed land use designation(s) and pre-zoning designation(s). The project should be evaluated for consistency with the existing City General Plan land use designation(s) (if applicable) and include a discussion of the proposed amendment to the City General Plan land use designation(s) for the entire proposal area.

The City is currently processing a request for the approval of the Teal Club Specific Plan, which includes the proposal area. Under the Specific Plan, the subject area would be used as a public facility, however the specific use has not been identified. Staff recommends that the OSD collaborate with the City so that the subject project can be integrated into the Specific Plan (in case the Specific Plan project is adopted), and to establish whether the City would be amenable to extending municipal services to project site if it is developed independently of the Specific Plan.

Request to LAFCo

Reorganization:

In order for the project site to be developed as proposed, the project area must be annexed to the City. The City would provide municipal services to the proposal area once the territory is annexed. Annexation of the proposal area to the City requires LAFCo approval of several changes of organization, collectively called a reorganization. The project description should include the following LAFCo actions that would be necessary components of the reorganization:

- Annexation to the City of Oxnard
- Annexation to the Calleguas Municipal Water District
- Detachment from Oxnard Drainage District No. 1
- Detachment from the Ventura County Resource Conservation District
- Detachment from the Ventura County Fire Protection District
- Detachment from Ventura County Service Area No. 32
- Detachment from Ventura County Service Area No. 33

Inclusion of Patterson Road Right-of-Way:

Based on the site plan that was provided in the Initial Study, the proposal area excludes the adjoining segment of the Patterson Road right-of-way. Section 3.2.1 of the Ventura LAFCo

Commissioner's Handbook (Handbook)[1] provides, in part that, "Except in extraordinary circumstances, cities shall annex entire roadway sections adjacent to territory proposed to be annexed and shall include complete intersections." In addition, the site plan indicates road widening of Patterson Road that would extend off-site and westward into neighboring agricultural property. Therefore, the project description should be revised to include the adjoining portion of the Patterson Road right-of-way, and any additional territory necessary for improvements, as part of the proposed reorganization.

Sphere of Influence Amendments:

Implementation of the project would require the following sphere of influence amendments:

- Amendment of the City of Oxnard's sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west
- Amendment of the Calleguas Municipal Water District sphere of influence to include the adjoining segment of Patterson Road and agricultural land to the west
- Amendment of the Oxnard Drainage District No. 1 sphere of influence to remove the adjoining segment of Patterson Road and agricultural land to the west
- Amendment of the Ventura County Service Area No. 33 sphere of influence to remove the entire proposal area

Note that LAFCo has policies related to sphere of influence amendments involving schools (Handbook Section 4.3.3), which should be considered by the OSD as it evaluates project feasibility.

City Urban Restriction Boundary (CURB):

It appears that territory to the west of the proposed school site will be used for widening of Patterson Road. This area is outside the City's CURB. Voter approval is typically required for the extension of City services outside the City's CURB. Ventura LAFCo has adopted policies that proposed reorganizations and sphere of influence amendments should be consistent with voter-approved growth boundaries (Ventura LAFCo Commissioner's Handbook Sections 3.2.4.2 and 4.2.1). Therefore, the analysis of the project should include a discussion of consistency with the City's ordinance requiring voter approval for extension of City services outside the CURB.

Ventura-Oxnard Greenbelt:

It appears that territory to the west of the proposed school site will be used for widening of Patterson Road. This area is within the Ventura-Oxnard Greenbelt. The purpose of greenbelts is to preserve agriculture and/or open space, provide separation between cities, and/or limit the extension of urban services. LAFCo policies generally provide that, unless exceptional circumstances exist, LAFCo will not approve proposals that are in conflict with greenbelt agreements (Handbook Section 3.2.4.4). Therefore, the project description should include a

[1] The Handbook is available on the Ventura LAFCo website at www.ventura.lafco.ca.gov, and can be found by clicking on the "Policies" tab.

proposed amendment to the Ventura-Oxnard Greenbelt Agreement to exclude this area (amendments to a greenbelt agreement require approval from all parties to the agreement).

Parcel Boundary:

The proposal area is a portion of a larger agricultural parcel. Additionally, as discussed above, it appears that a portion of the neighboring parcel directly west of the project site will be needed for road widening of Patterson Road. Ventura LAFCo has adopted a policy requiring that proposals conform to lines of ownership or assessment, and that they involve only legal lots (Handbook Sections 3.1.4.2 and 3.1.4.3). The project description should include an explanation of the how the proposal area will consist of a legal lot.

LAFCo as a Responsible Agency under CEQA:

Pursuant to the information above and consistent with information in the NOP prepared for the project, the EIR should identify LAFCo as a responsible agency whose approval is required in conjunction with the development of the project.

LAFCo Law and Additional Ventura LAFCo Policies

Based on information provided in the NOP, several topics have been identified for study in the EIR. In addition to those topics already identified by the OSD for further evaluation, the EIR should include an analysis of the following in order to adequately address the subjects that are within LAFCo's scope of authority (pursuant to Government Code § 56668):

Agricultural Resources

The NOP states that the EIR will include an evaluation of the proposed development on agricultural land and agricultural resources. In evaluating impacts to agricultural resources, LAFCo must apply the definition of prime agricultural land found in LAFCo law (Government Code § 56064), which includes standards relating to the value of agricultural products and the soils classification determined by the Natural Resources Conservation Service. The analysis should specifically address potential impacts pursuant to the LAFCo definition of prime agricultural land, so that the information may be used at such time as LAFCo takes action on the proposal.

Additionally, please note that Handbook Section 1.4.3.1(d) states that: "For projects that would result in the conversion of prime agricultural land to non-agricultural uses, the environmental document should consider mitigation measures to address the potential loss of the agricultural land, as provided for under Government Code Section 65965 et al." To assist the OSD in complying with this policy, LAFCo has prepared *Ventura LAFCo Informational Guidelines for the Consideration of Agricultural Mitigation Measures*, which includes examples of mitigation measures and related implementation factors for consideration by lead agencies as they prepare environmental documents (see attachment).

Furthermore, the evaluation of impacts to agricultural land should include an analysis pursuant to Handbook Section 3.3.5, which states that in order to approve a proposal that would likely result in the conversion of prime agricultural land, the Commission must find that the proposal will lead to planned, orderly, and efficient development.

Airport Hazards

The proposed development includes the construction of an elementary school and a middle school. The project area is located within the Traffic Pattern Zone (TPZ) of the Oxnard Airport, as documented in the *Airport Comprehensive Land Use Plan Update for Ventura County* (CLUP) (July 7, 2000). According to Table 6B of the CLUP, and as noted in the DEIR, schools are identified as being an unacceptable use within the TPZ. Pursuant to Handbook Section 3.3.1.2(b), LAFCo does not favor approval of proposals that are inconsistent with applicable plans adopted by any governmental agency. The EIR should include an evaluation of consistency with the CLUP.

Additional Comments

The Ventura LAFCo encourages prospective applicants to meet with LAFCo staff early in the planning process (see the attached letter from the Commission). We find that such consultation and ongoing communication is helpful to clarify the nuances of LAFCo requirements and to avoid delays later in the process.

LAFCo staff requests to be notified when the Draft EIR is available for review, and will provide further comments at that time, if necessary.

Please contact me if you have any questions.

Sincerely,

Andrea Ozdy

Andrea Ozdy
Analyst

Attachments

c: Kathleen Mallory, City of Oxnard
Todd McNamee, Ventura County Department of Airports
Kim Prillhart, Ventura County Planning Division

VENTURA LOCAL AGENCY FORMATION COMMISSION
COUNTY GOVERNMENT CENTER • HALL OF ADMINISTRATION
800 S. VICTORIA AVENUE • VENTURA, CA 93009-1850
TEL (805) 654-2576 • FAX (805) 477-7101
WWW.VENTURA.LAFCO.CA.GOV

Ventura LAFCo Informational Guidelines for the Consideration of Agricultural Mitigation Measures[1]

The Ventura Local Agency Formation Commission has adopted policies encouraging lead agencies to consider agricultural mitigation measures in their environmental documents for projects that are likely to lead to the conversion of prime agricultural land. Section 1.4.3.1.d of the Commission's Administrative Supplement to the California Environmental Quality Act (found in Division 1 Chapter 4 of the Ventura LAFCo Commissioner's Handbook[2]) provides, in part:

> *For projects that would result in the conversion of prime agricultural land to non-agricultural uses, the environmental document should consider mitigation measures to address the potential loss of the agricultural land, as provided for under Government Code Section 65965 et.al.*

Examples of mitigation measures that could be considered, at the discretion of the lead agency, if feasible, are:

- Agricultural conservation easements
- Agricultural land mitigation bank and credits
- Fee title (ownership)
- Fees in lieu of agricultural conservation easements, agricultural land mitigation bank and credits, or fee title

When considering such mitigation measures, lead agencies should consider related implementation factors, including, but not necessarily limited to, the following:

- Permanent preservation of other prime agricultural land (such as in a 1:1 ratio, or greater, to that proposed to be converted)
- Preservation of land of a similar soil quality and/or classification as that proposed to be converted
- Preservation of land that possesses the related resources (water, drainage, etc.) to ensure that on-going agricultural production would be viable
- Preservation of land located within Ventura County (but not necessarily within the lead agency's sphere of influence.

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[1] These informational guidelines were approved by the Ventura LAFCo on May 17, 2017
[2] Available on the Ventura LAFCo website at http://www.ventura.lafco.ca.gov/wp-content/uploads/Ventura-LAFCo-Commissioners-Handbook-Revised-4.20.2016.pdf

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Dear Prospective LAFCo Applicant:

Local Agency Formation Commissions (LAFCos) are independent governmental agencies responsible for promoting orderly development through the logical formation and determination of local agency boundaries. LAFCos implement the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56000 et seq.), which grants them broad authority to review, consider, modify, condition, and approve or disapprove requests for changes of organization, including annexations.

In reviewing any request for a change of organization, LAFCos must consider numerous factors such as, but not limited to, land use; the need for organized community services; the effect on the cost and adequacy of services in the area and adjacent areas; the ability of the city or district to provide services; the availability of water supplies; consistency with regional transportation plans and city/county general and specific plans; and the effects on agricultural lands. In addition, LAFCos must comply with laws pertaining to environmental protection, land conservation, public records, open meetings and taxation. The Ventura LAFCo has also adopted local policies which must be given great weight as part of its consideration of proposals. These policies, along with LAFCo's operational rules and regulations, are set forth in the *Commissioner's Handbook*, which is available on the LAFCo website: www.ventura.lafco.ca.gov.

Regardless of your agency's level of familiarity or experience with the LAFCo application process, we strongly encourage all prospective applicants to consult with Ventura LAFCo staff prior to submitting an application. Although the LAFCo application requirements are generally the same for each boundary change proposal, there may be exceptions depending on the complexity, scope, and location. During the pre-application consultation, a detailed explanation of the application requirements and all information necessary to process the request will be provided. Meeting all of the requirements in the initial application submittal is the best way to minimize processing time and costs. Generally speaking, it takes between three and four months from the time an application is submitted to the time it can be recorded (for proposals that are approved). However, it can take significantly longer if the application does not include all of the required information.

Pre-application consultations are available free of charge in most cases unless multiple meetings are required. Optimally, the consultation process should occur before your agency initiates the environmental review process and well before a resolution to initiate a change of organization is adopted. Please take advantage of the LAFCo staff to help make your LAFCo experience as efficient and cost effective as possible.

Sincerely,
Ventura Local Agency Formation Commission

June 16, 2017

Lisa Cline
Deputy Superintendent, Business and Financial Services
Oxnard School District
1051 South A Street
Oxnard, CA 93030

RE: Campus Build Doris & Patterson

Dear Ms. Cline,

I understand there is interest from the Oxnard Union School District to build a new campus, best case scenario, housing both an elementary and middle school on the Doris/Patterson property..

I am in protest of this build. Aside from an inadequate infrastructure to handle the additional traffic concerns and the close proximity to the airport, which was cause for the relocation of the high school, I feel our monies would be better spent on improving our existing schools. The average statewide rating of our Middle and Elementary Schools in Oxnard is a 3 out of 10. Just pitiful. Statewide average class size is 21/22 and our classroom size is on average.

Why can't we hire/add more teachers and faculty to existing schools to lower the classroom size and develop more one on one teaching efforts. Just because we will have a new bright and shinny building does not mean better education. Take the newest of elementary schools, Juan Lagunas Solia, with a rating of 4, which is better than the district's average, but not anything to boast about.

I just cannot understand why this city feels everything becomes better with new developments. I see no value in building a new school that will rank/function as low as our existing. Better we start figuring out the problems in our existing schools, rather than build new and perpetrate our bad teaching skills upon it.

Respectfully,

Carol Dreager
2701 Pyrite Pl
Oxnard, CA 93030

CALLEGUAS
MUNICIPAL WATER DISTRICT

web site: www.calleguas.com

2100 OLSEN ROAD • THOUSAND OAKS, CALIFORNIA 91360-6800 805/526-9323 • FAX: 805/522-5730

cc: K. Crosby
R. Longman

RECEIVED

MAY 17 2017

BUSINESS & FISCAL SERVICES

May 12, 2017

Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South A Street
Oxnard, CA 93030

RE: NOTICE OF PREPARATION OF AN EIR DORIS AVENUE/PATTERSON ROAD EDUCATIONAL FACILITIES PROJECT

Dear Ms. Cline,

Thank you for sending Calleguas Municipal Water District the Notice of Preparation (NOP) and Initial Study for the Doris Avenue/Patterson Road Educational Facilities Project. As you are probably aware I met with Dr. Morales, Greg Norman and Yuri Calderon last year to discuss annexation of the property to Calleguas.

It was good to see that the NOP mentioned annexation to Calleguas. Since Calleguas is a member of Metropolitan Water District of Southern California, the annexation will also be to Metropolitan's service area. Typically annexations to Calleguas and Metropolitan rely on the California Environmental Quality Act (CEQA) document prepared by the lead agency. This letter anticipates the annexation by providing recommended text to include in the EIR. If language similar to the following paragraphs is included in the EIR no addendum or independent CEQA work will be necessary for the annexation.

> *Land on which the proposed projects will be built is not presently within the boundaries of Calleguas Municipal Water District or Metropolitan Water District of Southern California. The Administrative Codes of both agencies state that water delivered by their systems may be used only within their respective service area boundaries. Calleguas purchases all of its potable water from Metropolitan. Metropolitan supplies water from the Colorado River and the State Water Project for municipal, industrial and agricultural uses within its service area. Annexation to Calleguas and Metropolitan of the land under consideration is necessary to allow annexation to and water service by the City of Oxnard.*

Annexation procedures for Metropolitan are defined in Section 3500 of the Metropolitan Water District Act, which are also observed by Calleguas. In addition, annexations to Calleguas are subject to Part 8 of Calleguas' Administrative Code. Annexation is also subject to approval by the Ventura Local Agency Formation Commission and any terms and conditions the Commission may apply. Pursuant to Section 56017 of Part 1, Chapter 2, of the Cortese/Knox/Hertzberg Local Government Reorganization Act of 2000, annexation means the annexation, inclusion, attachment, or addition of territory to a city or district. This action will require amendment of the Spheres of Influence of Calleguas and Metropolitan.

Calleguas and Metropolitan have in place Water Standby Charges. In the course of annexation, such charges will be fixed for the subject property. Water Standby Charges are assessed to pay for the benefits that properties receive from the projects and facilities provided by Calleguas and Metropolitan, whether or not they receive water from Calleguas and Metropolitan.

This administrative change in water service areas will have a less than significant impact.

Thank you for your attention to this detail. If any questions or concerns come to mind, you are welcome to call me at 805-579-7129.

Sincerely,

Cy Johnson

Cy Johnson
Development Programs Administrator

cc: Eric Bergh, Manager of Resources, CMWD

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

Notice of Preparation

May 16, 2017

To: Reviewing Agencies

Re: Doris Avenue/Patterson Road Educational Facilities Project
SCH# 2017051041

Attached for your review and comment is the Notice of Preparation (NOP) for the Doris Avenue/Patterson Road Educational Facilities Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Lisa Cline
Oxnard School District
1051 South A Street
Oxnard, CA 93030

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2017051041
Project Title Doris Avenue/Patterson Road Educational Facilities Project
Lead Agency Oxnard School District

Type NOP Notice of Preparation

Description The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 students' onsite. The project site is located within unincorporated Ventura County and within the city of Oxnard SOI area. The project will include a proposed reorganization which will be comprised of an annexation into the city of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33. The District will process a GPA, PZ and an Annexation through the city.

Lead Agency Contact

Name Lisa Cline
Agency Oxnard School District
Phone 805-385-1501 **Fax**
email
Address 1051 South A Street
City Oxnard **State** CA **Zip** 93030

Project Location

County Ventura
City Oxnard
Region
Cross Streets Southeast corner of Doris Ave and North Patterson Rd
Lat / Long 34° 12' 29.2" N / 119° 12' 27.0" W
Parcel No. 183-0-070-090
Township **Range** **Section** **Base**

Proximity to:

Highways Hwy 1, 232
Airports Oxnard
Railways UPRR
Waterways Santa Clara River
Schools mult
Land Use Present: ag/Ventura GP: AG-urban reserve; Oxnard GP: public/semi-public, open space and park

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Fish and Wildlife, Region 5; Department of General Services; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 4; State Water Resources Control Board, Division of Drinking Water; Department of Toxic Substances Control; Other Agency(ies)

Date Received 05/11/2017 **Start of Review** 05/11/2017 **End of Review** 06/09/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

K. Crosby
R. Longman

May 17, 2017

Lisa Cline
Oxnard School District
1055 South A Street
Oxnard, CA 93030

RE: SCH#2017051041 Doris Avenue/Patterson Road Educational Facilities Project, Ventura County

Dear Ms. Cline:

The Native American Heritage Commission has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions, please contact me at my email address: frank.lienert@nahc.ca.gov

Sincerely,

for Frank Lienert
Associate Governmental Program Analyst

cc: State Clearinghouse

cc: K. Crosby
P. Rafael
R. Longman

RECEIVED

MAY 25 2017

BUSINESS & FISCAL SERVICES

Ms. Romero
1710 Zircon Avenue
Oxnard, CA 93030

May 22, 2017

Ms. Lisa Cline, Deputy Superintendent
Business and Facilities Service, Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

Subj: ENVIRONMENTAL IMPACT REPORT NOTICE COMMENT PERIOD, CAMPUS AT DORIS AVE AND N. PATTERSON RD

The Doris/Patterson location is obviously putting additional people near a hazard; the Oxnard Airport. Have we learned nothing since 1997's airplane crash? Thankfully the people aboard the Cessna had a lima bean field to crash land into instead of a school. I would encourage you to seriously consider this point regardless of the preponderance of airplane emergencies.

The Doris/Patterson location is obviously putting people near another hazard; the toxic saturated fields of N. Patterson Road. Have we learned nothing from the El Rio School District and the Oxnard Union High School District?

All the while creating a new hazard; un-mitigatable traffic. Any school, business, or homes placed at this location would have to exit in an easterly or westerly direction first to reach N. Ventura Road or N. Victoria Avenue respectively since the existing airport blocks the south exit. In addition, N. Patterson Rd. extending north is NOT a road intended for moving a large volume of traffic. Just stop by when the Oxnard High School morning or afternoon traffic is flowing. In contrast to your Juan Lagunas Soria Elementary School which does not have a high school comprising over 3,000 students and staff arriving and exiting daily on the same roads. The Cabrillo neighborhood needed a traffic signal installed at Gallatin Place/ W. Gonzales Rd. so residents could exit each morning. Will you be blocking Cabrillo's exit to the south as well? Currently, within a span of 1.7 miles along Gonzales (N. Patterson Rd. to Oxnard Blvd.) there are eight (8) traffic signals. You would be doing the same to Doris Avenue; please don't!

N. Patterson Road (between Teal Club Road and Doris Avenue) is a recurrent dumping ground for mattresses and assorted trash. Will this be the welcome you give your staff and families?

Doris Avenue and N. Patterson Rd is a lousy location to build a school for any one of the reasons above but certainly for all combined. And I agree with Paul Giacobbe, "...what makes north Oxnard unique, and gives our area its character, are the residential developments interspersed with farmland. I hope this is not lost."

Sincerely,

Ms. Romero

cc: K. Crosby R. Longman

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

RECEIVED

MAY 30 2017

BUSINESS & FISCAL SERVICES

Memorandum

Date: May 23, 2017

To: All Reviewing Agencies

From: Scott Morgan, Director

Re: SCH # **2017051041**

Doris Avenue/Patterson Road Educational Facilities Project

On **May 23, 2017,** the State Clearinghouse submitted the above **Notice of Preparation** to your agency with an incorrect address.

The correct address is:

Lisa Cline
Oxnard School District
1051 South A Street
Oxnard, CA 93030

We apologize for this error and request that you note the above information for your files. All other project information remains the same.

cc: Lisa Cline
Oxnard School District
1051 South A Street
Oxnard, CA 93030

Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Ken Alex
Director

Notice of Preparation

May 23, 2017

To: Reviewing Agencies

Re: Doris Avenue/Patterson Road Educational Facilities Project
SCH# 2017051041

Attached for your review and comment is the Notice of Preparation (NOP) for the Doris Avenue/Patterson Road Educational Facilities Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Lisa Cline
Oxnard School District
1051 South A Street
Oxnard, CA 93030

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2017051041
Project Title Doris Avenue/Patterson Road Educational Facilities Project
Lead Agency Oxnard School District

Type NOP Notice of Preparation

Description The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 students' onsite. The project site is located within unincorporated Ventura County and within the city of Oxnard SOI area. The project will include a proposed reorganization which will be comprised of an annexation into the city of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33. The District will process a GPA, PZ and an Annexation through the city.

Lead Agency Contact

Name Lisa Cline
Agency Oxnard School District
Phone 805-385-1501 **Fax**
email
Address 1051 South A Street
City Oxnard **State** CA **Zip** 93030

Project Location

County Ventura
City Oxnard
Region
Cross Streets Southeast corner of Doris Ave and North Patterson Rd
Lat / Long 34° 12' 29.2" N / 119° 12' 27.0" W
Parcel No. 183-0-070-090
Township **Range** **Section** **Base**

Proximity to:

Highways Hwy 1, 232
Airports Oxnard
Railways UPRR
Waterways Santa Clara River
Schools mult
Land Use Present: ag/Ventura GP: AG-urban reserve; Oxnard GP: public/semi-public, open space and park

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Growth Inducing; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Fish and Wildlife, Region 5; Department of General Services; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 4; State Water Resources Control Board, Division of Drinking Water; Department of Toxic Substances Control; Other Agency(ies)

Date Received 05/11/2017 **Start of Review** 05/11/2017 **End of Review** 06/09/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: Ventura

SCH# 2017051041

esources Agency

- **Resources Agency**
  Nadell Gayou
- ☐ **Dept. of Boating & Waterways**
  Denise Peterson
- ☐ **California Coastal Commission**
  Elizabeth A. Fuchs
- ☐ **Colorado River Board**
  Lisa Johansen
- ☐ **Dept. of Conservation**
  Crina Chan
- ☐ **Cal Fire**
  Dan Foster
- ☐ **Central Valley Flood Protection Board**
  James Herota
- ☐ **Office of Historic Preservation**
  Ron Parsons
- **Dept of Parks & Recreation**
  Environmental Stewardship Section
- ☐ **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- ☐ **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- ☐ **Fish & Wildlife Region 1**
  Curt Babcock
- ☐ **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- ☐ **Fish & Wildlife Region 2**
  Jeff Drongesen
- ☐ **Fish & Wildlife Region 3**
  Craig Weightman
- ☐ **Fish & Wildlife Region 4**
  Julie Vance
- ☐ **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- ☐ **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- ☐ **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- ☐ **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- ☐ **California Department of Education**
  Lesley Taylor
- ☐ **OES (Office of Emergency Services)**
  Monique Wilber
- ☐ **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- ☐ **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- ☐ **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- ☐ **Delta Protection Commission**
  Erik Vink
- ☐ **Delta Stewardship Council**
  Kevan Samsam
- ☐ **California Energy Commission**
  Eric Knight
- ☐ **Native American Heritage Comm.**
  Debbie Treadway
- ☐ **Public Utilities Commission**
  Supervisor
- ☐ **Santa Monica Bay Restoration**
  Guangyu Wang
- ☐ **State Lands Commission**
  Jennifer Deleong
- ☐ **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- ☐ **Caltrans - Division of Aeronautics**
  Philip Crimmins
- ☐ **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- ☐ **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- ☐ **Caltrans, District 1**
  Rex Jackman
- ☐ **Caltrans, District 2**
  Marcelino Gonzalez
- ☐ **Caltrans, District 3**
  Eric Federicks – South
  Susan Zanchi - North
- ☐ **Caltrans, District 4**
  Patricia Maurice
- ☐ **Caltrans, District 5**
  Larry Newland
- ☐ **Caltrans, District 6**
  Michael Navarro
- ☐ **Caltrans, District 7**
  Dianna Watson
- ☐ **Caltrans, District 8**
  Mark Roberts
- ☐ **Caltrans, District 9**
  Gayle Rosander
- ☐ **Caltrans, District 10**
  Tom Dumas
- ☐ **Caltrans, District 11**
  Jacob Armstrong
- ☐ **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- ☐ **Airport & Freight**
  Jack Wursten
  - ☐ **Transportation Projects**
    Nesamani Kalandiyur
  - ☐ **Industrial/Energy Projects**
    Mike Tollstrup
- ☐ **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- ☐ **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- ☐ **State Water Resources Control Board**
  Div. Drinking Water #_____
- ☐ **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- ☐ **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- ☐ **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ **RWQCB 3**
  Central Coast Region (3)
- **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- ☐ **RWQCB 5S**
  Central Valley Region (5)
  - ☐ **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- ☐ **RWQCB 6**
  Lahontan Region (6)
  - ☐ **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- ☐ **RWQCB 7**
  Colorado River Basin Region (7)
- ☐ **RWQCB 8**
  Santa Ana Region (8)
- ☐ **RWQCB 9**
  San Diego Region (9)

☐ **Other** _____

_____

_____

☐ _____
Conservancy

Last Updated 4/28/17

cc: K. Crosby
P. Raphael
R. Longman

Paul Giacobbe
1200 Yukonite Place
Oxnard, CA 93030
20 May 2017

Ms. Lisa Cline, Deputy Superintendent
Business and Facilities Service, Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

Subj: ENVIRONMENTAL IMPACT REPORT NOTICE COMMENT PERIOD, CAMPUS AT DORIS AVE AND PATTERSON RD

Encl: (1) LA Times Article of 23 August 1997 – Plane Crash At Field Near Oxnard Airport

The Oxnard School Distract proposes that a campus be built at Doris Ave and Patterson Rd in Oxnard, CA. This location is within a mile of the Oxnard Airport.

In August of 1997 there was a plane crash in this area. A plane sheared off the chimney of a house on Ivanhoe Ave. It then slammed into a cement light pole on Doris Ave ripping off a wing. The wing landed on the street bursting into flames. The plane crashed into the field across the street; the proposed site of the school project. See enclosure (1).

An article appeared in the Ventura County Star on 2 September 2015. Edwards Air Force Base conducted test flights, with F-35 fighter jets, at the Oxnard Airport. Military jets have crashed and destroyed homes in the San Diego area in the resent past.

Doris Ave and Patterson Rd is a potentially dangerous place to build a school.

In addition, what makes north Oxnard unique, and gives our area its character, are the residential developments interspersed with farmland. I hope this is not lost.

Yours truly,

Paul Giacobbe

Paul Giacobbe

2 Men Seriously Hurt When Plane Crashes Into Field

Aviation: A third man receives minor injuries after the single-prop Cessna, on an instructional flight, fails to make an emergency landing at Oxnard Airport.

August 23, 1997|DAWN HOBBS and SCOTT HADLY | SPECIAL TO THE TIMES

OXNARD — Two men suffered lacerations and broken bones when their single-propeller Cessna clipped a house and crashed into a lima bean field Friday afternoon as they attempted an emergency landing at the Oxnard Airport.

A third man suffered minor injuries.

"We were talking in the living room and playing Nintendo, then we heard this big boom and the house shook like a big earthquake," said Julie Plascencia, 14, who was in the two-story beige home. "I was too scared to think about what it was."

The plane, on an instructional flight out of Camarillo Airport, apparently suffered engine failure before it sheared off the top of a chimney and some red roof tiles on the house on Ivanhoe Avenue about 2:30 p.m.

The Cessna 210 then slammed into a cement light pole across the street on Doris Avenue, ripping off a wing and crashing into the bean field just steps away from farm workers. The wing left behind in the street burst into flames and unleashed a black column of smoke.

Shirley Clark was watering plants in her backyard on Nottingham Drive when she spotted the plane gliding suspiciously quiet--just above rooftop level.

"I did not hear a motor but the prop was turning," Clark said.

Then she saw fear on the pilot's face.

"The expression on the man was frightening," she said. "Obviously he had lost power. I give the man credit for trying to get the plane into an open field."

By the time Oxnard firefighters arrived, one of the men was standing next to the wreckage, said Fire Department Battalion Chief Terry McAnally. The man seemed to have escaped serious injury.

Two other men were trapped beneath the plane. One was lying under the wing, and firefighters were able to pull him out. The other was pinned under the left side, paramedics and firefighters said. Both suffered broken ankles and serious lacerations.

All three were taken to St. John's Regional Medical Center.

"Everybody is conscious. Everybody is talking," said Lynn Borman, a paramedic supervisor with Gold Coast Ambulance Company.

Hospital officials identified the men as 34-year-old Michael Macias, a certified flight instructor with Sun-Air Aviation Inc. in Camarillo, and Beat Leu, 33, and Markus Vogel, 41, both of Switzerland. All three were listed in fair condition, a hospital spokeswoman said.

"It was a clear day. It's hard to say what happened," McAnally said. "There was no report of any landing gear down. They hit the roof, the pole and then tore off the wing. They're lucky they got away from it . . . if lucky is the word."

Tad Dougherty, manager of the Oxnard Airport, said the pilot tried at the last minute to avoid the homes.

"He probably saved somebody," Dougherty said. "An experienced pilot will do everything he can to land the plane in a vacant field. He doesn't want to hit the house because he will injure himself as well as anybody in the house."

Residents in the nearby housing tract said that although they live near the Oxnard Airport they had never feared crashes before.

"When we first came to look at the house we questioned the developer here about the planes," said Gail Johnson, who lives across the street from the home clipped by the plane. "We were told we were not in a flight path."

Crash investigators with the Federal Aviation Administration and the National Transportation Safety Board arrived about two hours after the accident to scrutinize the wreckage.

Investigators said it would be at least a day before they could determine a cause for the accident, said Brian Ashton, an FAA official at the scene.

Air traffic controllers at Point Mugu Naval Air Station reported receiving a distress call from the pilot about 2:30. The Cessna had lost power and was at an altitude of about 1,300 feet and falling, said Phyllis Thrower, a Navy spokeswoman.

The plane was bound for Burbank but developed trouble about two miles from the Oxnard Airport, Thrower said.

A representative at Sun-Air declined comment.

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A representative at Sun-Air declined comment.

An instructor at another flight school at the Camarillo Airport said Sun-Air operates a Cessna 210 with the matching tail number.

Hadly is a staff writer and Hobbs is a correspondent. Times staff writer Hilary MacGregor and correspondents Nick Green and David Greenberg contributed to this story.

Kim Hayashi
2510 Lions Gate Drive
Oxnard, CA 93030

May 25, 2017

Ms. Lisa Cline, Deputy Superintendent
Business and Facilities Service
Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

Re: ENVIRONMENTAL IMPACT REPORT NOTICE COMMENT PERIOD, FOR CAMPUS AT DORIS AVENUE AND PATTERSON ROAD

The proposal for a new campus at Doris Avenue and Patterson Road is an unsafe idea; this location is within a mile of the Oxnard Airport.

In the late 1990's, I remember a plane HIT and broke off the chimney of a house on Ivanhoe Avenue, slammed into a light pole on Doris Avenue – breaking off a wing that landed on the street, and the plane then crashed into the field where the proposed school site is.

Doris Avenue/Patterson Road/Ventura Road is a potentially too dangerous place to build a school.

Not to mention the increased traffic on Doris Avenue. It's already a speedway at rush hour now, as is Ventura Road. An elementary school built on a busy street is an accident waiting to happen: drivers speeding to work, stressed-out parents driving their kids to school, and kids that behave unpredictably don't mix well.

Lastly, the farmland is a part of what makes this area great. It should not be lost to more development. Keep our Open Space!

Thank you,

Kim Hayashi

RESOURCE MANAGEMENT AGENCY

county of ventura

Planning Division
Kimberly L. Prillhart
Director

May 30, 2017

Oxnard School District
Attn.: Ms. Lisa Cline
Deputy Superintendent, Business and Fiscal Services
1051 South "A" Street
Oxnard, CA 93030

E-mail: lcline@oxnardsd.org

Subject: Comments on the Notice of Preparation of an Environmental Impact Report for the Doris Patterson Educational Facilities Project

Dear Ms. Cline

Thank you for the opportunity to review and comment on the subject document. Attached are the comments that we have received resulting from intra-county review of the subject document. Additional comments may have been sent directly to you by other County agencies.

Your proposed responses to these comments should be sent directly to the commenter, with a copy to Clay Downing, Ventura County Planning Division, L#1740, 800 S. Victoria Avenue, Ventura, CA 93009.

If you have any questions regarding any of the comments, please contact the appropriate respondent. Overall questions may be directed to Clay Downing at (805) 650-4047.

Sincerely,

Denice Thomas, Manager
Planning Programs Section

Attachments

County RMA Reference Number 17-014

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS – M.S. #40
1120 N Street
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
PHONE (916) 654-4959
FAX (916) 653-9531
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

May 30, 2017

Ms. Lisa Cline
Oxnard School District
1051 South A Street
Oxnard, CA 93030

Dear Ms. Cline:

Re: Notice of Preparation for the Doris/Patterson Educational Facilities Project; SCH# 2017051041

The California Department of Transportation, Division of Aeronautics (Division), reviewed the above-referenced document with respect to airport-related noise and safety impacts and regional aviation land use planning issues pursuant to the California Environmental Quality Act (CEQA). The Division has technical expertise in the areas of airport operations safety, noise, and airport land use compatibility. We are a funding agency for airport projects and we have permit authority for public-use and special-use airports and heliports. The following comments are offered for your consideration.

The proposed project is the Doris Avenue/Patterson Road Educational Facilities Project. The project includes construction and operation of a new elementary and middle school, plus the Oxnard School District (District) administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road. The project site is located approximately 1,900 feet north of the Runway 7/25 centerline at the Oxnard Airport.

In accordance with CEQA, Public Resources Code Section 21096, the California Airport Land Use Planning Handbook (Handbook) must be utilized as a resource in the preparation of environmental documents for projects within airport land use compatibility plan boundaries or if such a plan has not been adopted, within two miles of an airport. The Handbook is a resource that should be applied to all public use airports and is available on-line at http://dot.ca.gov/hq/planning/aeronaut/documents/alucp/AirportLandUsePlanningHandbook.pdf

Protecting people and property on the ground from the potential consequences of near-airport aircraft accidents is a fundamental land use compatibility-planning objective. While the chance of an aircraft injuring someone on the ground is historically quite low, an aircraft accident is a high consequence event. To protect people and property on the ground from the risks of near-airport aircraft accidents, some form of restrictions on land use is essential. The two principal methods for reducing the risk of injury and property damage on the ground are to limit the number of persons in an area and to limit the area covered by occupied structures. The potential severity of an off-airport aircraft accident is highly dependent upon the nature of the land use at the accident site. The Handbook identifies six airport safety zones based on risk levels. The

project site is within Safety Zone 6 for Oxnard Airport as defined in the Handbook. The airport land use compatibility criteria in the Handbook regarding the siting of schools in Safety Zone 6 must be thoroughly addressed through the environmental process and in the Draft Environmental Impact Report (DEIR).

Due to its proximity to the airport, the project site will also be subject to aircraft overflights and subsequent aircraft-related noise impacts. Schools are a noise sensitive land use so aircraft-related noise must be considered and analyzed in the DEIR. All classrooms should be constructed to ensure an interior Community Noise Equivalent Level due to aircraft noise of 45 dB or less. Additionally, the District should grant to the airport proprietor an avigation easement for aircraft noise. The construction methods and the easement, however, will not change exterior aircraft noise levels. It is likely that some students and teachers will be annoyed by aircraft noise in this area. Aircraft noise levels could represent a significant adverse impact on the project.

Education Code Section 17215 requires a school site investigation by the Division prior to acquisition of land for a proposed school site located within two miles of an airport runway. The Division submits recommendations to the State Department of Education for use in determining acceptability of the site. The Division's school site evaluation criteria are available on-line at http://www.dot.ca.gov/hq/planning/aeronaut/regulations.html.

California Public Utilities Code (PUC) 21670(f) specifically states that school districts are included among the local agencies that are subject to airport land use laws and other requirements of the PUC.

In accordance with PUC Section 21676 *et seq.*, prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission (ALUC), the local agency shall first refer the proposed action to the ALUC.

If the ALUC determines that the proposed action is inconsistent with the airport land use compatibility plan, the referring agency shall be notified. The local agency may, after a public hearing, propose to overrule the ALUC by a two-thirds vote of its governing body after it makes specific findings. At least 45 days prior to the decision to overrule the ALUC, the local agency's governing body shall provide to the ALUC and the Division a copy of the proposed decision and findings. The Division reviews and comments on the specific findings a local government intends to use when proposing to overrule an ALUC. The Division specifically looks at the proposed findings to gauge their relationship to the overrule. Also, pursuant to the PUC 21670 *et seq.*, findings should show evidence that the local agency is minimizing "...the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses."

In addition to submitting the proposal to the ALUC, it should also be coordinated with Oxnard Airport staff to ensure that the proposal will be compatible with future as well as existing airport operations.

Section 21659 of the PUC prohibits structural hazards near airports. In accordance with Federal Aviation Regulation, Part 77 "Objects Affecting Navigable Airspace" a Notice of Proposed Construction or Alteration (Form 7460-1) may be required by the Federal Aviation Administration (FAA). Form 7460-1 is available on-line at https://oeaaa.faa.gov/oeaaa/external/portal.jsp and should be submitted electronically to the FAA.

These comments reflect the areas of concern to the Division with respect to airport-related noise, safety, and regional land use planning issues. We advise you to contact our District 5 office concerning surface transportation issues.

Thank you for the opportunity to review and comment on this proposal. If you have any questions, please contact me at (916) 654-6223, or by email at philip.crimmins@dot.ca.gov.

Sincerely,

PHILIP CRIMMINS
Aviation Environmental Specialist

c: State Clearinghouse, Ventura County ALUC, County of Ventura Airports

County of Ventura
PUBLIC WORKS AGENCY
TRANSPORTATION DEPARTMENT
Traffic, Advance Planning & Permits Division
MEMORANDUM

DATE: 5/30/2017

TO: RMA Planning Division
Attention: Clay Downing

FROM: Anitha Balan, Engineering Manager II

SUBJECT: **REVIEW OF DOCUMENT 17-014** NOP and IS
Project: **Doris Patterson Educational Facilities Project**
Lead Agency: **Oxnard School District**
Oxnard School District proposes to construct and operate a new elementary, middle school and District administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road.

Pursuant to your request, the Public Works Agency - Transportation Department has reviewed the NOP and IS for the Doris Patterson Educational Facilities Project.

Oxnard School District (OSD) proposes to construct and operate a new elementary, middle school and District administrative center on a 25-acre site at the southeast corner of Doris Avenue and North Patterson Road. The project site is located within unincorporated Ventura County and within the City of Oxnard Sphere of Influence area. The project will also comprise of an annexation into the City of Oxnard.

The proposed project includes 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite.

We offer the following comment(s):

1. Please send us the DEIR when it becomes available for our review and comment.

2. The construction activities of the proposed project as a whole may have the potential to create a significant cumulative adverse impact on the County Regional Road Network (RRN). Ventura County General Plan Goals, Policies, and Programs Section 4.2.2-6 and Ventura County Ordinance Code, Division 8, Chapter 6 require all new development to pay a Traffic Impact Mitigation Fee (TIMF) to mitigate the

cumulative adverse impacts of traffic on Patterson Road and Doris Avenue. By paying a TIMF, the cumulative traffic impacts can be mitigated to Less Than Significant levels. The TIMF will be based on the amount of traffic generated from the project.

3. Any damage to road structures caused by trucks and construction related trips should be replaced and/or repaired in accordance with County Road Standards.

Our review is limited to the impacts this project may have on the County's Regional Road Network.

COUNTY OF VENTURA
OXR CMA
DEPARTMENT OF AIRPORTS

555 AIRPORT WAY, SUITE B
CAMARILLO, CA 93010
PHONE: (805) 388-4274
FAX: (805) 388-4366
WWW.VENTURA.ORG/AIRPORTS
WWW.IFLYOXNARD.COM

May 31, 2017

Ms. Lisa Cline
Deputy Superintendent, Business & Fiscal Services
Oxnard School District
1051 South "A" Street
Oxnard, CA 93030

RE: Comments on Oxnard School District's Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Doris Patterson Educational Facilities Project

Dear Ms. Cline:

Thank you for the opportunity to review and comment on the Oxnard School District's Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Doris Patterson Educational Facilities Project. The Ventura County Department of Airports offers the following comments for consideration:

Section 1.1 Project Location

In paragraph three of this section, the NOP states the Oxnard Airport has approximately 107 based aircraft and approximately 54,500 operations a year. The correct numbers are as follows: As of December 31, 2016, there were 169 based aircraft and the airport experienced 74,157 operations for calendar year 2016.

Please make this correction throughout the document.

Section 1.3 Other Public Agencies Whose Approval is Required

The "Ventura County Airport Commission" is named incorrectly. The proper name is the Ventura County Airport Land Use Commission (VCALUC). The correction is necessary as the Ventura County Aviation Advisory Commission exists as well as the Oxnard and Camarillo Airport Authorities. The VCALUC is the responsible CEQA agency, but it is anticipated that comments will be provided by the above-referenced entities as well.

Section 2.4.8 e. Hazards and Hazardous Materials

The NOP states the Oxnard Airport has approximately 107 based aircraft and approximately 54,500 operations a year. The correct numbers are as follows: As of

December 31, 2016, there were 169 based aircraft and the airport experienced 74,157 operations for calendar year 2016.

Please make this correction throughout the document.

Section 2.4.6 c. Transportation/Traffic

The NOP states the establishment of educational facilities on the project site is not anticipated to affect air traffic levels at the Oxnard Airport, or change the location of flight paths. Therefore, no impact would result.

It should be noted that this location lies under the Traffic Pattern Zone (TPZ) for the Oxnard Airport. The project site will experience substantial overflight of fixed wing and helicopter aircraft arriving and departing the Oxnard Airport.

Section 2.4.12 e. Noise

The NOP states the Oxnard Airport has approximately 107 based aircraft and approximately 54,500 operations a year. The correct numbers are as follows: As of December 31, 2016, there were 169 based aircraft and the airport experienced 74,157 operations for calendar year 2016.

Please make this correction throughout the document.

Again, the Ventura County Department of Airports appreciates the opportunity to review and comment on the Oxnard School District's NOP of an EIR for the Doris Patterson Educational Facilities Project.

Please feel free to contact me at 805-388-4200 with any questions.

Sincerely,

TODD L. McNAMEE, AAE
Director of Airports

C: Andrea Ozdy, LAFCO
Steve DeGeorge, VCTC
Aviation Advisory Commission
Oxnard Airport Authority

B POTENTIAL NEW SCHOOL SITES ANALYSIS

Oxnard School District
Facilities Implementation Program

Potential New School Sites

Southeast Sites
(not selected)

1. Rose Avenue between Emerson and Wooley
2. Laurel Street between C street and Saviers Road
3. West of Rose Avenue between Oxnard Blvd. and James Way
4. North of Channel Island Blvd. at Rose Avenue and PCH
5. Wooley Road between Pacific Avenue and Mercantile Street

	Driffill Elementary	McKinna Elementary	Kamala K-8	Elm Elementary	Harrington Elementary	Lemonwood K-8	New Southeast School Site	TOTAL STUDENTS	
2013-14 Enrollment	987	685	1032	798	660	901	0	5063	
2014-15 Enrollment	1225	699	1305	764	575	1004	0	5572	
Permanent Capacity	1240	504	1210	356	504	484	0	4298	1274
Future Permanent Capacity	1240	504	1210	708	800	1100	800	6362	12
2023 -24 Proposed Enrollment	1150	500	1150	700	700	1150	700	6050	

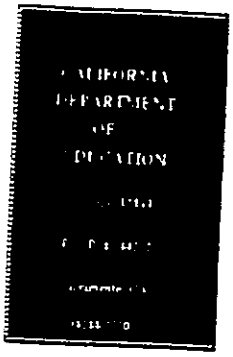
* Current enrollment exceed permanent capacity by 1274 children
* Proposed enrollment in 2023 would accommodate all children in permanent facilities and leave an addition 10-12 classrooms for growth
* All figures are based on existing local loading standards

SE School Sites					
Site Name	**Site Location & Size**	**Region**	**Grade Level**	**CFW Ranking**	**CDE Status & Comments**
Southeast	(14 acres) East of El Dorado Ave. between the extension of Dickenson & Gershwin	SE	Elem	1	**District requested CDE approval letter in 1998. In 2000, LAFCO denied annexation request by City of Oxnard.** Accepted by CDE; Best choice of SE sites reviewed in '97; No known geohazards, plugged and abandoned dry well possible on or near east side of site.
Emerson Ave.	North of Emerson Ave between extension of Alexander and Dupont	SE	Elem	2	Possibly acceptable as alternate; Possible plugged and abandoned oil producing well on site
SE Quadrant - Site 19	(53 acres) Rose Ave. between Emerson & Wooley	SE	Elem	3	Approvable if all environmental hazards to adequately addressed and mitigated. Site is adjacent to Emerson Ave. site above. School must be set back from Rose Ave due to heavy traffic. Good location for neighborhood school. PEA likely to be required due to ag-use and historical oil field area. Ag buffers may make site infeasible. Traffic study required and safe routes plan due to proximity to Rose Ave.
SE Quadrant - Site 14	(10 acres) Laurel St. between C St. and Saviers Rd.	SE	Elem	4	Approvable if all environmental hazards to adequately addressed and mitigated. Good location for neighborhood school. Existing structures from private high school, may not comply w/ Field Act. Proximity to Saviers Rd. will require traffic study and safe routes plan.
SE Quadrant - Site 15	(11 acres) Channel Is. Blvd. between Ventura Rd & Manzanita Dr.	SE	Elem	5	Approvable if all environmental hazards to adequately addressed and mitigated. Safe routes & bussing will be required due to high traffic corridors adjacent. Powerline and pipeline studies will be required. Existing fuel station on site may require environmental remediation.
Oxnard Blvd. - SE quadrant Site #10	(12 acres) West of Rose Ave. between Oxnards Blvd and James Way	SE	Elem	N/A	**Rejected;** inappropriate shape (too narrow), high traffic area, backs up to freeway; Plugged and abandoned oil producing well on site.
Channel Islands Blvd. - SE Quadrant Site #9	North of Channel Is. Blvd at Rose Ave and PCH;	SE	Elem	N/A	**Rejected;** high traffic area on three surrounding streets; Plugged and abandoned producing oil well on site
SE Quadrant - Site 16 (former drive-in theater)	(11.6 acres) Wooley Rd between PCH & Industrial Ave.	SE	Elem	N/A	**Rejected;** Site is in heavily industrial area of Oxnard, surrounded by all the industrial hazards school should avoid. Site received lowest ranking of all sites studied.
SE Quadrant - Site 8	(25 acres) Wooley Rd. between Pacific Ave and Mercantile St.	SE	Inter	N/A	**Rejected.** Site is poorly located near too many environmental hazards.
NE School Sites					
Site Name	**Site Location & Size**	**Region**	**Grade Level**	**CFW Ranking**	**CDE Status & Comments**
NE Quadrant - Site 6	(7.5 acres) Camino del Sol & Rose Ave	NE	Elem	1	**Approvable,** small site, may require joint-use. Good prospect for neighborhood school paired w/ Rose Ave. elem one block away.
NE Quadrant - Site 11	(9 acres) Oxnard Blvd @ Glenwood Dr.	NE	Elem	2	**Site is approvable technically,** but is not ideal due to several envionrmental hazards. Located on busy state hwy, RR tracks adjacent, within airport turning zone, likely contamination from auto dealer prior use. Good site for neighborhood school.
NE Quadrant - Site 12	(11 acres) Oxnard Blvd at Robert Ave	NE	Elem	N/A	**APPEARS THAT MAJORITY OF PROSPECTIVE SITE HAS BEEN DEVELOPED AS RESIDENTIAL SINCE CDE REVIEW.** Site is approvable technically, but is not ideal due to several envionrmental hazards. Located on busy state hwy, RR tracks adjacent, within airport turning zone, likely contamination from auto dealer prior use.

Site Name	Site Location & Size	Region	Grade Level	CFW Ranking	CDE Status & Comments
NE Quadrant - Site 5	(45 acres) Oxnard Blvd between Camino del Sol & Morado Pl, west of Frank	NE	Elem	**N/A**	**IT APPEARS THIS SITE HAS BEEN DEVELOPED FOR RESIDENTIAL IN THE TIME SINCE CDE REVIEW.** Approvable, good CDE ranking (2 of 5), would have to be set back from PCH and RR tracks.
NE Quadrant - Site 22 (Fremont School)	East section of Fremont playfields	NE	Elem	**N/A**	**Not recommended** as it would inhibit future growth at Fremont.
St. John's - NE Quadrant Site 13	Corner of Doris Ave and F St.	NE	Elem	**N/A**	**Rejected;** too small, too narrow, too close to Oxnard airport; Requires extensive demolition of existing former hospital structure and abatement of asbestos and lead-based paint, possible water well on-site
NE Quadrant - Site 7	(13 acres) Rose Ave between 3rd and 5th	NE	Elem	**N/A**	**Rejected;** Too many environmental hazards to be feasibly mitigated. 5 sets of RR tracks run south of site. Area is prone to flooding w/ high water table.
SW School Sites					
Site Name	**Site Location & Size**	**Region**	**Grade Level**	**CFW Ranking**	**CDE Status & Comments**
Southwest "Seabridge"	(6 acres) Near SW corner of Wooley Rd/Victoria Ave.	SW	Elem	**1**	**District has acquired this site for a new K-5 elementary,** and is near obtaining CDE approval
SW Quadrant - Site 18	(10 acres) Hemlock St between Victoria and Fisher Dr.	SW	Elem	**2**	**Potentially approvable but not ideal.** Likely to required condemnation, relocation of housing/biz tenants. High liklihood of signification env. Remediation due to fuel station on site.
SW Quadrant - Site 4	(130 acres) Victoria Ave between Hemlock & Wooley	SW	Elem	**N/A**	**NOT AVAILABLE.** This area has been fully developed as the Seabridge residential community.
NW School Sites					
Site Name	**Site Location & Size**	**Region**	**Grade Level**	**CFW Ranking**	**CDE Status & Comments**
Doris/Patterson Site	Corner of Doris/Patterson	NW	Inter.	**1**	No CDE review documentation provided at this time.
NW Quadrant - Site 28	(76 acres) Gonzales Rd. south of Oxnard HS, along Patterson Rd	NW	Elem	**2**	**Approvable site,** near Marshall Elem. No add'l comments sheet avail. from District.
West	Near NE corner of Doris and Victoria Ave.	NW	Inter.	**3**	**Acceptable;** Geohazards not known, possible water wells on site
Northwest - Site 3	(27 acres) Near northwest corner of Patterson and Gonzalez	NW	Elem/ Inter.	**4**	**LARGE PORTION OF SITE APPEARS TO HAVE BEEN DEVELOPED AS SOLAR SITE SINCE REVIEW. ONLY 10+ ACRES MAY STILL BE AVAIL.** Accepted; best choice of site in this area reviewed in '97; Geohazards not known, possible water wells on or near NE corner of site; Air quality test recommended due to proximity to landfill.
NW Quadrant - Site 2	(19 acres) Vineyard Ave @ Ventura Rd	NW	Elem	**5**	**Approvable,** good site, but poorly located. Near former city dump site, bounded by two high traffic corridors, Northern exent of District, with Marshall & Sierra Linda serving same population. PEA is a near certainty.

DELAINE EASTIN
State Superintendent of Public Instruction

RECEIVED
SEP 18 1997
BUSINESS OFFICE



September 11, 1997

Department of General Services
Office of Public School Construction
501 J Street, Suite 350
Sacramento, CA 95814

RE: FIVE-YEAR FACILITY PLAN
Received: September 5, 1997
OXNARD ELEMENTARY SCHOOL DISTRICT
Ventura County

Project Number(s):

Project Number(s) Pending:

School Name	Type of Project
Northwest Elementary	New Construction
Southeast Elementary	"
Southwest Elementary	"
Northwest Intermediate	"

Approval has been given by the California Department of Education to the Five-Year Facility Plan for the above referenced project(s). Please be advised that a new or revised Five-Year Facility Plan is required for each new amended application filed with the SAB which is not addressed in a current Five-Year Facility Plan.

NOTE: **District elementary schools capacity should reflect 20 to 1 loading for up to four grade levels (K-3) if the district is planning to implement Class Size Reduction over the next five years. There will be a significant increase in unhoused ADA that the district should account for in its housing plan.**

Sincerely,

Henry Heydt, Ed.D., Assistant Director
School Facilities Planning Division
(916) 322-1461

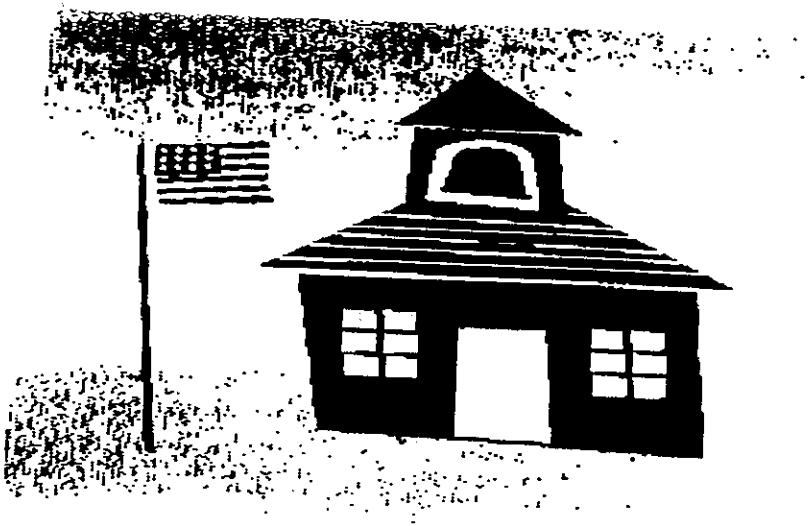
Stan Rose

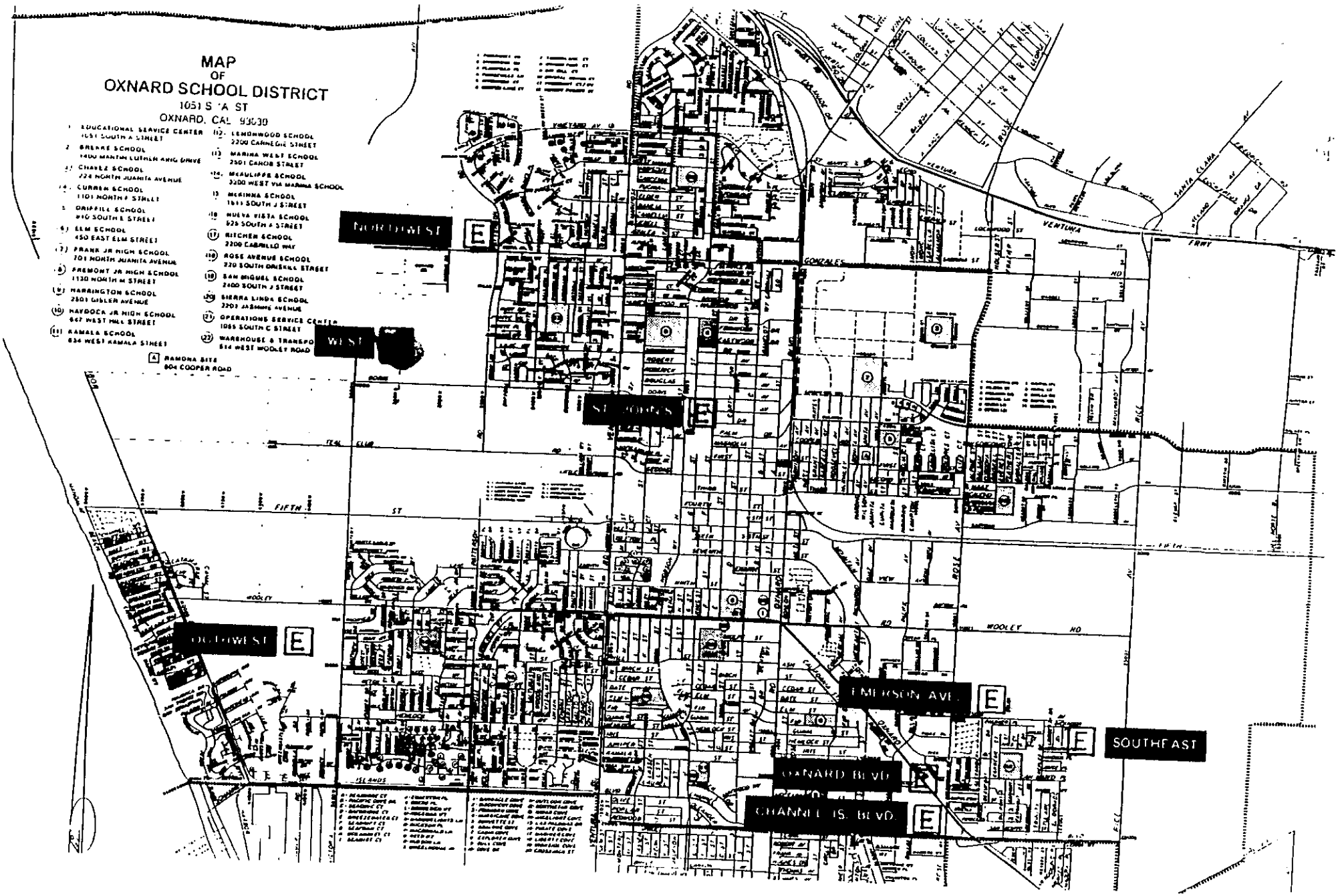
Stan Rose, Consultant
School Facilities Planning Division
(916) 322-1463

SR:dk

RECEIVED JAN 22 2014 CFW

PROPOSED NEW SCHOOL SITES
CALIFORNIA DEPARTMENT OF EDUCATION
SITE REVIEW AND EVALUATION
September 23, 1997



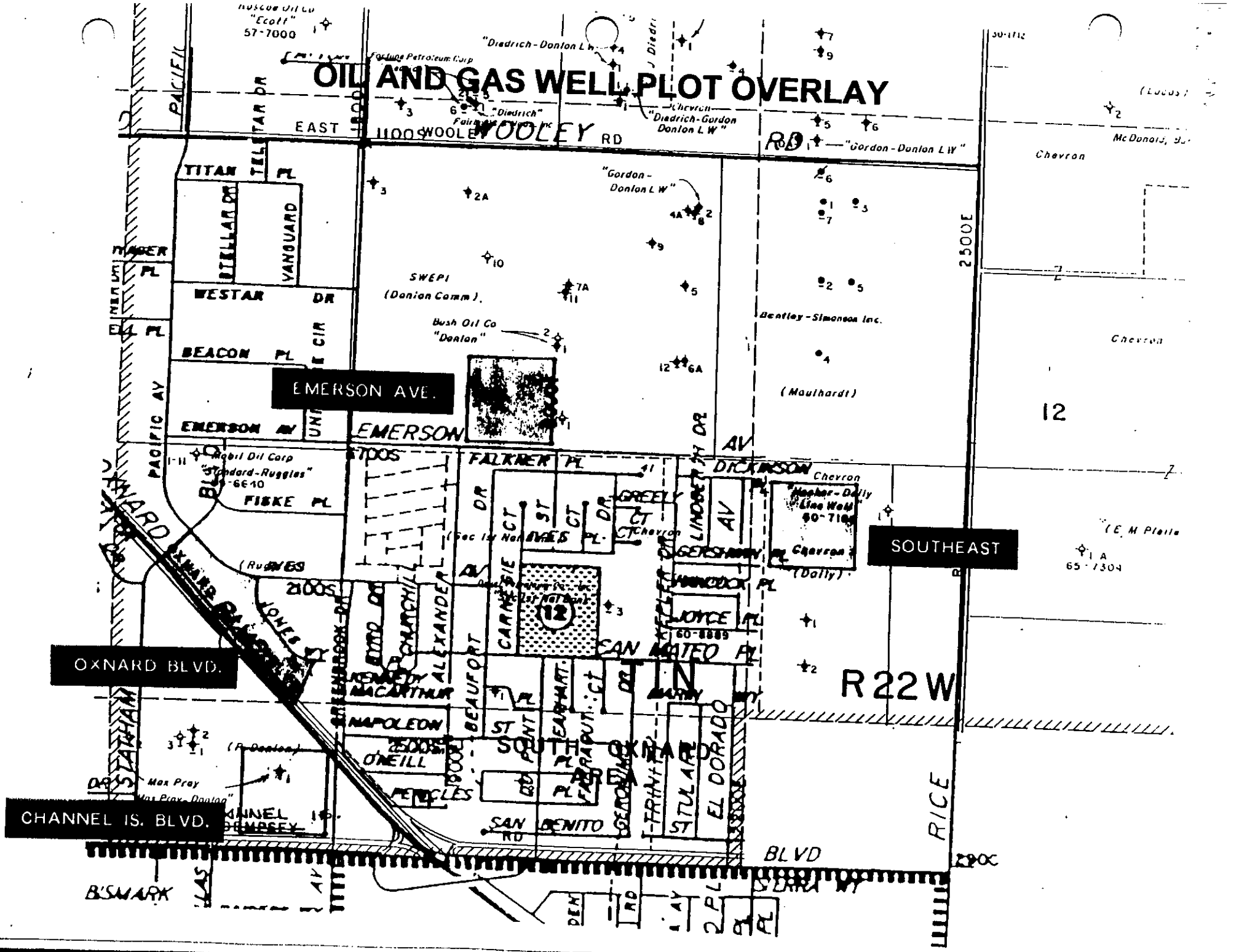

MAP
OF
OXNARD SCHOOL DISTRICT
1051 S 'A ST
OXNARD, CAL 93030
1 EDUCATIONAL SERVICE CENTER
1051 SOUTH A STREET
2 BRAKKE SCHOOL
1400 MARTIN LUTHER KING DRIVE
3 CHAVEZ SCHOOL
224 NORTH JUANITA AVENUE
4 CURREN SCHOOL
1101 NORTH F STREET
5 DRIFFILL SCHOOL
810 SOUTH E STREET
6 ELM SCHOOL
450 EAST ELM STREET
7 FRANK JR HIGH SCHOOL
701 NORTH JUANITA AVENUE
8 FREMONT JR HIGH SCHOOL
1130 NORTH H STREET
9 HARRINGTON SCHOOL
2501 GISLER AVENUE
10 HAYDOCK JR HIGH SCHOOL
667 WEST HILL STREET
11 KAMALA SCHOOL
834 WEST KAMALA STREET
A RAMONA SITE
804 COOPER ROAD
12 LEMONWOOD SCHOOL
2200 CARNEGIE STREET
13 MARINA WEST SCHOOL
2501 CANOE STREET
14 MCAULIFFE SCHOOL
3200 WEST VIA MARINA SCHOOL
15 MCKINNA SCHOOL
1611 SOUTH J STREET
16 NUEVA VISTA SCHOOL
525 SOUTH A STREET
17 RITCHEN SCHOOL
2200 CABRILLO WAY
18 ROSE AVENUE SCHOOL
220 SOUTH DRISKILL STREET
19 SAN MIGUEL SCHOOL
2400 SOUTH J STREET
20 SIERRA LINDA SCHOOL
2201 JASMINE AVENUE
21 OPERATIONS SERVICE CENTER
1085 SOUTH C STREET
22 WAREHOUSE & TRANSPO
814 WEST WOOLEY ROAD
NORTHWEST
E
WEST
ST. JOHNS
SOUTHWEST
E
EMERSON AVE.
E
SOUTHEAST
OXNARD BLVD.
CHANNEL IS. BLVD.
E
VENTURA
FWY
GONZALES
FIFTH
ST
WOOLEY
RD
ISLANDS

PROPOSED NEW SCHOOL SITES
CALIFORNIA DEPARTMENT OF EDUCATION
SITE REVIEW AND EVALUATION
September 23, 1997

SITE	STREET BOUNDS	CORLEY REPORT	GRADE LEVEL	STATUS	GEOHAZARDS	FLYOVER
Southeast	East of El Dorado Avenue between the extension of Dickenson and Gershwin.	SE-3	Elem.	Accepted; best choice in this area of the city.	None known; plugged and abandoned non-producing dry well possibly on or near east side of school site.	No.
Emerson Avenue	North of Emerson Avenue between extension of Alexander and Dupont.	N/A	Elem.	Possibly acceptable as an alternate site.	Possible plugged and abandoned producing oil well on site.	No.
Oxnard Blvd.	West of Rose Avenue between Oxnard Blvd. and James Way.	SE-2	Elem.	Rejected; inappropriate shape (too narrow), high traffic area, backs up to freeway.	Plugged and abandoned producing oil well on site.	No.
Channel Islands Blvd.	North of Channel Is. Blvd. at Rose Ave. and PCH.	SE-1	Elem.	Rejected; high traffic area on three surrounding streets.	Plugged and abandoned producing oil well on site.	No.
Northwest	Near northwest corner of Patterson and Gonzales.	NW-1	Elem.	Accepted; best choice in this area of the city.	None known; possible water wells on or near NE corner of proposed school site. Air quality test recommended due to proximity of closed land fill.	Maybe.
St. John's	Corner of Doris Avenue and 'F' Street.	NW-4	Elem.	Rejected; too small, too narrow, too close to Oxnard airport.	Requires extensive demolition of existing former hospital structure and abatement of asbestos and lead-based paint; possible water well on site.	Yes.
Southwest	Near southwest corner of Wooley Road and Victoria Avenue.	NW-5	Elem.	Acceptable.	None known; water wells near northwest corner of school site.	Yes.
West	Near northeast corner of Doris and Victoria Avenue.	N/A	Inter.	Acceptable.	None known; possible water wells on school site.	Yes.

SITE REVIEW AND EVALUATION
GLOSSARY OF TERMS

SITE	The geographical identifier used by the California Department of Education (CDE) for potential school site location review.
STREET BOUNDS	Generally, the major streets adjacent to the site.
CORLEY REPORT	The Site Summary and Evaluation of September 17, 1997, prepared by Rob Corley. The alpha-numeric characters in this column correspond to the sites listed on page 3 of the report.
GRADE LEVEL	The grade level to be served by the facility, i.e., elem. = K-6; inter. = 7-8.
STATUS	Conclusion reached by CDE regarding the appropriateness of each location for use as a school site.
GEOHAZARDS	Known or suspected soil conditions to date.
FLYOVER	CDE requires the California Department of Transportation, Division of Aeronautics, to evaluate a potential school site for suitability by physically flying over the site if such site is within two miles of an airport runway or heliport pad.


OIL AND GAS WELL PLOT OVERLAY
EMERSON AVE.
SOUTHEAST
OXNARD BLVD.
CHANNEL IS. BLVD.
WOOLEY RD
EAST
EMERSON
OXNARD BLVD
SAN MATEO PL
SOUTH OXNARD AREA
R22W
T1N
12
RICE BLVD
SAN BENITO RD
NAPOLEON ST
O'NEILL
MACARTHUR
BEAUFORT
ALEXANDER
CARNEGIE
CHURCHILL
FALKNER PL
DICKENSON
FISKE PL
BEACON PL
WESTAR DR
TITAN PL
VANGUARD
PACIFIC AV
SWEPI
(Donlon Comm).
Bush Oil Co
"Donlon"
Bentley-Simonson Inc.
(Maulhardt)
Chevron
"Diedrich-Donlon L W"
"Gordon-Donlon L W"
"Diedrich-Gordon Donlon L W"
Mobil Oil Corp
"Standard-Ruggles"
Max Pray
"Max Pray-Donlon"
B'SWARK
2500E
2100S

STATE OF CALIFORNIA

DEPARTMENT OF CONSERVATION

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

SCALE IN FEET

1000 0 1000 2000 3000

JANUARY 11, 1997

LEGEND

- DRILLING
- DRILLING - IDLE
- 67-2613 PLUGGED AND ABANDONED - DRY HOLE (Showing year drilled & total depth)
- COMPLETED - OIL
- IDLE - OIL
- PLUGGED AND ABANDONED - OIL
- COMPLETED - GAS
- IDLE - GAS
- PLUGGED AND ABANDONED - GAS
- COMPLETED - WATER INJECTION
- COMPLETED - WATER DISPOSAL
- FIELD BOUNDARY
- PROJECTED SECTION
- COMPLETED - STEAMFLOOD
- OBSERVATION
- BURIED IDLE

NOTE:

WELLS WITH DIRECTIONAL SURVEYS ON FILE WITH THE DIVISION OF OIL AND GAS ARE INDICATED WITH A SHORT LINE UNDER THE WELL SYMBOL

CURRENT WELL STATUS SHOULD BE CONFIRMED AT THE APPROPRIATE DIVISION OF OIL AND GAS DISTRICT OFFICE.

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
801 K STREET, MS 20, SACRAMENTO, CALIFORNIA 95814

DELAINE EASTIN
State Superintendent of Public Instruction

CALIFORNIA
DEPARTMENT
OF
EDUCATION

May 13, 1998

Dr. Ron Weinert, Director Facilities
Oxnard School District
1055 South C Street
Oxnard, CA 93030-7492

Dear Dr. Weinert:

Enclosed is the preliminary approval of the South East site that was reviewed on March 11, 1996.

When the various requirements set forth in SFPD 4.01 – School Site Approval Procedures are received by this office in acceptable order, final approval of the site can be issued by the Department of Education.

If you have questions or require information, please call my office.

Sincerely,

Stan Rose

Stan Rose, Consultant
School Facilities Planning Division
(916) 322-1463

SR:jlp

SCHOOL FACILITIES PLANNING DIVISION | CALIFORNIA DEPARTMENT OF EDUCATION

SCHOOL FACILITIES PLANNING DIVISION FIELD SITE REVIEW

SFPD 4.0

Application no. 22/

Site identification: South East Elementary

Date: 9/9/97

CDE consultant: Stan Rose

District: Oxnard Elementary

County: Ventura

Grade level: K-6

Size of site: 12 AC

CDE recommended size 12.4AC

Max. enroll: 900

Gross acres: 12 AC

Net useable acres: 11 AC

Site location (Major cross streets): Emerson Place

Est. land value per acre: $60,000

Hazards: Seismic X Traffic ____ Toxic ____ Flood ____
Gas Trans. lines ____ Electric Trans. lines ____
Railroad Other: ____

Utilities: Give distance to nearest line of suitable capacity.
Gas ____ Water ____ Sewer ____ Electricity ____ Storm Drain ____
Special needs: Well ____ Septic ____ Other ____

Topography of site: Level ____ Rolling ____ Sloping ____
Steep ____ Other ____
All Utilities at Site

Site Development: comment on any of the following which presents a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks No Concerns

Are there existing structures on the site which need to be removed or demolished? Yes ___ No X Comment: ____

Is condemnation required? Yes ___ No X Unknown ___
Comment: ____

Street improvements: y=yes n=no p=proposed
Sidewalk P Curb & gutter P Street paving P Street lighting ___ Fire hydrant ___ Comments (1 or more sides, etc.)

Funding: State ___ Local X Developer ___ Other ___

Within two miles of airport runway? Yes ___ No X
Heliport? Yes X No ___

Ranking by CDE: (1) 2 3 4 5
High Low

Is the site approvable upon satisfactory completion of SFPD: 4.01, 4.02 & 4.03? Yes X No ___ If no, comment ____

Draw or attach a site diagram on the back of this form

*Please Note: This site review DOES NOT constitute a final site approval. District shall complete and submit SFPD forms 4.01, 4.02 and 4.03.

OXNARD SCHOOL DISTRICT

1051 SOUTH "A" STREET • OXNARD, CALIFORNIA 93030 • 805 / 487-3918

February 20, 1998

California Department of Education
School Facilities Planning Division
Post Office Box 944272
Sacramento, California 94244-2720

Attn: Stan Rose
Consultant, School Facilities Planning

Subj: Request for Preliminary Site Approval
Southeast Elementary School Site

Dear Mr. Rose:

Oxnard School District hereby requests preliminary site approval for construction of Juan Soria Elementary School; enclosed are the following documents:

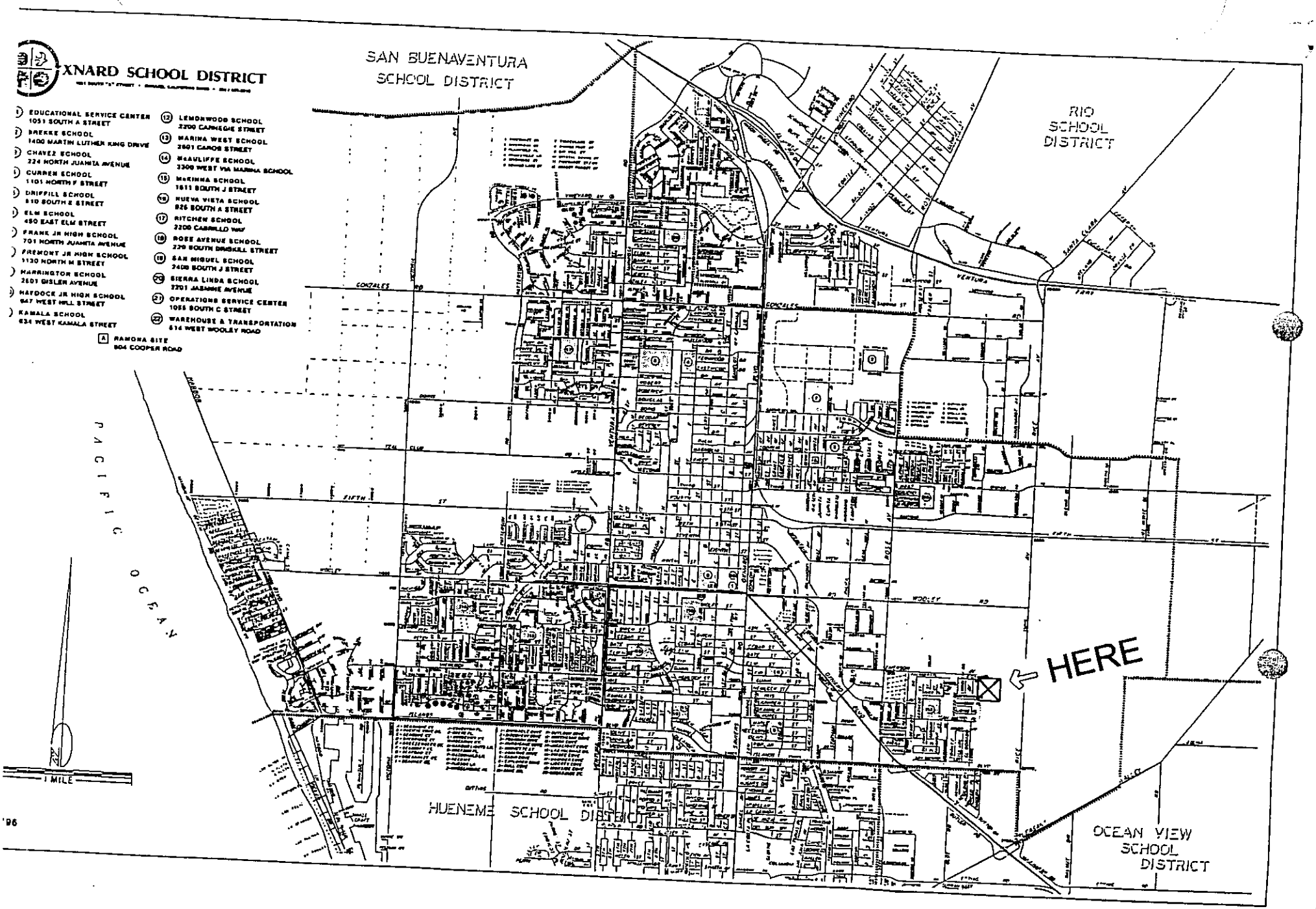
District map showing site of proposed new school
Site survey showing dimensions and gross/net acreage
Six copies of the legal description of the proposed site

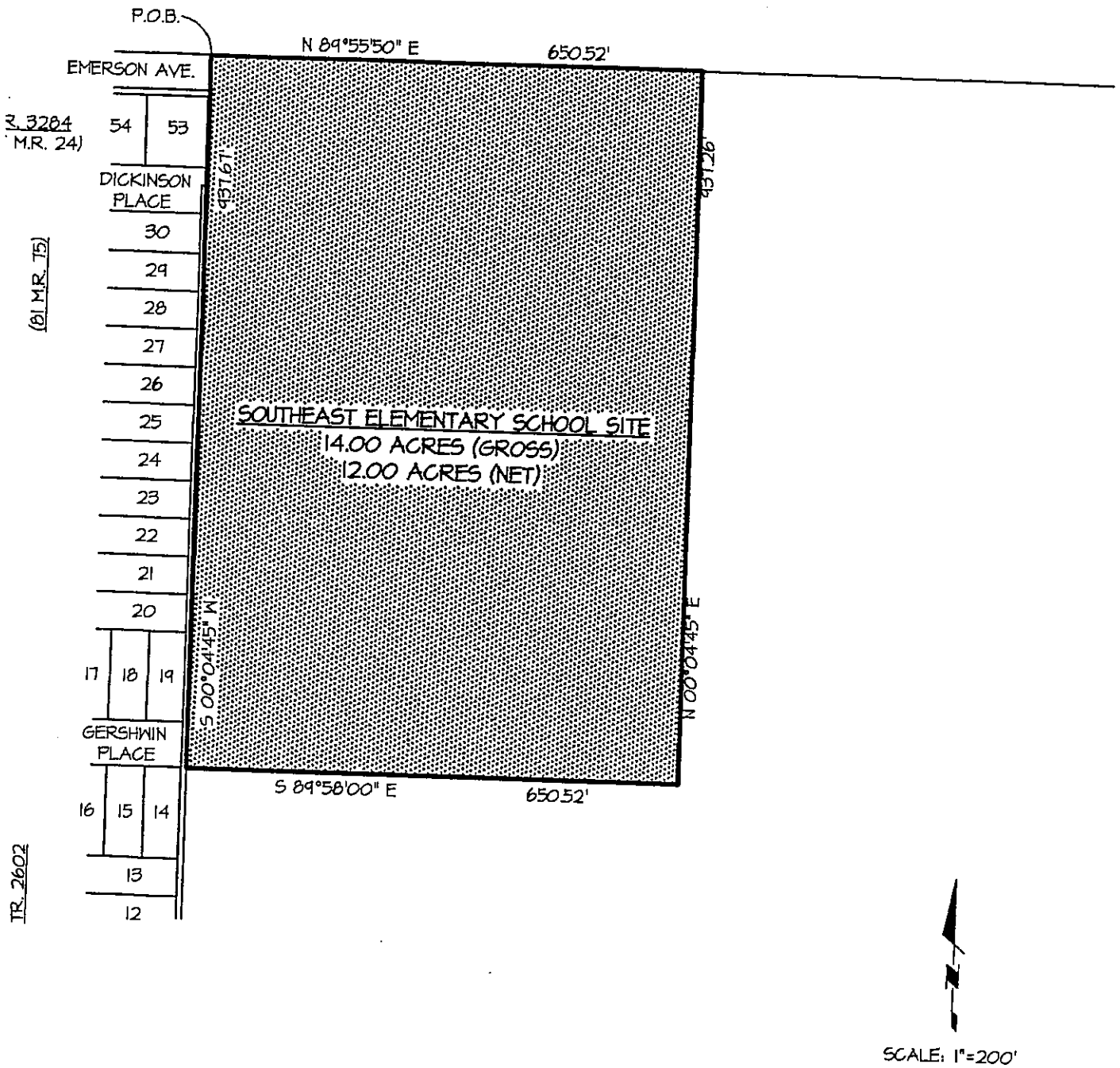
Remaining documents listed on SFP form 4.01 will be forwarded in the coming weeks with our request for final site approval. Please advise if there is anything else you need from us at this time to effect preliminary approval.

Sincerely yours,

Dr. Ronald A. Weinert
Director of Facilities

Copy to:
Sandra Herrera
Robert Lundskog
Rick Mello


XNARD SCHOOL DISTRICT
1) EDUCATIONAL SERVICE CENTER 1051 SOUTH A STREET
2) BREKKE SCHOOL 1400 MARTIN LUTHER KING DRIVE
3) CHAVEZ SCHOOL 224 NORTH JUANITA AVENUE
4) CURREN SCHOOL 1101 NORTH F STREET
5) DRIFFILL SCHOOL 810 SOUTH E STREET
6) ELM SCHOOL 450 EAST ELM STREET
7) FRANK JR HIGH SCHOOL 701 NORTH JUANITA AVENUE
8) FREMONT JR HIGH SCHOOL 1130 NORTH M STREET
9) HARRINGTON SCHOOL 2601 GISLER AVENUE
10) HATFIELD JR HIGH SCHOOL 847 WEST HILL STREET
11) KAMALA SCHOOL 634 WEST KAMALA STREET
12) LEMONWOOD SCHOOL 2200 CARNEGIE STREET
13) MARINA WEST SCHOOL 2601 CAROB STREET
14) McAULIFFE SCHOOL 3300 WEST VIA MARINA SCHOOL
15) McKINNA SCHOOL 1611 SOUTH J STREET
16) NUEVA VISTA SCHOOL 826 SOUTH A STREET
17) RITCHEN SCHOOL 2200 CABRILLO WAY
18) ROSE AVENUE SCHOOL 270 SOUTH DRISKILL STREET
19) SAN MIGUEL SCHOOL 2400 SOUTH J STREET
20) SIERRA LINDA SCHOOL 2701 JASMINE AVENUE
21) OPERATIONS SERVICE CENTER 1055 SOUTH C STREET
22) WAREHOUSE & TRANSPORTATION 514 WEST WOOLEY ROAD
A RAMONA SITE 804 COOPER ROAD
SAN BUENAVENTURA SCHOOL DISTRICT
RIO SCHOOL DISTRICT
PACIFIC OCEAN
HUENEME SCHOOL DISTRICT
OCEAN VIEW SCHOOL DISTRICT
HERE
1 MILE
'96



SCALE: 1"=200'

SHADED AREA DENOTES LAND DESCRIBED IN THE ATTACHED EXHIBIT "A"

Joseph P. Tennyson, Jr. 2.16.98

JOSEPH P. TENNYSON, JR. DATE
LS 5983 (EXP. 12-31-00)

LICENSED LAND SURVEYOR
J.P.T.
JOSEPH P.
TENNYSON, JR.
EXP. 12/31/00
NO. 5983
2.16.98
STATE OF CALIFORNIA

JENSEN DESIGN & SURVEY, LLC 4171 MARKET ST. NO. 4A VENTURA, CA 93003 (805) 654-6977

OXD\5345\EXB1

EXHIBIT "A"
(Southeast Elementary School Site)

A portion of Subdivision 41, Rancho El Rio De Santa Clara O'La Colonia, in the county of Ventura, state of California, as per partition map filed in the office of the Recorded of said county, in an action entitled "Thomas A. Scott, et al., Plffs. Vs. Rafael Gonzales, et al., Defts.", described as follows:

Beginning at a five-inch iron pipe tagged "R.E. 4825" set on the northerly line of said Subdivision 41, at the northwesterly corner of the land described as Parcel 1 in the deed recorded as Document Number 96-122671, Official Records of said county; thence along the westerly line of said Parcel 1,

1 st South 00°04'45" West, a distance of 937.67 feet to a point on the easterly prolongation of the southerly line of Gershwin Place, as shown on the map of Tract No. 2602 recorded in Book 81 at Page 75 of Miscellaneous Records of said county; thence along said prolongation,

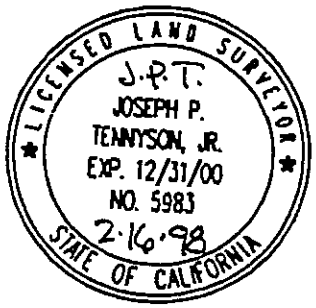
2 nd South 89°58'00" East, a distance of 650.52 feet; thence along a line parallel with the above described first course,

3 rd North 00°04'45" East, a distance of 937.26 feet to the northerly line of said Subdivision 41; thence along same,

4 th North 89°55'50" West, a distance of 650.52 feet to the Point of Beginning.

The above described parcel of land contains 14.00 Acres, more or less.

Joseph P. Tennyson, Jr. 2-16-98
Joseph P. Tennyson, Jr. Date
LS5983 (Exp. 12-31-00)



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Ventura
Local Agency Formation Commission

MEMORANDUM

DATE: December 4, 2000

TO: City of Oxnard
Marilyn Miller
305 W. Third Street
Oxnard, CA 93030

FROM: Debbie Schubert
Clerk to the Commission

SUBJECT: Resolution of Denial 00-14S Amendment to the City of Oxnard Sphere of Influence and
LAFCO 00-14 Juan Soria Reorganization

For your files or for your appropriate action, attached are copies of the resolutions, maps and legal descriptions for LAFCO 00-14S and LAFCO 00-14 that the LAFCO Commission heard and denied at the LAFCO meeting of November 15, 2000.

Please let us know if you have any questions or concerns pertaining to the attached documents.

Certified Mail
12-4-00
7000 0600 0025 1045 4905

County Government Center • Hall of Administration • 800 S. Victoria Avenue, L# 1850 • Ventura, CA 93009
805.654.2575 • Fax 805.477.7101

LAFCO 00-14

RESOLUTION OF THE VENTURA LOCAL AGENCY FORMATION COMMISSION MAKING DETERMINATIONS AND DENYING THE JUAN SORIA REORGANIZATION – ANNEXATION TO THE CITY OF OXNARD, DETACHMENT FROM THE VENTURA COUNTY FIRE PROTECTION DISTRICT AND DETACHMENT FROM THE VENTURA COUNTY RESOURCE CONSERVATION DISTRICT

WHEREAS, the above-referenced proposal has been filed with the Executive Officer of the Ventura Local Agency Formation Commission pursuant to the Cortese/Knox Local Government Reorganization Act (Section 56000 of the California Government Code); and

WHEREAS, at the times and in the manner required by law, the Executive Officer gave notice of the consideration by the Commission on the proposal; and

WHEREAS, the proposal was duly considered and denied on November 15, 2000; and

WHEREAS, the Commission heard, discussed and considered all oral and written testimony for and against the request including, but not limited to, the Executive Officer's report and recommendation; and

WHEREAS, information satisfactory to this Commission has been presented that all the owners of land within the affected territory have given their written consent to the proposal; and

WHEREAS, the Local Agency Formation Commission finds the proposal to be inconsistent with Government Code Section 56377, with the encouragement of the orderly development of the City based upon local conditions and policies and not in the best interest of the affected area and the organization of local governmental agencies within Ventura County;

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED by the Local Agency Formation Commission of Ventura County as follows:

(1) The Executive Officer's Staff Report and Recommendation for denial of the proposal dated November 15, 2000 is adopted.

(2) Said reorganization as set forth in Exhibit A attached hereto and made a part hereof is hereby denied as recommended by the Executive Officer.

This resolution was adopted on November 15, 2000.

AYES: Commissioners Rush, Curtis, Cunningham, Alternate Commissioner Schillo and Chair Sullivan
NOES: None

ABSTAINS: Commissioners Mikels, Long and Alternate Commissioner Zaragoza

Dated: 11/15/00

Chair, Ventura Local Agency Formation Commission

Copies: City of Oxnard via Certified Mail
Assessor
Auditor
Elections
Surveyor

EXHIBIT A

JUAN SORIA REORGANIZATION

ANNEXATION TO THE CITY OF OXNARD AND DETACHMENT FROM THE VENTURA COUNTY RESOURCE CONSERVATION DISTRICT AND DETACHMENT FROM THE VENTURA COUNTY FIRE PROTECTION DISTRICT

That portion of Subdivision 41 of the Rancho El Rio De Santa Clara O' La Colonia, in the County of Ventura, State of California, as per Partition Map filed in the Office of the County Clerk of said County, in an action entitled "Thomas A. Scott, et al., Plaintiffs, versus Rafael Gonzalez, et al., Defendants", described as follows:

Beginning at a point on the northerly line of said Subdivision 41, being the northwest corner of the land described in the deed to Roscoe Daily, et al., recorded July 9, 1956, in Book 1422, Page 301 of Official Records of said County, being also the easterly terminus of the 2nd course of Annexation No. 63-2 to the City of Oxnard as ordained by the City Council in Ordinance No. 824 on April 9, 1963;

Thence 1st, S. 00°04'45" W., along the existing boundary of said City of Oxnard, being also the westerly line of said land, a distance of 921.67 feet;

Thence 2nd, S. 89°58'00" E., a distance of 661.82 feet;

Thence 3rd, N. 00°04'45" E., parallel to said westerly line, a distance of 921.25 feet to said northerly line of Subdivision 41;

Thence 4th, N. 89°55'50" W., along said northerly line, a distance of 661.82 feet to the Point of Beginning.

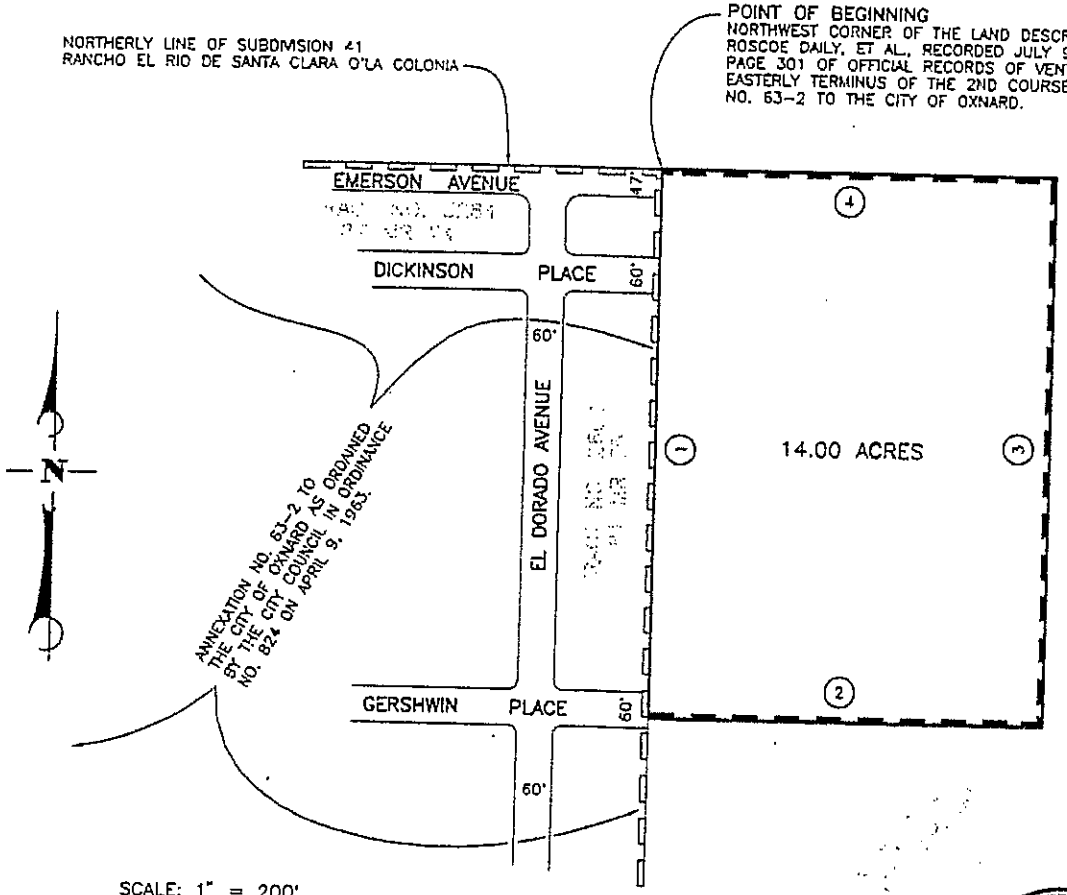
Containing 14.00 acres, more or less.

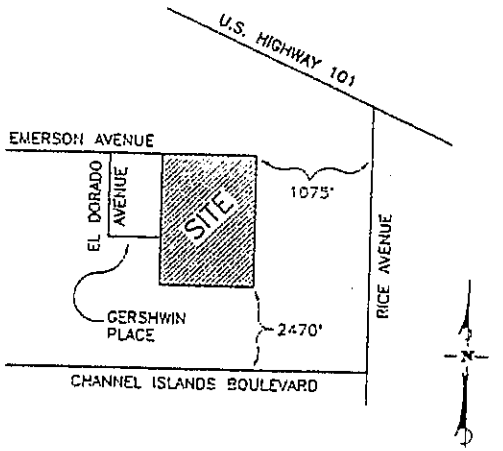
18 Oct. 2000

18 October 2000
(13271/legal/OxnAnnex.doc)

Penfield & Smith

EXHIBIT A





VICINITY MAP

NOT TO SCALE

SCALE: 1" = 200'

0 200 400 600

LEGEND

INDICATES EXISTING CITY OF OXNARD BOUNDARY

INDICATES PROPOSED CITY OF OXNARD BOUNDARY

(2) COURSE NUMBER

COURSE TABLE

(1)	S 0°04'45" W	921.67
(2)	S 89°58'00" E	661.82
(3)	N 0°04'45" E	921.25
(4)	N 89°55'50" W	661.82

LICENSED LAND SURVEYOR
ROGER HEMMAN
Expires
30 June 2004
No. 5785
STATE OF CALIFORNIA

18 Oct. 2000

JUAN SORIA REORGANIZATION

ANNEXATION TO THE CITY OF OXNARD AND DETACHMENT FROM THE VENTURA COUNTY RESOURCE CONSERVATION DISTRICT AND DETACHMENT FROM THE VENTURA COUNTY FIRE PROTECTION DISTRICT

A PORTION OF SUBDIVISION 41 OF THE RANCHO EL RIO DE SANTA CLARA O' LA COLONIA, IN THE COUNTY OF VENTURA, STATE OF CALIFORNIA, AS PER PARTITION MAP FILED IN THE OFFICE OF THE COUNTY CLERK OF SAID COUNTY IN AN ACTION ENTITLED "THOMAS A. SCOTT, ET AL., PLAINTIFFS VERSUS RAFAEL GONZALES, ET AL., DEFENDANTS"

OCTOBER 2000

PREPARED BY:
Penfield & Smith
ENGINEERS • SURVEYORS
111 E. VICTORIA ST. SANTA BARBARA
(805) 963-9532 CALIF. 93101
MAILING ADDRESS: P.O. BOX 98 (93102)

13271 01 OxnAnnex.dwg 18 OCTOBER 2000

Ventura
Local Agency Formation Commission

AGENDA

WEDNESDAY, November 15, 2000

Board of Supervisors Hearing Room
Hall of Administration
800 South Victoria Avenue
Ventura, CA 93009

9:00 A.M.

1. **Call to Order**

2. **Pledge of Allegiance**

3. **Roll call**

4. **Secretary administers oath to interested parties who are to give testimony**

COMMENTS FROM THE PUBLIC

5. **Public Comment** - This is an opportunity for members of the public to speak on items not on the agenda.

   (The Ventura Local Agency Formation Commission encourages all interested parties to speak on any issue on this agenda in which they have an interest, or on any matter subject to LAFCO jurisdiction. It is the desire of LAFCO that its business be conducted in an orderly and efficient manner. All speakers are requested to fill out a Speakers Card and submit it to the Secretary prior to speaking. All speakers are requested to present their information to LAFCO as succinctly as possible with a five (5) minute time limit.

COMMISSIONERS AND STAFF:

COUNTY:	CITY:	PUBLIC:	SPECIAL DISTRICT:
Kathy Long	Robin Sullivan, Chair	Louis Cunningham	John Rush, Vice Chair
Judy Mikels	James L. Monahan	Kenneth M. Hess, Alternate	Jack Curtis
Frank Schillo, Alternate	John Zaragoza, Alternate		F.W.(Dick)Richardson Alternate

EXECUTIVE OFFICER:	LEGAL COUNSEL:	CLERK TO THE COMMISSION:
Everett Millais	Noel Klebaum	Debbie Schubert

Allowing an individual to speak more than five minutes is at the discretion of the Chair of the Commission. Speakers are encouraged to refrain from restating previous testimony).

MINUTES

6. **Approval of minutes for Regular Meeting on October 18, 2000.**

ACTION ITEMS

7. **LAFCO 00-11 SCALLER Annexation to the Camarillo Sanitary District** - To annex approximately 1.13 acres, located on the east side of Loma Drive approximately 530 feet north of Aloha Street and 1,700 feet north of Las Posas Road, to the Camarillo Sanitary District in order to provide sanitary sewer service to three existing single-family residences; 400, 416 and 432 Loma Drive.

   RECOMMENDATION: Approval

8. **LAFCO 00-12 DAVIS Annexation to the Ojai Valley Sanitary District** - To annex approximately .68 acres to the Ojai Valley Sanitary District, located at 500 and 495 Burnham Road and 184 Rockway Road in Oak View, in order to provide sanitary sewer service to existing and proposed residences.

   RECOMMENDATION: Approval

9. **LAFCO 00-13 LYON Annexation to the Ojai Valley Sanitary District** - To annex approximately .68 acres in order to provide sanitary services for existing single-family residences located at 1367 Nova Lane and 1340 S. Loma Drive.

   RECOMMENDATION: Approval

10. **LAFCO 00-16 HAPPY CAMP GOLF COURSE Annexation to Ventura County Waterworks District No. 1** - To annex approximately 174.7 acres to Ventura County Waterworks District No. 1 in order to provide water for part of a proposed golf course. The remainder of the proposed golf course is already within the District. The site consists of part of Happy Camp Canyon Regional Park and a 3.43 acre privately owned parcel. The area is located

east of Walnut Canyon Drive, extending north from the easterly prolongation of Broadway in the Moorpark area.

RCOMMENDATION: Approval

11. **2001 MEETING CALENDAR-** Consideration of proposed 2001 LAFCO Meeting calendar

RECOMMENDATION: Approval

PUBLIC HEARING ITEMS

12. **LAFCO 99-09 MOREAU/MITCHEL Reorganization**- Annexation to the City of Thousand Oaks and Detachment from the Ventura County Resource Conservation District - A proposal to annex two parcels, approximately 4.84 acres, to the City of Thousand Oaks and to detach from the Ventura Resource Conservation District in order to receive City urban services. The area is located on the east side of West Kelly Road approximately 1,000 feet north of Lynn Road in the Thousand Oaks area.

RECOMMENDATION: Approval

13. **LAFCO 00-14S - CITY OF OXNARD Sphere of Influence Amendment Juan Soria School** - To amend the Sphere of Influence for the City of Oxnard to include approximately 14 acres in order to allow annexation to the City of Oxnard for the development of an elementary school. The site is located between the easterly extensions of Emerson Avenue and Gershwin Place immediately east of the existing Lemonwood neighborhood in the Oxnard area.

RECOMMENDATION: Denial

14. **LAFCO 00-14 - JUAN SORIA Reorganization**- Annexation to the City of Oxnard, Detachment from the Ventura County Resource Conservation District and Detachment from the Ventura County Fire Protection District. To annex approximately 14 acres to the City of Oxnard for the development of an elementary school. The site is located between the easterly extensions of Emerson Avenue and Gershwin Place immediately east of the existing Lemonwood neighborhood in the Oxnard area.

RECOMMENDATION: Denial

15. **LAFCO 00-15S CALLEGUAS MUNICIPAL WATER DISTRICT Sphere of Influence Amendment - Juan Soria School** - To amend the Sphere of Influence for Calleguas Municipal Water District to include approximately 14 acres in order to allow annexation to the District for the development of an elementary school. The site is located between the easterly extensions of Emerson Avenue and Gershwin Place immediately east of the existing Lemonwood neighborhood in the Oxnard area.

RECOMMENDATION: Denial

16. **LAFCO 00-15 - CALLEGUAS MUNICIPAL WATER DISTRICT - Juan Soria School Annexation** - To annex approximately 14 acres to the Calleguas Municipal Water District in order to provide water for the development of an elementary school. The site is located between the easterly extensions of Emerson Avenue and Gershwin Place immediately east of existing Lemonwood neighborhood in the Oxnard Area.

RECOMMENDATION: Denial

INFORMATIONAL ITEMS

17. **Executive Officer Report**

COMMISSIONER'S COMMENTS

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the LAFCO office (805) 654-2576. Notification 48 hours prior to the meeting will enable LAFCO to make reasonable arrangements to ensure accessibility to this meeting.

The next regularly scheduled meeting is on January 17, 2001

Ventura
Local Agency Formation Commission

STAFF REPORT
November 15, 2000

PROJECT: LAFCO 00-14 – Juan Soria School Reorganization; Annexation to the City of Oxnard, Detachment from the Ventura County Fire Protection District and Detachment from the Ventura County Resource Conservation District

PROPONENT: City of Oxnard, by resolution

SIZE: Approximately 14 acres gross

LOCATION: The site is located at the easterly terminus of Emerson Avenue and the easterly terminus of Gershwin Place, immediately east of the existing Lemonwood neighborhood in the Oxnard area.

ASSESSOR'S PARCELS: A portion of Assessor's Parcel No. 220-0-030-025

PURPOSE: This proposal would provide a site for the proposed Juan Soria public elementary school (grade K-6)

NOTICE: This matter has been noticed as a public hearing in accordance with the requirements of the Cortese-Knox Local Government Reorganization Act of 1985.

GENERAL ANALYSIS:

1. Land Use and Zoning – Present and Future:

The site is presently vacant and in use as agriculture (sod farming).

Surrounding land uses are/include:
North: agricultural
South: agricultural
East: agricultural
West: residential

Existing zoning is County A-E (Agricultural Exclusive).

Approved zoning upon annexation is City C-R (Community Reserve).

Surrounding zoning is:
North: County A-E
South: County A-E
East: County A-E
West: City R-1 (single family residential)

The proposed school use is not compatible with the existing County zoning, but would be compatible with the proposed City zoning, upon annexation.

2. **Conformity with Plans:**

The site is currently not within the City's Sphere of Influence, but a companion proposal to amend the City of Oxnard's Sphere of Influence is pending.

The site is within the Oxnard/Camarillo Greenbelt. The proposal is inconsistent with provisions of the Greenbelt. Neither the City or the School District has taken any steps to amend the Greenbelt prior to filing this application.

The site was outside the CURB (City Urban Restriction Boundary) for the City of Oxnard. The City's CURB ordinance, however, allows the City Council to amend the CURB boundary for school uses without a citywide election. The Oxnard City Council, as a part of the actions taken in approving this project, amended the CURB boundary to include this site.

The County General Plan designation is Agriculture.

The City General Plan designates the site for school uses.

Surrounding General Plan designations are:
North: Agriculture (County)
South: Agriculture (County)
East: Agriculture (County)
West: Low Density Residential (City)

The proposed use is not in conformance with the County General Plan, but is in conformance with the City General Plan.

3. **Topography, Natural Features and Drainage Basins:**

The topography of the site and surrounding area is generally flat.

There are no significant natural features affecting the proposal.

4. **Population:**

There are currently no dwelling units within the proposal area and none are proposed.

The proposed annexation is considered uninhabited.

5. **Services and Controls – Need, Cost, Adequacy and Availability:**

Upon annexation and development, the City has indicated that it will provide the level and range of municipal services similar to other properties in the City including, sewage disposal and treatment, drainage, law enforcement, fire protection, street lighting, recreation and parks, library, transit and other city services.

Services can be extended immediately upon annexation and development of the site.

Utility improvements can be extended from existing water and sewer mains in the vicinity of the site. Both Emerson Avenue and Gershwin Place are to be extended to the easterly boundaries of the site and connected via a new north/south street along the easterly boundary.

As a part of the Resolution initiating this reorganization action the City of Oxnard requested that LAFCO condition any approval to require the School District to:

a. Submit a drainage study to the City Engineer for review and approval which evaluates the storm drain system serving Emerson Avenue and evaluation of run off from the agricultural areas north of Emerson Avenue. Based on the results of such a study the school district would be required to construct improvements necessary to bring Emerson Avenue's drainage condition into compliance with current City standards.
b. Widen Emerson Avenue by 8 feet from Rose Avenue to the eastern extension of the project site.

Pursuant to Government Code Section 56844 LAFCO is given broad authority to apply terms and conditions to changes of organization or reorganization. This

Section, however, specifically prohibits LAFCOs from applying terms and conditions which, "directly regulate land use, property development, or subdivision requirements." The above noted conditions are "property development or subdivision" conditions which LAFCO cannot apply.

The City request to LAFCO concerning these two items calls into question whether or not all services can be effectively provided based on the City approvals that have occurred to date. Except for the request to LAFCO in the City's resolution, no further information has been provided. It is not known if the project can proceed if these two conditions are not met. Also, no information has been provided as to whether or not the requested widening of Emerson Avenue can occur without a further adjustment of the City's Sphere and City boundaries.

Capital improvements necessary for the development of the property will be financed by the Oxnard School District through a November 1997 school bond measure that provided for school construction.

Maintenance and operation costs for municipal services and the school will be funded from on-going state subventions and tax monies for school purposes.

6. **Impact on Prime Agricultural Land, Open Space and Agriculture:**

The site is presently under a short-term lease to a sod farm. The lessee also has an ownership interest in the property.

The site is considered open space as defined in Government Code Section 65560 and is prime agricultural land as defined in Government Code Section 66064.

The project site contains agricultural land defined by the Soil Conservation Service as being of statewide importance.

The site is not subject to a Land Conservation Act (Williamson Act) contract.

Cortese Knox (Government Code section 56377) requires the Commission to consider encouraging development of vacant or non prime agricultural land within a jurisdiction's existing boundaries or sphere of influence before approving proposals which will lead to the development of open space lands outside the boundaries and sphere of influence.

The adopted Commissioner's Handbook (Chapter Two, L., pages 12 & 13) states the Ventura LAFCO policies concerning agricultural and open space land conservation. These policies are attached and are discussed in the Special Analysis section of this report.

7. **Assessed Value, Tax Rates and Indebtedness:**

The proposal is presently within tax rate area 73022 ($1.17796). Should this reorganization request be approved, a new parcel will be created and a new tax rate area assigned.

The assessed value for the total parcel is $2,561,900 (2000-01 tax roll).

The site will be liable for payment of its share of existing indebtedness to Calleguas Municipal Water District and Metropolitan Water District if annexation to the City of Oxnard and Calleguas Municipal Water District is approved. This will be accomplished through separate annexation fees levied by Calleguas Municipal Water District and Metropolitan Water District that will pay escaped back taxes related to debt. No other bonded indebtedness costs are applicable.

8. **Environmental Impact of the Proposal:**

The Oxnard School District is the lead agency for this proposal. The School District has prepared and certified an Environmental Impact Report (EIR). This document has been distributed to members of the Commission. The environmental impact report proposes mitigation measure in the following areas to lessen any environmental impacts so that they can be considered less than significant:

- Earth Resources – liquefaction; additional geotechnical work
- Water Resources – drainage and flooding; storm water runoff and transfer of ground water pumping allocations to the City of Oxnard
- Air Quality – construction impacts; energy efficiency
- Noise – construction impacts and operational impacts from school bells
- Human Health and Safety – potential crude oil impacts and methyl bromide use
- Public Services – construction impacts relating to fire and police protection, operational impacts relating to site access, security lighting and alarm systems, and operational impacts relating to solid waste
- Aesthetics/Light and Glare – view impacts from removal of windrow trees

In addition, pursuant to Section 15093 of the CEQA Guidelines, the Oxnard School District as the lead agency adopted the attached Statement of Overriding Considerations in order to justify significant unmitigated impacts relating to:

- Project specific and cumulative loss of prime agricultural lands
- Noise; both construction noise and cumulative traffic noise along segments of Dupont Street and Emerson Avenue

- Solid waste; cumulative impacts on waste disposal facilities
- Removal of windrow trees
- Visual character; cumulative impacts associated with the development of agricultural and open space areas

LAFCO is a responsible agency under the California Environmental Quality Act (CEQA) and must also adopt a Statement of Overriding Considerations as a part of any approval.

9. Landowner and Annexing Agency Consent:

The applicant certifies that all property owners involved in this proposal have given their written consent.

10. Boundaries, Lines of Assessment and Registered Voters:

The boundaries are definite and certain.

The property is contiguous to the existing City boundary and will be within the City's Sphere of Influence if the companion application to amend the City's Sphere of Influence boundary is approved. No islands will be created as a result of this proposal.

A map sufficient for filing with the State Board of Equalization has been received from the proponent.

The property will split Assessor's Parcel No 220-0-030-025. This is proposed in order to limit the reorganization to only the proposed school site and reduce the loss of agricultural land. The proposed split of the existing larger parcel will not cause any special problems in terms of lines of assessment, but County approval for subdivision of the larger parcel is required in advance of the sale or transfer of the portion of the property that is the subject of this proposal. The County Planning Department has requested that any approval be conditioned to provide that a subdivision map be recorded or the County Planning Director approve a Subdivision Exemption request prior to the recordation of this reorganization request.

The territory is uninhabited; namely, there are fewer than 12 registered voters.

SPECIAL ANALYSIS:

- Prior Application – This application and the related applications (LAFCO 00 - 14S, LAFCO 00-15, and LAFCO 00-15S) are identical to applications submitted in the fall of 1999, but withdrawn by the proponents at the LAFCO meeting of April 19, 2000. As a part of the prior applications a significant amount of correspondence was received. A formal request has been made to include the prior correspondence as a part of the record for these new applications. This information has again been copied for distribution as a part of the Commissioner's packet and should be considered as a part of the formal record.

- Government Code Section 56377 – Government Code Section 56377 sets forth the policies and priorities that the Commission must consider in reviewing proposals which lead to the conversion of existing open space lands to non open space uses.

  56377. In reviewing and approving or disapproving proposals which could reasonably be expected to induce, facilitate, or lead to the conversion of existing open-space lands to uses other than open-space uses, the commission shall consider all of the following policies and priorities:
  (a) Development or use of land for other than open-space uses shall be guided away from existing prime agricultural lands in open-space use toward areas containing nonprime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area.
  (b) Development of existing vacant or nonprime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the sphere of influence of a local agency should be encouraged before any proposal is approved which would allow for or lead to the development of existing open-space lands for non-open-space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency.

  This proposal would convert prime agricultural land and does not promote the planned, orderly, efficient development of the area. Moreover, based on information resulting from an ad hoc committee formed by the City of Oxnard staff to review alternative sites, there are alternate sites for an elementary school either within the existing boundaries of the City of Oxnard or within the sphere of influence of the City of Oxnard. Approval of this proposal would lead to development that intrudes into prime agricultural lands and adjoins agricultural lands on three sides. The fact that alternate sites for the proposed use exist without amending sphere of influence or City boundaries, and without intruding into prime agricultural lands, is sufficient justification to deny this proposal and all related actions.

- Commissioners Handbook Policies – The Commissioners Handbook adopted in December 1999 sets forth various policies relating to agricultural and open space

land conservation (Chapter Two, L., pages 12 & 13). These portions of the Commssioners Handbook are attached. This proposal is inconsistent with several of these policies. Specifically, information has been provided to the Commission indicating that there is sufficient land within the existing boundaries of the City of Oxnard or within the City's sphere of influence that is developable for the same general use. While these alternate sites may also be prime agricultural land (as is most of the City of Oxnard), policies imply that these areas should be developed first before amending the sphere of influence or jurisdictional boundaries.

Also, based on the project EIR and further information submitted concerning this matter, it is clear that this proposal will have a significant adverse effect on the physical and economic integrity of other prime ag/open space lands. Even though utilities would not be sized to accommodate growth beyond the proposed school there are no natural buffers separating the proposed school from adjoining agricultural lands. Surrounding streets are proposed as a man-made barrier, but local streets actually encourage further encroachment and, over time, serve as poor boundaries.

- Greenbelt – The Oxnard/Camarillo Greenbelt was first established in 1982. It has subsequently been amended in 1984, 1988 and 1990. The parties to this Greenbelt are the cities of Oxnard and Camarillo and the County of Ventura. While LAFCO is not a party to any of the Greenbelt Agreements, LAFCO has "endorsed" these agreements and recognizes them as statements of local policy.

  This proposal is inconsistent with the Oxnard/Camarillo Greenbelt and, thus, is also inconsistent with the County's Guidelines for Orderly Development which LAFCO has adopted. This means that the proposal is not consistent with local plans or policies.

  According to information gathered by the prior LAFCO Executive Officer the Ventura LAFCO has never approved a development project for property covered by a Greenbelt Agreement.

  The project EIR on page 5-2-12 states

  "The General Plan indicates that land taken by the City from the Oxnard/Camarillo Greenbelt would be replaced by an equal amount into the Greenbelt. If the proposed project is annexed, the City would be required to replace the loss within the Greenbelt. This would maintain the integrity of the Greenbelt, and would be consistent with County and City policies toward the protection and maintenance of the Greenbelt systems."

  Both the EIR and the application materials indicate that the City of Camarillo was consulted about the proposed project and the impacts on the Greenbelt, however, no agreement about amending the Greenbelt has been reached by any of the parties. Also, no mitigation measures dealing with amending the Greenbelt or

replacing the agricultural land that would be lost were approved. Should the Commission consider approval of this proposal and the related proposals, staff recommends that a condition be imposed requiring an amendment to the Greenbelt before the LAFCO actions are deemed final, and, consistent with the provisions of the City's General Plan, the amendment include the appropriate amount of acreage and soil type to replace the land lost from the Greenbelt.

- CEQA Issues – Part of the materials submitted by the Environmental Defense Center in response to the prior, withdrawn applications urged that the Commission require a Subsequent Environmental Impact Report concerning toxic soil contamination. A Memorandum to the Commission from the County Counsel's Office, dated April 19, 2000, which addresses this subject is attached.

  The question before the Commission is whether the Environmental Impact Report adequately identified the issues of the potential toxic soil contamination and attempted to address appropriate mitigation measures and whether the material submitted by the Environmental Defense Center is substantial evidence of new information showing a significant environmental effect which was not discussed in the EIR.

  The issue of the environmental concern relating to toxic soils and the use of pesticides by adjacent active farming is well documented in Section 5.8 of the Environmental Impact Report which is titled "Human Health." In addition, a Preliminary Endangerment Assessment (PEA), which is a requirement of the Department of Health Services, was conducted in an effort to determine whether current or past practices of use of hazardous substances would pose a health danger. The Mitigation Measures were adopted which were intended to address this issue. The information offered by the Environmental Defense Center does not disclose a significant effect the EIR failed to discuss.

  It is the recommendation of LAFCO staff that the Commission not assume the role of lead agency and, also, not require the preparation of a Subsequent Environmental Impact Report. It is the opinion of LAFCO staff that the Environmental Impact Report adequately raises and addresses the issue of toxic soils and the continued active farming adjacent to the site.

  The Commission should also understand that the technical issues raised regarding toxic soils and pesticide practices are best addressed by those with the knowledge and training in these subjects. Those agencies include the Ventura County Agricultural Commissioner, the Department of Toxic Substances Control, and the Department of Health Services. One of the reasons given by the project proponents for the withdrawal of the previous applications was to allow the School District to accomplish further work with the Department of Toxic Substances Control to gain site approval. Without such approval the school project cannot go forward. It is staff's opinion that to require further environmental analysis under the California

Environmental Quality Act at this point in the process would be duplicative and of little benefit in providing public information for decision makers.

RECOMMENDATION:

Approve the attached resolution making determinations and DENYING this proposal.

ALTERNATIVES TO THE RECOMMENDATION - ACTIONS AVAILABLE:

A. If the Commission, following the public hearing and the review of the materials submitted, determines that further information is necessary, a motion to continue the matter should state specifically the type of information desired and specify a date certain for further consideration.

B. If the Commission, following the public hearing and review of materials submitted with this application wishes to approve this application, a motion to approve should include:

1. Certify that your Commission has reviewed and considered the information contained in the application regarding the Environmental Impact Report, Findings of Impact, Statement of Overriding Considerations and Mitigation Measures.
2. Adopt the Lead Agency's Findings of Impact, Statement of Overriding Considerations and Mitigation Measures in the form adopted by the Lead Agency, and make a specific determination that the significant issues and proposed mitigation measures as adopted by the Lead Agency adequately address the project. (Sections 15091, 15093, and 15096 [h]).
3. Direct staff to prepare and file a Notice of Determination in the same manner as a Lead Agency under Section 15075, stating that the Commission has considered the Environmental Impact Report as prepared by the Lead Agency (Section 15096[i]).
4. Adoption of this report and all referenced materials as part of the public record.
5. The following conditions:
   a. The City of Oxnard shall agree in writing to defend, indemnify and hold the Ventura Local Agency Formation Commission, its commissioners and staff harmless from and against all costs, expenses, fees, claims, demands and causes of action arising from the approval of this reorganization.
   b. That this reorganization be recorded at the same time or subsequent to the approval and recordation of either a subdivision map is recorded or the County Planning Director approves a Subdivision Exemption request to create legal lots in the City of Oxnard and the County of Ventura divided along the City's Sphere of Influence boundary.
   c. That this reorganization shall not be final and shall not be recorded until and

unless an amendment to the Oxnard/Camarillo Greenbelt is first approved by the cities of Oxnard and Camarillo and the County of Ventura to remove the subject area from the Greenbelt. Any amendment shall include the appropriate amount of acreage and soil type to replace the land lost from the Greenbelt.

d. That this reorganization be recorded at the same time and in conjunction with LAFCO 00-15 – Juan Soria School Annexation to the Calleguas Municipal Water District and the Metropolitan Water District of Southern California.

BY: _____
Everett Millais, Executive Officer

Ventura
Local Agency Formation Commission

MEMORANDUM

DATE: October 2, 2000

TO: Distribution List

FROM: Debbie Schubert
Clerk to the Commission

SUBJECT: Request for Report-back:

LAFCO - 00-14 JUAN SORIA Annexation to the City of Oxnard

PROPOSAL IDENTIFICATION

LAFCO - 00-14 JUAN SORIA Annexation to the City of Oxnard - To annex approximately 14 acres to construct and operate a public elementry school (K-6) The parcel is located between the easterly extensions of Emerson Avenue and Gershwin Place, immediately east of existing Lemonwood neighborhood.

Thank you.

Report-back due: October 20, 2000

Distribution List:

Agricultural Commissioner - Earl McPhail - L#6200
Assessor - Bernie Wallen - L#1270
Elections - Bruce Bradley - L#1200
RMA, Planning - Bruce Smith - L#1740
PWA, Surveyor - Zell Rawlins - L#1600
Ventura County Resource Conservation District

DAN GOODWIN, MAI
ASSESSOR
VENTURA COUNTY

JAMES E. DODD
DEPUTY ASSESSOR
BRUCE W. GRAY
DEPUTY ASSESSOR

MEMORANDUM

October 4, 2000

TO: Local Agency Formation Commission

FROM: Assessor's Office
Mapping and Property Transfer Section

SUBJECT: **LAFCO # 00-14 – Juan Soria Annexation to the City of Oxnard**

1. The subject proposal packet submitted by your office is poorly assembled. It lacks the necessary certainty needed to prepare an accurate report-back. It leads to the following questions:

   1.) What is the actual title? Is it Juan Soria as stated in your memorandum of October 2, 2000? Is it Juan Laguna Soria School as stated in the application? Or is it Juan Soria School Reorganization as stated on the map?

   2.) Why wasn't a legal description attached for review?

   3.) Why wasn't a detachment from Ventura County Fire Protection part of the action?

   4.) Why wasn't a detachment from Ventura County Resource Conservation part of the action?

   5.) Is the annexation to Calleguas Municipal Water District part of the action as the map title indicates?

   6.) Why is a Sphere of Influence included in the action?

Therefore, we are returning it to your office for revision. Please contact our office should you have any questions.

Main Office - Hall of Administration, 800 South Victoria Avenue, Ventura, CA 93009-1270 (805) 654-2181 FAX (805) 654-3805
Satellite Offices - Civic Arts Plaza, Suite C, 2100 E. Thousand Oaks Boulevard, Thousand Oaks, CA 91362 (805) 373-3561
East County Courthouse, 3855 Alamo Street, Simi Valley, CA 93063 (805) 582-8011
www.ventura.org/assessor

COUNTY OF VENTURA
ELECTIONS

M E M O R A N D U M

DATE: February 2, 2001

TO: Ventura County Agency Formation Commission
Executive Officer

FROM: Helen Smith
Ventura County Elections Division

SUBJECT: LAFCO 00-14 JUAN SORIA ANNEXATION TO THE CITY OF OXNARD -
JUAN SORIA AMENDMENT TO SPHERE OF INFLUENCE-CITY OF OXNARD

VOTING PRECINCT(S): OCEAN VIEW #506

APPROX. NO. OF VOTERS: ZERO VOTERS

REMARKS:

RESOURCE MANAGEMENT AGENCY

county of ventura

Planning Division

Keith A. Turner
Director

DATE: October 19, 2000

TO: Everett Millais, LAFCO Executive Director

FROM: Keith Turner, Planning Director

SUBJECT: LAFCO 00-14 – JUAN SORIA Annexation to the City of Oxnard
LAFCO 00-14s – OXNARD Sphere of Influence amendment

We have have reviewed the questionnaires regarding the above item and have the following comments:

Annexation Item 3 – The subject property is a portion of APN 220-0-030-025, however, that APN is not a legally created parcel. APNs 220-0-030-025 and 220-0-030-045 together constitute the parent, legal parcel

Annexation Item 6E – We note that, although the City of Camarillo has been consulted regarding a possible amendment to the Oxnard/Camarillo Greenbelt, to our knowledge the City Council has not taken any action to approve the amendment. In addition, the County Board of Supervisors is a signatory of the Oxnard/Camarillo Greenbelt. Neither the City of Oxnard nor the Oxnard Elementary School Board has requested that Board of Supervisors approve any amendment to that greenbelt agreement to accommodate the development of the site for an elementary school. As such, the subject annexation is inconsistent with the greenbelt agreement and, as a matter of policy, is opposed by the County Ventura. Nonetheless, if the subject annexation is approved by LAFCO we request that it be conditioned to require, prior to recordation, the approval of the Board of Supervisors, the Camarillo City Council, and the Oxnard City Council of an amendment to the Oxnard/Camarillo Greenbelt.

Annexation Item 12B – As noted in the FEIR, the property owner must apply to the County for subdivision approval in advance of the sale or transfer of the school site, which is a portion of the parent parcel (APNs 220-0-030-025 and 220-0-030-045 combined). Of the two lots to be created, the "school" lot is the subject of the annexation request, and the remainder parcel will remain in the unincorporated area. If the subject annexation is approved by LAFCO, we recommend that the annexation not be recorded until either a subdivision map is recorded or the County Planning Director approves a Subdivision Exemption request

c:\my documents\smithb\lafco\laf0014.doc

800 South Victoria Avenue, L #1740, Ventura, CA 93009 (805) 654-2481 FAX (805) 654-2509

Sphere Item 5A – Section 65560.b.2 defines open space as including agricultural land, therefore the answer should be "yes".

Sphere Item 6D – see comments from the County Agricultural Commissioners Office and Agricultural Policy Advisory Committee.

Sphere Item 6F – see comments from the Agricultural Commissioner's Office.

County of Ventura
Survey Engineering
Engineering Services Division
Water Resources and Engineering Department
Public Works Agency

MEMORANDUM

To: LAFCO
Everett Millais

Date: Oct. 23, 2000

From: Zell Rawlins (ZR)
Survey Engineer

Reference No.: 00-14

Subject: JUAN SORIA REORGANIZATION

The proposal has been reviewed and found to be definite, certain and contiguous to the existing City boundary. The proposal is acceptable for recording. Please see that the attached legal descriptions and maps are used for recordation.

Certificate of Publication

Ad No. 202351

In Matter of Publication of:

Notice of Hearing

State of California)
((§
County of Ventura)

I, **Sharon K. Palmer**, hereby certify that the **Ventura County Star** has been adjudged a newspaper of general circulation by the Superior Court of California, County of Ventura within the provisions of the Government Code of the State of California, printed and published in the City of San Buenaventura, County of Ventura, State of California; that I am the principal clerk of the printer of said paper; that the annexed clipping is a true printed copy and publishing in said newspaper on the following dates to wit:

November 1, 2000

I, certify under penalty of perjury, that the foregoing is true and correct..

Dated this 1st day of **November 2000**, in San Buenaventura, California.

Sharon Palmer

(Signature)
skp

VENTURA LOCAL AGENCY FORMATION COMMISSION

VENTURA LOCAL AGENCY FORMATION COMMISSION

NOTICE OF HEARING

NOTICE IS HEREBY GIVEN that the following matters will be heard by the Ventura Local Agency Formation Commission on WEDNESDAY, November 15, 2000 at 9:00 a.m. in the Board of Supervisors' Hearing Room, Main Plaza, Administration Building, County Government Center, 800 South Victoria Avenue, Ventura CA 93009.

1. LAFCO 99-09 - City of Thousand Oaks - Moreau/Mitchell Reorganization, Annexation No. 156 - Proposal to annex to the City of Thousand Oaks in order to receive City urban services and to concurrently detach from the Ventura Resource Conservation District. The annexation would include parcel numbers 658-0-050-720 - located at 2641 West Kelly Road, 658-0-050-035 - located at 2652 West Kelley Road, 658-0-050-730, and 658-0-050-585 - a portion of West Kelly Road, a private road.

2. LAFCO 00-145 - City of Oxnard - Sphere of Influence Amendment - Juan Soria School - This proposal would amend the Sphere of Influence of the City of Oxnard to include an additional approximate 14 acres. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place, in the Oxnard area.

3. LAFCO 00-14 - Juan Soria School Reorganization - Annexation to the City of Oxnard; Detachment from the Ventura County Fire Protection District, and Detachment from the Ventura County Resource Conservation District - This proposal would add an additional approximate 14 acres to the City of Oxnard. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place, in the Oxnard area.

4. LAFCO 00-155 - Calleguas Municipal Water District - Sphere of Influence Amendment - Juan Soria School - This proposal would amend the Sphere of Influence of the Calleguas Municipal Water District to include an additional approximate 14 acres. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place, in the Oxnard area.

5. LAFCO 00-15 - Annexation No. 64 (Juan Soria School) to the Calleguas Municipal Water District and the Metropolitan Water District of Southern California - This proposal would add an additional approximate 14 acres to the Calleguas Municipal Water District. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place, in the Oxnard area.

Dated this 30th day of October, 2000

Everett Millais
Executive Officer
Publish: Nov 1, 2000 Ad No.VC202351

RECEIVED
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LAFCO

1201 Public Notices

VENTURA LOCAL AGENCY FORMATION COMMISSION

VENTURA LOCAL AGENCY FORMATION COMMISSION

NOTICE OF HEARING

NOTICE IS HEREBY GIVEN that the following matters will be heard by the Ventura Local Agency Formation Commission on WEDNESDAY, November 15, 2000 at 9:00 a.m. in the Board of Supervisors' Hearing Room, Main Plaza, Administration Building, County Government Center, 800 South Victoria Avenue, Ventura CA 93009

1.LAFCO 99-09 - City of Thousand Oaks - Moorpark/Mitchell Reorganization, Annexation No. 154 - Proposal to annex to the City of Thousand Oaks in order to receive City urban services and to concurrently detach from the Ventura Resource Conservation District the approximately 5 acre project site, consisting of one parcel identified as Assessor's Parcel Number 626-0-050-720 located at 2641 West Kelly Road, and 626-0-050-135 located at 2652 West Keller Road, and 626-0-050-730, and 626-0-050-181 - a portion of West Kelly Road, a private road.

2.LAFCO 00-145 - City of Oxnard - Sakata at Intervalley Amendment - Juan Sarta School - This proposal would amend the Sphere of Influence of the City of Oxnard to include an additional approximate 14 acres. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place, in the Oxnard area.

3.LAFCO 00-146 - Juan Sarta School Reorganization - Annexation to the City of Oxnard, Detachment from the Ventura County Fire Protection District, and Detachment from the Ventura County Resource Conservation District - This proposal would add an additional approximate 14 acres to the City of Oxnard. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place, in the Oxnard area.

4.LAFCO 00-155 - Calleguas Municipal Water District - Sphere of Influence Amendment Juan Sarta School. This proposal would amend the Sphere of Influence of the Calleguas Municipal Water District to include an additional approximate 14 acres. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place, in the Oxnard area.

5.LAFCO 00-15 - Annexation No. 64 (Juan Sarta School) to the Calleguas Municipal Water District and the Metropolitan Water District of Southern California - This proposal would add an additional approximate 14 acres to the Calleguas Municipal Water District. The site is located at the eastern extensions of Emerson Avenue and Gershwin Place in the Oxnard area.

Dated this 30th day of October, 2000

Everett Millais
Executive Officer
Publish: Nov 1, 2000 Ad No VC202141

NOTICE OF SALE OF

1201 Public Notices

NOTICE INVITING SEALED BIDS FOR CONSTRUCTING CONEJO CREEK DIVERSION PROJECT DIVERSION STRUCTURE AND POND PUMP STATION. CONTRACT NO. C-0004

PUBLIC NOTICE IS HEREBY GIVEN that the Camrosa Water District (OWNER) invites bids for the above project and will receive such bids in its offices, 7385 Santa Rosa Road, Camarillo, California, up to the hour of 2:00 p.m. local time on November 28, 2000, at which time they will be opened and read aloud. A bid bond of the Bidding Documents is available for examination at Camrosa offices.

A mandatory pre-bid conference will be held at 10:00 a.m. on November 14, 2000 at the Camrosa Water District office. Bidders must attend this conference in order to qualify to submit a bid on the Project.

The project consists of constructing the Conejo Creek Diversion Structure and Pond Pump Station near Camarillo, California as Camrosa Water District No. 1 and appurtenances, including all labor, materials, equipment, demolition, earthwork, piping, and incidentals, including the installation of Owner furnished equipment, which includes the vertical turbine and submersible pumps, pump motors, switchboards, MCCs, instrumentation and appurtenances.

Copies of the Bidding Documents may be obtained from the Camrosa Water District at the address shown above. Non-refundable charges for all documents are as follows: complete set of Bidding Documents, plans, specifications, and addenda (technical report) $120.00; complete set with reduced plans, $125.00; additional copies of the Technical Report $30.00 each. The Camrosa contact is Henry Gruntman (805) 482-4441. Bidding documents may also be examined at Camilla Engineers, 1156 South Rancho Blvd., Suite 200, San Ysidro, California, phone (714) 549-4306.

Bids must be prepared in conformance with the INSTRUCTIONS TO BIDDERS in the Bidding Documents. The Bidder shall guarantee the Total Bid Price pursuant to Article 4 of Instructions to Bidders. Additional requirements apply as indicated in the Bidding Documents.

OWNER reserves the right after opening bids to reject any or all bids, to waive any informality (non responsiveness) in a bid, or to make award to the lowest responsive responsible Bidder and reject all other bids, as it may best serve the interest of the OWNER.

BY ORDER of the Camrosa Water District Public Works Director

Dated: November 1, 2000 Ad No VC202144

FILE NO. 00-5563 FICTITIOUS BUSINESS NAME STATEMENT

THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:

B & L SECURITY SYSTEMS

465 Encino Drive
Oak View, CA 93022
P.O. Box 71956
Oxnard, CA 93034-1956

Full Name of Registrant
Gerald H. Bragel, Trustee of The Bragel Trust

373 East Foster St
Oxnard, CA 93033

1201 Public Notices

NOTICE OF PETITION TO ADMINISTER ESTATE OF IRWIN BROVERMAN

Case No. P075312

To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the will or estate, or both, of IRWIN BROVERMAN

A PETITION FOR PROBATE has been filed by Abby D. Friedman in the Superior Court of California, County of VENTURA

THE PETITION FOR PROBATE requests that Abby D. Friedman be appointed as personal representative to administer the estate of the decedent.

THE PETITION requests the decedent's will and codicils, if any, be admitted to probate. The will and any codicils are available for examination in the file kept by the court.

THE PETITION requests that Estates Act (IEA), the authority will allow the personal representative to take many actions without obtaining court approval. Before taking certain very important actions, however, the personal representative will be required to give notice to interested persons unless they have waived notice or consented to the proposed action. The IEA is dependent administration authority will be granted unless an interested person files an objection to the petition and shows good cause why the court should not grant the authority.

A HEARING on the petition will be held on December 5, 2000 at 10:00 AM in Dept. No. C in the address of 800 S. Victoria Ave., Ventura, CA 93009.

IF YOU OBJECT to the granting of the petition, you should appear at the hearing and state your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney.

IF YOU ARE A CREDITOR or a contingent creditor of the decedent, you must file your claim with the court and mail a copy to the personal representative appointed by the court within the later of four months from the date of first issuance of letters as provided in Probate Code section 9100, the time for filing claims will not expire before four months from the hearing date noticed above.

YOU MAY EXAMINE the file kept by the court. If you are a person interested in the estate, you may file with the court a Request for Special Notice (form DE-154) of the filing of an inventory and accounting of estate assets or of any petition or account as provided in Probate Code section 1250. A Request for Special Notice form is available from the court clerk.

Attorney for petitioner:
RONALD M KARRENS ESQ
340 WILSHIRE BLVD
BEVERLY HILLS CA 90212

Ventura Star Free Press
Publish: November 1, 2, 3, 4, 2000 Ad No: VC202139

FILE NO. 00-5449 FICTITIOUS BUSINESS NAME STATEMENT

THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:

JPD ENTERPRISES WEST

813 Pioneer Ct.
Camarillo, CA 93010

Full Name of Registrant
Joe Dutton

813 Pioneer Ct
Camarillo, CA 93010

Hydee Dutton
813 Pioneer Ct

1201 Public Notices

FILE NO. 00-5731 FICTITIOUS BUSINESS NAME STATEMENT

THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:

BEETLE BYTES

3874 Calle Valle Vista
Newbury Park, CA 91320

Full Name of Registrant:
Carlos D. Deep

3874 Calle Valle Vista
Newbury Park, CA 91320

This business is conducted by an individual.

The registrant commenced to transact business under the fictitious business name or names listed above on 10-23-00.

Signed: Carlos D. Deep

THIS STATEMENT WAS FILED WITH THE COUNTY CLERK OF VENTURA COUNTY ON Oct 25, 2000

I hereby certify that this is a correct copy of the original statement on file in my office. RICHARD D. DEAN, County Clerk

THIS FICTITIOUS BUSINESS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED BEFORE THAT TIME. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, or common law (See 14400 et seq., Business and Professions Code).

Publish Nov 1, 8, 15, 22, 2000 Ad No VC201959

FILE NO. 00-5762 FICTITIOUS BUSINESS NAME STATEMENT

THE FOLLOWING PERSON(S) IS(ARE) DOING BUSINESS AS:

TRAFFICLOT

1670 Calle Limonero
Thousand Oaks, CA 91360

Full Name of Registrant:
Bill Iskovitch

250 N. Westlake Blvd.
Westlake Village, CA 91362

This Business is conducted by an Individual

The registrant commenced to transact business under the fictitious business name or names listed above on 10-19-00.

Signed: Bill Iskovitch

THIS STATEMENT WAS FILED WITH THE COUNTY CLERK OF VENTURA COUNTY ON Oct 26, 2000

I hereby certify that this is a correct copy of the original statement on file in my office. RICHARD D. DEAN, County Clerk

THIS FICTITIOUS BUSINESS NAME STATEMENT EXPIRES FIVE YEARS FROM THE DATE IT WAS FILED IN THE OFFICE OF THE COUNTY CLERK. A NEW FICTITIOUS BUSINESS NAME STATEMENT MUST BE FILED BEFORE THAT TIME. The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, or common law (See 14400 et seq., Business and Professions Code).

Publish: Nov 1, 8, 15, 22, 2000 Ad No: VC202149

NOTICE TO BIDDERS

The Camrosa Recreation and Park District is seeking bids for the purchase of the following vehicle:

(1) New 4x2 Cab & Chassis w/End Dump Body

Bid Specifications may be obtained at the Camrosa Recreation and Park District Administration Office, 555 E. Ventura Blvd., Camarillo, CA 93010. Bids will be opened at the above address at 10:00 a.m. on November 15, 2000. The Camrosa Recreation and Park District reserves the right to reject any or all bids.

Dated: October 31, 2000

Publish: Nov 1, 2000 Ad No VC202148

1201 Public Notices

NOTICE OF PETITION TO ADMINISTER ESTATE OF: DANIEL DAVIS

Case Number P075350

To all heirs, beneficiaries, creditors, contingent creditors, and persons who may otherwise be interested in the will or estate, or both, of DANIEL DAVIS

A PETITION FOR PROBATE has been filed by Paula Haney in the Superior Court of California, County of Ventura.

THE PETITION FOR PROBATE requests that Paula Haney be appointed as personal representative to administer the estate of the decedent.

A HEARING on the petition will be held on Nov 28, 2000 at 10:00 a.m. in Dept. 31 located at 800 S. Victoria Ave., Ventura, CA 93009.

IF YOU OBJECT to the granting of the petition, you should appear at the hearing and state your objections or file written objections with the court before the hearing. Your appearance may be in person or by your attorney.

IF YOU ARE A CREDITOR or a contingent creditor of the decedent, you must file your claim with the court and mail a copy to the personal representative appointed by the court within the later of four months from the date of first issuance of letters as provided in Probate Code section 9100, the time for filing claims will not expire before four months from the hearing date noticed above.

YOU MAY EXAMINE the file kept by the court. If you are a person interested in the estate, you may file with the court a Request for Special Notice (form DE-154) of the filing of an inventory and accounting of estate assets or of any petition or account as provided in Probate Code section 1250. A Request for Special Notice form is available from the court clerk.

Attorney for petitioner:
Steven R. Haney
SBN#121980
Erlich, Bratches, Sonnenreich, Hafey, Buchanan & Patterson L.L.P. 21st Wilshire Blvd., Fifty-Third Floor, Los Angeles, Calif. 90017 (213) 775-6500

Publish Oct 18, 25, Nov 1, 2000 Ad No VC199268

SUMMONS

NOTICE TO DEFENDANT: CANPIBRE OF RIVERSIDE, INC., a Delaware corporation; STONE & WEBSTER, a business entity, form unknown; and DOES 1-10, inclusive

YOU ARE BEING SUED BY PLAINTIFF: KOO SHAREM CORPORATION dba SELECT TEMPORARY SERVICES.

CASE NO. 81036622

You have 30 Calendar Days after this summons is served on you to file a typewritten response at this court.

A letter or phone call will not protect you. Your typewritten response must be in proper legal form if you want the court to hear your case.

If you do not file your response on time, you may lose the case, and your wages, money and property may be taken without further warning from the court.

There are other legal requirements. You may want to call an attorney right away. If you do not know an attorney, you may call an attorney referral service or a legal aid office (listed in the phone book).

The name and address of the court is:
Superior Court of California, County of Santa Barbara
1100 Anacapa Street
Santa Barbara, CA 93101

1201 Public Notices

NOTICE TO CREDITORS OF BULK SALE

(SEE CAL. 6104, 6105, U.C.C.)
Escrow Number: 00003278

Notice is hereby given to creditors of the within named Seller that a bulk sale is about to be made of the assets described below.

The names and addresses of the Seller are:
Ventura Mailboxes Etc.
35 W. Main Street-Suite B, Ventura, CA 93001

The location in California of the chief executive of this Seller is SAME

As listed by the Seller, all other business names and addresses used by the Seller within three years before the date bulk sale was sent or delivered to the Buyer are Ocean Air Environments, 2724 Chemical Street, Ventura, CA 93003

The names and business addresses of the Buyer are:
Mohammad Azim
Kalimandi Marwari
216 N. Ventura Road, Oxnard, CA 93030

The assets to be sold are described in general as: fixtures and equipment, goodwill, tradename, covenant not to compete, stock in trade, telephone number, yellow page ads for one (1) year, all customers, signs, and leasehold improvements and are located at: 35 W. Main Street, Suite B, Ventura, CA 93001

The business name used by the Seller at that location is: Mailboxes, Etc.

The anticipated date of the bulk sale is NOV 17, 2000 at the office of: CHICAGO TITLE COMPANY-ESCROW DIVISION, 1717 Solano Ave., Berkeley, CA 94707

The bulk sale IS subject to California Uniform Commercial Code Section 6106.

The bulk sale IS NOT subject to California Uniform Commercial Code Section 6106.2.

If subject, the name and address of the person with whom claims may be filed is: CHICAGO TITLE COMPANY-ESCROW DIVISION, 1717 Solano Ave., Berkeley, CA 94707, and the last for filing claims shall be NOV 16, 2000, which is the business day before the sale date specified above.

Dated: Oct 16, 2000
Transferee
Mohammad Azim
Kalimandi Marwari

Publish: Nov 1, 2000 Ad No VC201328

SUPERIOR COURT OF CALIFORNIA, COUNTY OF VENTURA

In the Matter of the Application of Christopher-Angela Cortez for change of name

AMENDED ORDER TO SHOW CAUSE CHANGE OF NAME

Case No. CIV189417

The petitioner, Florita Sarmonte Cortez, Devera has filed a petition with the Clerk of this court for an order changing name of Christopher-Angela Cortez to Christopher-Angela Cortez Santa Ana

IT IS ORDERED that all persons interested in the matter appear before this Court on Nov 28, 2000 at 8:30 in Courtroom 34 and show cause, if any, why the petition for change of name should not be granted. IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Ventura Star, a newspaper of general circulation, printed in Ventura County, at least once a week for four successive weeks prior to the date set for hearing on the petition.

Dated: Oct 12, 2000
Henry J. Walsh
Judge of the Superior Court

Publish: Nov 1, 8, 15, 22, 2000 Ad No: VC202161

SUPERIOR COURT OF CALIFORNIA, COUNTY OF VENTURA

In the Matter of the Application of Christopher-Angela Cortez for change of name

AMENDED ORDER TO SHOW CAUSE CHANGE OF NAME

Case No. CIV189207

The petitioner, Emmalyn Buenaventura has filed a petition with the Clerk of this court for an order changing name of Christopher-Angela Cortez to Emmalyn-Angela Cortez Santa Ana

IT IS ORDERED that all persons interested in the matter appear before this Court on Nov 28, 2000 at 8:30 in Courtroom 34 and show cause, if any, why the petition for change of name should not be granted.

IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Ventura Star, a newspaper of general circulation, printed in Ventura County, at least once a week for four successive weeks prior to the date set for hearing on the petition.

Dated: Oct 12, 2000
Henry J. Walsh
Judge of the Superior Court

Publish: Nov 1, 8, 15, 22, 2000 Ad No: VC202162

SUPERIOR COURT OF CALIFORNIA, COUNTY OF VENTURA

In the Matter of the Application of Christopher-Angela Cortez for change of name

AMENDED ORDER TO SHOW CAUSE CHANGE OF NAME

Case No. CIV189207

The petitioner, Emmalyn Buenaventura has filed a petition with the Clerk of this court for an order changing name of Christopher-Angela Cortez to Emmalyn-Angela Cortez Santa Ana

IT IS ORDERED that all persons interested in the matter appear before this Court on Nov 28, 2000 at 8:30 in Courtroom 34 and show cause, if any, why the petition for change of name should not be granted.

IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Ventura Star, a newspaper of general circulation, printed in Ventura County, at least once a week for four successive weeks prior to the date set for hearing on the petition.

Dated: Oct 12, 2000
Henry J. Walsh
Judge of the Superior Court

Publish: Nov 1, 8, 15, 22, 2000 Ad No: VC202161

SUPERIOR COURT OF CALIFORNIA, COUNTY OF VENTURA

In the Matter of the Application of Christopher-Angela Cortez for change of name

AMENDED ORDER TO SHOW CAUSE CHANGE OF NAME

Case No. CIV189207

The petitioner, Emmalyn Buenaventura has filed a petition with the Clerk of this court for an order changing name of Christopher-Angela Cortez to Emmalyn-Angela Cortez Santa Ana

IT IS ORDERED that all persons interested in the matter appear before this Court on Nov 28, 2000 at 8:30 in Courtroom 34 and show cause, if any, why the petition for change of name should not be granted.

IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Ventura Star, a newspaper of general circulation, printed in Ventura County, at least once a week for four successive weeks prior to the date set for hearing on the petition.

Dated: Oct 12, 2000
Henry J. Walsh
Judge of the Superior Court

Publish: Nov 1, 8, 15, 22, 2000 Ad No: VC202161

SUPERIOR COURT OF CALIFORNIA, COUNTY OF VENTURA

In the Matter of the Application of Christopher-Angela Cortez for change of name

ORDER TO SHOW CAUSE CHANGE OF NAME

Case No. CIV189293

The petitioner, Amy Rong Miller, has filed a petition with the Clerk of this court for an order changing name of Amy Rong Miller to Amy Rong

IT IS ORDERED that all persons interested in the matter appear before this Court on Nov 28, 2000 at 8:30 a.m. in Courtroom 34 and show cause, if any, why the petition for the change of name should not be granted.

IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Ventura County Star, a newspaper of general circulation, printed in Ventura County, at least once a week for four successive weeks prior to the date set for hearing on the petition.

DATED: October 18, 2000
Henry J. Walsh, Judge of the Superior Court

Publish: November 1, 8, 15, 22, 2000 VC201866

00-199

NOTICE OF PUBLIC HEARING and MITIGATED NEGATIVE DECLARATION REVIEW PERIOD

The Planning Division is processing the following application and is providing notice of the Initial Study findings. This project will not have a significant effect on the environment and a Draft Mitigated Negative Declaration has been prepared pursuant to applicable provisions of the California Environmental Quality Act.

PERMIT: Conditional Certificate of Compliance No. 00-199

APPLICANT: Marshall Oldman

ENVIRONMENTAL REVIEW: Mitigated Negative Declaration

PROJECT DESCRIPTION: The legalization of a 62 acre parcel, by processing of a Conditional Certificate of Compliance and recording a parcel map (PM 5265).

LOCATION: Old Telegraph Road, at the intersection of Highway 126 and the Santa Clara River

ASSESSOR PARCEL NO.: 041-0-100-080 and 130

The public review period is from November 1st to November 21st, 2000. There will be a Planning Director's hearing on this project on Thursday, November 30, 2000, at 10:00 a.m. in Room 311, Third Floor, Hall of Administration, 800 South Victoria Avenue, Ventura, CA 93009. You may submit written comments to the Planning Division, 800 South Victoria Avenue, Ventura, CA 93009, or to Susan Morrison, 813 Pioneer Court, Camarillo, CA 93010 or FAX comments to (805) 654-2509. Please call the Case Planner, Debbie Morrison, at (805) 654-2485 for more information or to review a copy of the Mitigated Negative Declaration at the Resource Management Agency, Planning Division.

If you challenge the action resulting from this notice in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the Ventura County Planning Division at, or prior to, the public hearing.

Printed: Nov 1, 2000 Ad No VC 201 05

SOUTHEAST QUADRANT

SFPD 4.0 School Site Field Reviews

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southeast Quadrant: Site 15 SFP Application No.: 50/72538-00-

Location (cross streets): Ventura Road, Channel Islands Boulevard, Manzanita Drive, and Casa San Carlos Lane

Master Plan Capacity 630 **Site Size:** Gross acres 11 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☐ Noise ☒
Gas transmission lines ☐ Electric transmission lines ☐ Other ☐
Comment: See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☒ No ☐
Comment: A commercial shopping center and gas station

Street improvements: (y = yes n = no p = proposed)
Sidewalk Yes Curb & gutter Yes Street paving 3 Street lighting 3 Fire Hydrant Yes
Comment: All major infrastructure is present and operating.

Financial

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☒ No ☐ Unknown ☐
Comment: It is assumed, but not known for sure, that condemnation and relocation will be required.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 3 Number of sites evaluated 6 Relative ranking of this site 1

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site, though near Kamala and McKinna Schools, is in the area of greatest need for schools in the School District at this time.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 15, in the southeast quadrant of the school district, located on Channel Islands Boulevard between Ventura Road and Manzanita Drive, is approvable provided all environmental hazards are adequately addressed and successfully mitigated.

This site is located near McKinna and Kamala Schools, but is in the corridor of the city between Ventura Road and Oxnard Boulevard-Saviers Road of greatest need for new schools. It is also situated deep within an established residential area so that it would be a neighborhood school. It is adjacent to Ventura Road on the west and Channel Islands Boulevard on the south, both fast, busy, noisy, arterial roads. If students from west of Ventura Road will attend this school, then the installation of traffic lights or similar mitigation on Ventura Road will be necessary. Sound attenuation will need to be an architectural design element. A Union 76 gas station is on the property, which may require environmental cleanup. *Eminent domain* court proceedings and relocation of businesses can be time consuming and costly.

Conditions:

Completion of requirements listed on form SFPD 4.01.

If students are to attend this campus from across Ventura Road, a traffic hazard study and a safe routes to school plan will be required.

The California Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements, including power substations, within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southeast Quadrant: Site 14 SFP Application No.: 50/72538-00-

Location (cross streets): Laurel Street between C Street and Saviers Road

Master Plan Capacity 630 **Site Size:** Gross acres 10 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☐ Flood ☐ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☐ Other ☐
Comment: See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain _____
Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☒ No ☐
Comment: School buildings of a private high school, believed not to comply with the Field Act

Street improvements: (y = yes n = no p = proposed)
Sidewalk 1 Curb & gutter 1 Street paving 3 Street lighting 2 Fire Hydrant 2
Comment: All major infrastructure is present and operating.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☐ Unknown ☒
Comment: It is unknown whether the current owner would be receptive to purchase or under what conditions.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 3 Number of sites evaluated 6 Relative ranking of this site 2

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site, though near Kamala, Elm Street, and Harrington Schools, is in the area of greatest need for schools in the School District at this time.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 14, in the southeast quadrant of the school district, located on Laurel Street between C Street and Saviers Road, is approvable provided all environmental hazards are adequately addressed and successfully mitigated.

This site is located near Kamala, Elm Street, and Harrington Schools, but is in the corridor of the city between Ventura Road and Oxnard Boulevard-Saviers Road of greatest need for new schools. It is also situated deep within an established residential area so that it would be a neighborhood school. It is adjacent to Saviers Road on the east, a fast, busy, noisy, arterial road. Sound attenuation should be an architectural design element. Groundwater remediation is taking place south of the property in the parking lot of the Center Point Mall. This property could be one of the easiest to acquire or one of the most difficult, depending on the interest and plans of the present owners.

Conditions:

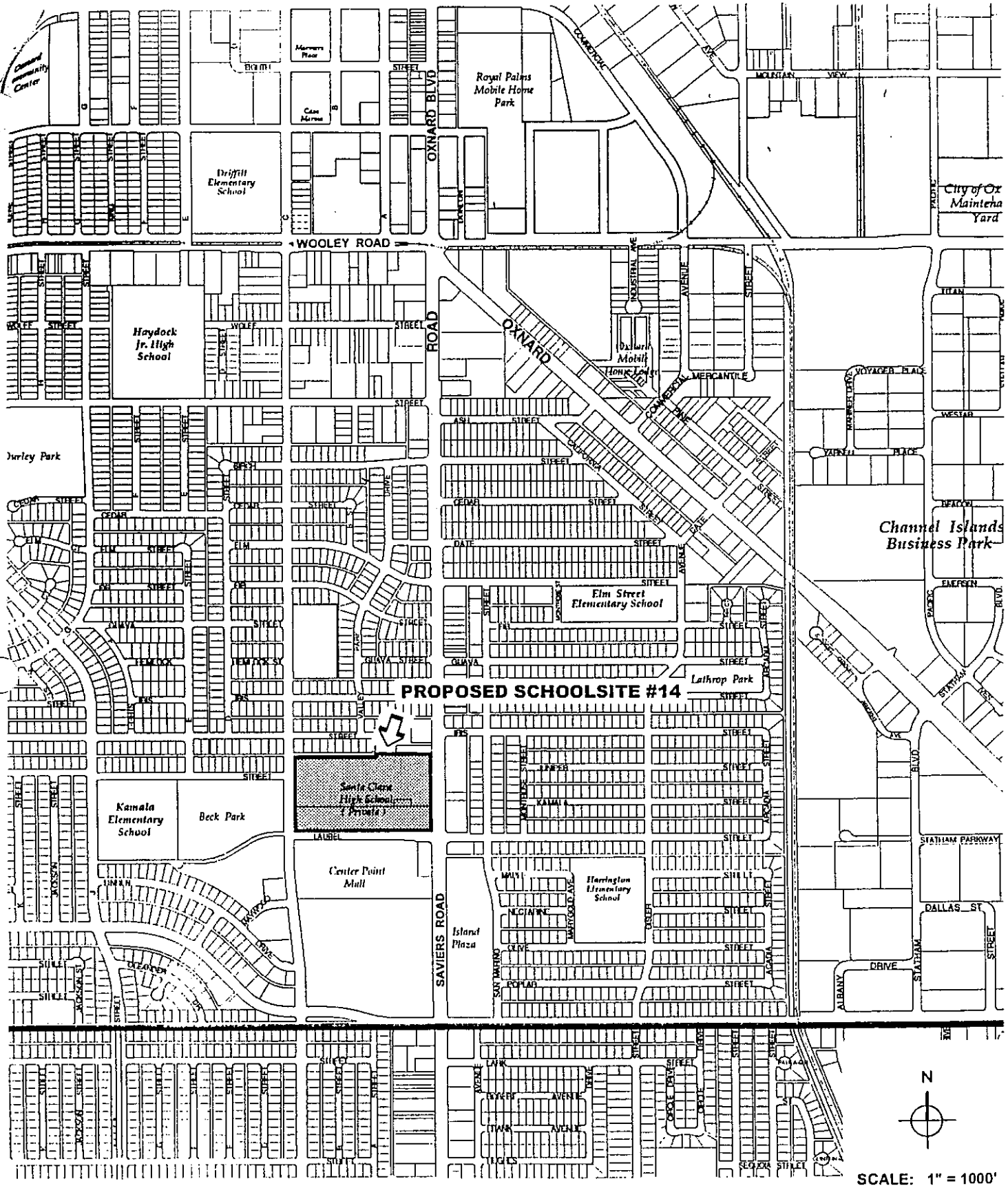
Completion of requirements listed on form SFPD 4.01.

If students are to attend this campus from across Saviers Road, a traffic hazard study and a safe routes to school plan will be required.

The California Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements, including power substations, within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.



	OXNARD SCHOOL DISTRICT **1051 SOUTH "A" STREET** **OXNARD, CALIFORNIA 93030**	**VICINITY MAP** **PROPOSED SCHOOLSITE #14**	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southeast Quadrant: Site 19 SFP Application No.: 50/72538-00-

Location (cross streets): Rose Avenue between Emerson Avenue and Wooley Road

Master Plan Capacity 630 **Site Size:** Gross acres 53 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres 9.9 Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☐ Other ☒
Comment: Oil field area. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident, although drainage is an important consideration at this site.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: _____

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter No Street paving Yes Street lighting ____ Fire Hydrant ____
Comment: Rose Avenue is scheduled to be a six-lane arterial road in the future.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is condemnation required? Yes ☐ No ☒ Unknown ☐
Comment: The owner of the property is thought to be willing to sell.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 3 Number of sites evaluated 6 Relative ranking of this site 3

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site, though near Lemonwood School, is in an area of the community that needs another school. Soria School is planned for this section of the school district. If it is constructed as planned, Site 19 would probably not be needed.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 19, in the southeast quadrant of the school district, located off Rose Avenue between Emerson Avenue and Wooley Road, is approvable provided all environmental hazards are adequately addressed and successfully mitigated.

This site is located near Lemonwood School and the new Soria School site. If the Soria School is built as planned, this site will likely fall out of consideration as a candidate elementary site. The area may need a new middle school one day. West and northwest across Rose Avenue is the beginning of a major industrial area of Oxnard. North across Wooley and east is agricultural land that has not been annexed by the city and therefore will not likely become residential areas in the near future. The site itself is just outside the city limits. Only south across Emerson and east of Rose Avenue is there significant residential development. Positioned on Emerson it would be a neighborhood school. Rose Avenue, already a fast, busy, noisy, arterial road, is planned for expansion to six lanes. The school should be set back a suitable distance from the Rose Avenue easement for safety, and sound attenuation should be an architectural design element.

As a cultivated agricultural site, on which residual pesticides are likely to exist, it is a near certainty that a Preliminary Environmental Assessment, conducted under the auspices of the Department of Toxic Substances Control, will be required. This is also said to be an oil field area. And to the extent that the surrounding land continues in agricultural production, pesticide drift could be an issue, even though those applying pesticides are obligated to control their travel. If a wide agricultural buffer is needed on the east of the property, and a significant buffer is needed from Rose Avenue on the west, the site could become too long and narrow to be viable. The District will want to take into consideration the likelihood and timing of residential construction east of Rose Avenue, in terms of environmental concerns, off-site and utility extension costs, and future middle school needs.

Conditions:

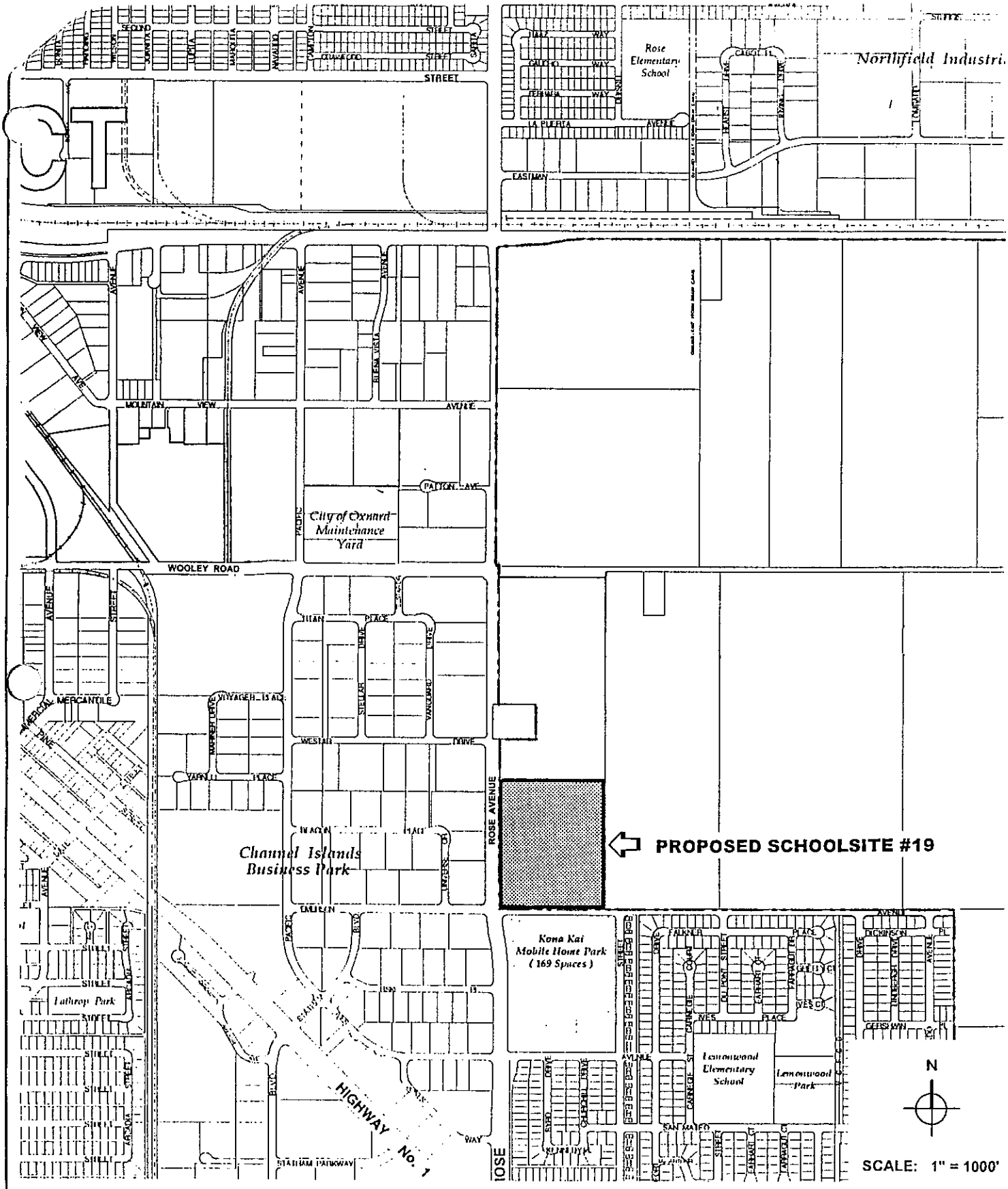
Completion of requirements listed on form SFPD 4.01.

If students are to attend this campus from across Rose Avenue, a traffic hazard study and a safe routes to school plan will be required.

The California Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements, including power substations, within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

VICINITY MAP
PROPOSED SCHOOLSITE #19

DATE:	02 JAN 01
SCALE:	1" = 1000'
DRAWING No.	

SFPD 4.0 School Site Field Review

alifornia Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southeast Quadrant: Site 10 SFP Application No.: 50/72538-00-

Location (cross streets): Rose Avenue between Highway 1 and Ives Avenue

Master Plan Capacity 630 **Site Size:** Gross acres 12 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres 9.9 Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☐ Noise ☒
Gas transmission lines ☐ Electric transmission lines ☒ Other ☒
Comment: Zoned industrial and light manufacturing. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain _____
Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: A new commercial business office building at one corner might stay for district administrative uses.

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter No Street paving 3 Street lighting _____ Fire Hydrant 2
Comment: Rose Avenue is scheduled to be a six-lane arterial road in the future.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☐
Comment: _____

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 5 Number of sites evaluated 6 Relative ranking of this site 4

☐ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☒ The CDE recommends that the district no longer pursue acquiring this site.

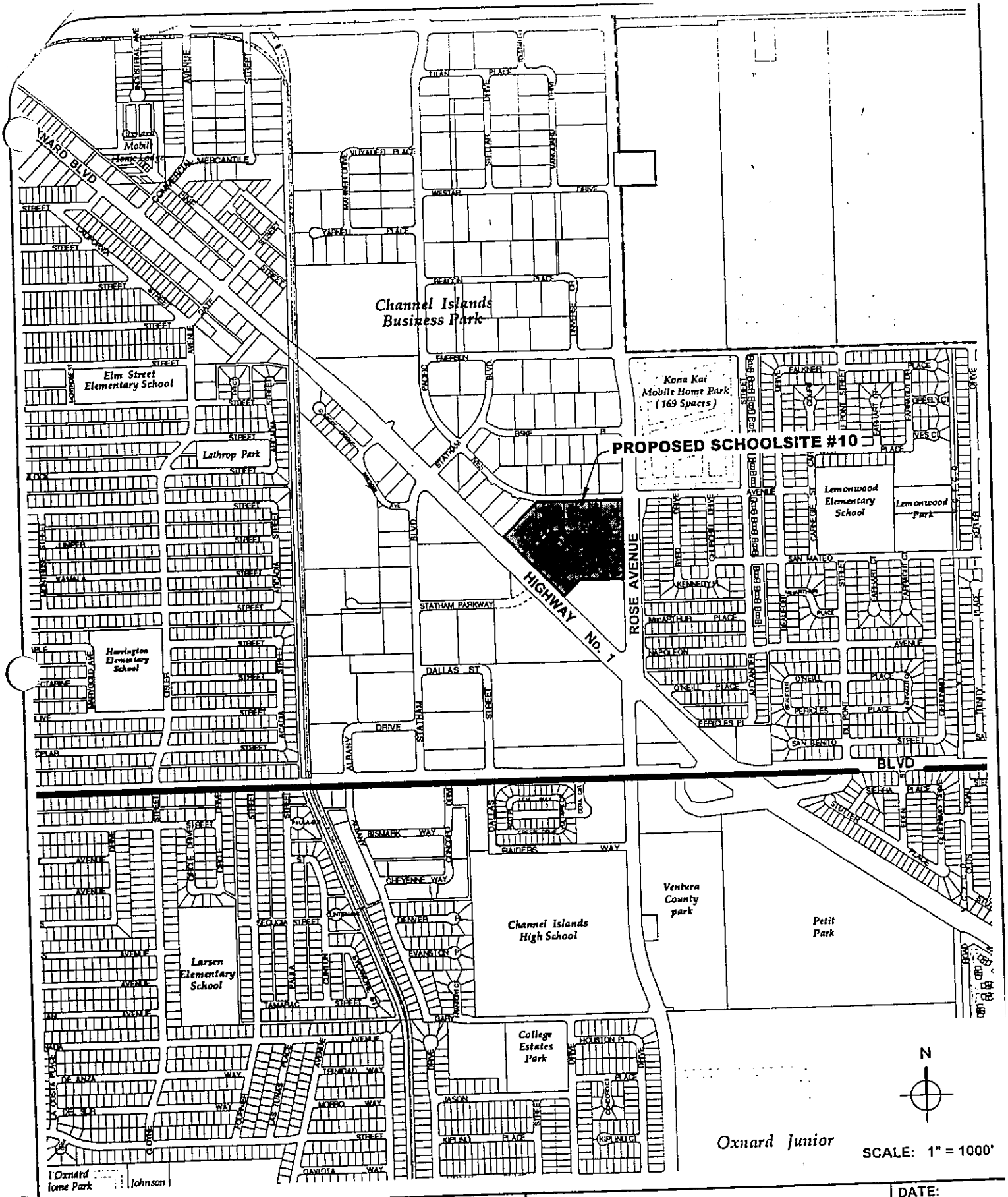
Comment: This site is poorly located at the intersection of Highway 1 and Rose Avenue in a developing industrial zone. It would never be a neighborhood school unless connected by pedestrian bridge as it is across busy and expanding Rose Avenue from the homes.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 10, in the southeast quadrant of the school district, is located in a developing industrial zone that is not yet established. Moreover, it is at the junction of two major transportation and utility corridors. The activities and events likely to occur around the schoolsite over time could well be inconsistent with the goals of the School District to keep its students and teachers safe from environmental hazards. The School District could find it difficult if not impossible to prevent industrial enterprises from entering the area whose interests, processes and manufacturing might be injurious to the school. Rose Avenue, already a fast, busy, noisy, arterial road, is planned for expansion to six lanes. This site is across Rose Avenue from the residential areas it would seek to serve, though a pedestrian bridge could be constructed to connect the two. Busing would likely be a permanent feature of school life, even with a pedestrian overcrossing. Isolated by industry and major, high-speed roadways, a school here would never really be a neighborhood school. The site's positive qualities are insufficient to make it more than a marginally satisfactory elementary school and it may well not be ultimately approvable. The Department of Education advises the School District against proceeding with this site.



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

VICINITY MAP
PROPOSED SCHOOLSITE #10

DATE: 02 JAN 01
SCALE: 1" = 1000'
DRAWING No.

ool Site Field Review

Consultant: George Shaw

Date of Review: 3/1/01

Information

Name: Oxnard Elementary

Location: Southeast Quadrant: Site 9

County: Ventura

SFP Application No.: 50/72538-00-

Location (cross streets): Highway 1, Rose Avenue, Channel Islands Boulevard

Master Plan Capacity 630 **Site Size:** Gross acres 20 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☐ Noise ☒

Gas transmission lines ☐ Electric transmission lines ☒ Other ☒

Comment: Abandoned and active oil wells. Please see Comments, page two.

Within two miles of **airport runway**? Yes ☐ No ☒ Within two miles of **heliport**? Yes ☐ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)

Gas adj Water adj Sewer adj Electricity adj Storm Drain _____

Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:

No special site preparation problems are evident, though environmental cleanup could be challenging.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒

Comment: _____

Street improvements: (y = yes n = no p = proposed)

Sidewalk 1 Curb & gutter 2 Street paving 3 Street lighting N Fire Hydrant 1

Comment: Rose Avenue is scheduled to be a six-lane arterial road in the future; Channel Islands and Highway 1 are 4.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☐ Unknown ☒

Comment: The property has been for sale, but may have transferred ownership.

Ranking

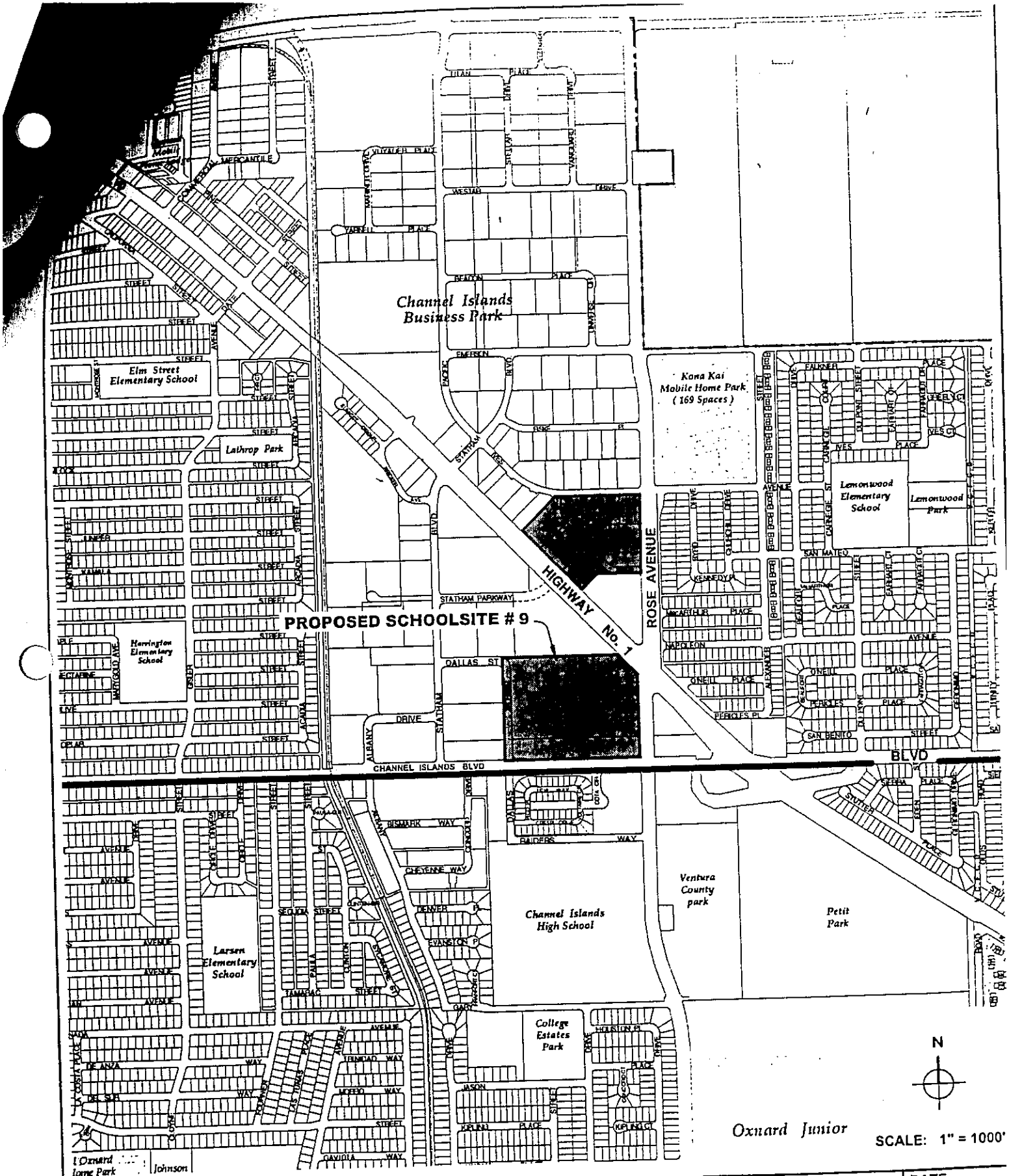
Ranking: (1=high and 5 = low)

Ranking of this Site 5 Number of sites evaluated 6 Relative ranking of this site 5

☐ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☒ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site is poorly located at the intersection of Highway 1, Rose Avenue and Channel Islands Boulevard, all high-speed, four-lane arterial roads. A school here would never be a neighborhood school. Virtually all students would require busing.



	OXNARD SCHOOL DISTRICT **1051 SOUTH "A" STREET** **OXNARD, CALIFORNIA 93030**	**VICINITY MAP** **PROPOSED SCHOOLSITE # 9**	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.

SHEET 1 of

SFPD 4.0 School Site Field Review

Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southeast Quadrant: Site 16 SFP Application No.: 50/72538-00-

Location (cross streets): Wooley Road between Oxnard Boulevard and Industrial Avenue

Master Plan Capacity 630 **Site Size:** Gross acres 11.6 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☒ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☒ Other ☒
Comment: Industrial area. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain _____
Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: The site is a former drive-in movie theater.

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter No Street paving I Street lighting _____ Fire Hydrant _____
Comment: The site is bounded by an alley on the southwest and west connecting to Wooley Road.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☐
Comment: The property is on the market for sale.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 6 Number of sites evaluated 6 Relative ranking of this site 6

☐ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☒ The CDE recommends that the district no longer pursue acquiring this site.

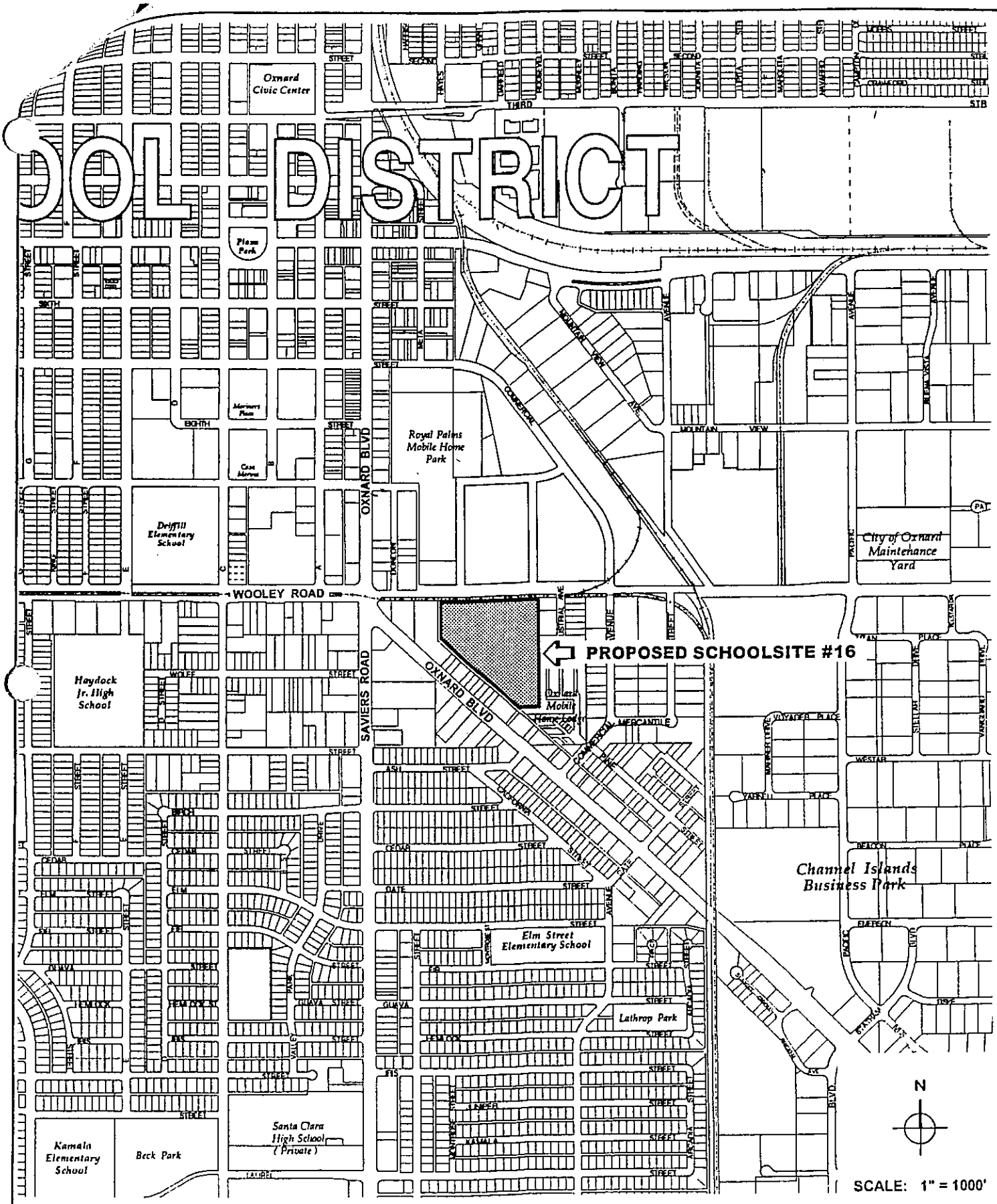
Comment: This site is in a heavily industrialized section of Oxnard, surrounded by all the environmental hazards schools should avoid.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 16, in the southeast quadrant of the school district, is located in an old industrial zone. A former sugarbeet factory in which red lead was used in processing is directly north of the site. A pesticide mixing facility is northeast 1/3 mile. A chrome plating facility and a show girls bar are among the businesses located east of the site 1000 feet. Railroad tracks are within ¼ mile and high-voltage powerlines run in Wooley Road. Wooley Road and Oxnard Boulevard are high-speed arterial roads. The large majority of students who would be served by a school in this location would have to cross these transportation corridors unless they were bused. Busing would be a permanent feature of life for a school here. The school would not be neighborhood school for most of the student population. Driffill and Elm Street Schools are each 1/3 mile away. The area, other than the industries, is economically and socially depressed. The activities and events likely to occur around the schoolsite over time could well be inconsistent with the goals of the School District to keep its students and teachers safe from environmental hazards. Apart from the size and availability of the site, it is difficult to find any positive qualities that make this property suitable for a school. The site's negative qualities cannot in all likelihood be mitigated sufficiently to make it consistent with Title 5 and to obtain approval. The Department of Education advises the School District against proceeding with this site.



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

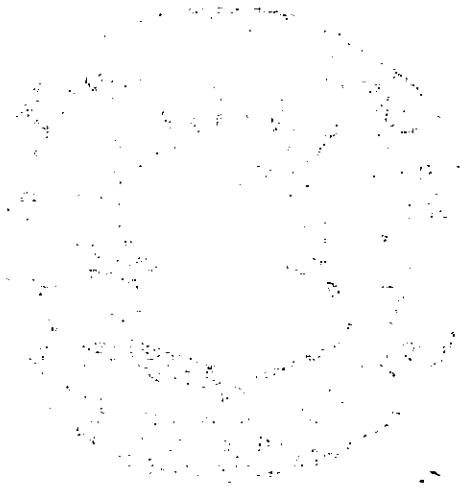
VICINITY MAP
PROPOSED SCHOOLSITE #16

DATE:	02 JAN 01
SCALE:	1" = 1000'
DRAWING No.	

3/1
(mgl)

Evaluation of Nineteen Candidate Schoolsites for the Oxnard Elementary School District

Dorothie J. Sterling, President

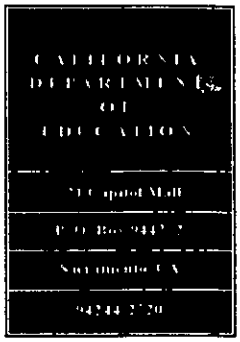


School Facilities Planning Division
California Department of Education

George M. Shaw

March 27, 2001

DELAINE EASTIN
State Superintendent of Public Instruction



March 26, 2001

Dorothie J. Sterling, President
Board of Trustees
Oxnard Elementary School District
1051 South A Street
Oxnard, CA 93030-7492

Dear President Sterling:

The California Department of Education is pleased to present to the Governing Board of the Oxnard Elementary School District on-site field evaluations of seventeen elementary and two intermediate candidate schoolsites.

Please note that I have, in most cases, evaluated the elementary sites for 630 students in kindergarten, double session, through grade 6, with 20:1 student-teacher ratios at K-3. The 9.9 net useable acres required according to State standards for this student population would allow for the expansion of these schools up to 700 students, K-6, if or when needed. However, if the class size reduction effort is extended to grades 4-6, 10.3 net useable acres would be required for either population. I have evaluated the intermediate sites for 950 students in grades 7 and 8. The 15.0 net useable acres required for this student population would allow for expansion up to 1,050 students. If the class size reduction effort is extended to grades 7 and 8, 16.6 net useable acres would be needed. And if football and track facilities are required for the intermediate physical education programs, 21.9 acres would be necessary for this population, or 23.5 acres with 20:1 student-teacher ratios.

You will see that I have additionally grouped these evaluations by quadrants, using Ventura Road and 5th Street as the north-south and east-west axes. These quadrants are fairly large and do not necessarily correspond to any school attendance areas. This method is merely an attempt on my part to bring better order to the evaluation of numerous sites citywide and to provide you comparisons within these large neighborhoods. The School District may prefer to plan new schools using smaller planning areas. I would be pleased to re-group and re-rank candidate sites accordingly.

I believe the evaluations are self-explanatory, with maybe one exception. I was asked to give an opinion on Fremont Intermediate School as a potential site for a new elementary school. I have not, however, included a field evaluation of Fremont School for two reasons: First, Fremont is an operating school. It is not a candidate site. And because of this essential difference, a comparison with candidate sites is not apropos. Candidate sites, for instance, should have the potential to be safe; but schoolsites should *be* safe. Second, because the campus is a recognized, operating school, approval or reapproval of the site is not required except that we would require an evaluation of environmental hazards in the vicinity of the school before giving approval to construction plans. As with Ramona School's reconstruction, this would include an evaluation of air traffic safety by the

Department of Transportation and review of a Phase I Environmental Site Assessment by the Department of Toxic Substances Control. It could involve assessment of other environmental hazards, though none appeared to me when I visited the schoolsite.

One final word is necessary on Fremont School and thoughts on taking a portion of the playfields for a new elementary school. The 7-8 grade campus is currently comprised of 25.5 acres and serves 1,130 students. This student population requires 18.I net useable acres according to state standards, without 20:1 student-teacher ratios and without football and track. It appears, then, that the school may have a few acres on which it could build a small companion elementary school to Curren Elementary, one block away. However, given the difficulty of finding and acquiring even appropriate elementary sites in Oxnard, which are in the range of 10 to 11 acres, the School District needs to make a careful assessment of its future ability to identify and acquire intermediate school sites of 15 to 20 acres. The School District may find it prudent to reserve its capability of expanding the capacity of Fremont Intermediate in order to ensure its ability to respond to changing student population trends and to any lack of large tracts of land.

I have not completed an evaluation report for Elementary Site 17, in the Southwest quadrant. It is a long, narrow site at the intersection of busy roadways and the Edison Canal, and near the inner turning zone of Oxnard Airport. Site 4 is a large parcel on which several schoolsite configurations are possible, and these together with Site 18 give the School District several good choices.

I have not evaluated Sites 20, 21, 23, 24, 25, 26, 27, and 29 as they are all are either on or alongside the airport or in the inner turning zones of the air traffic patterns.

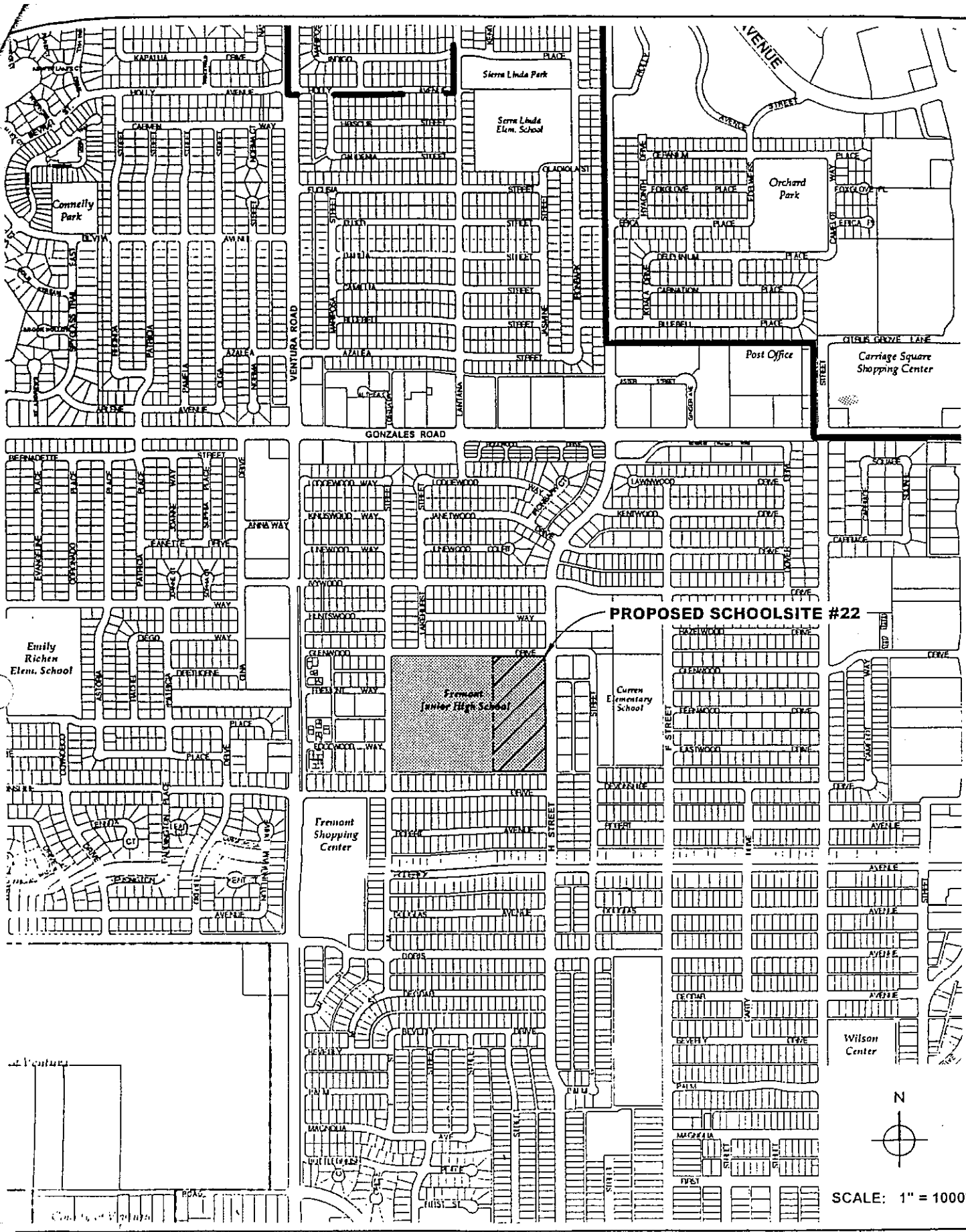
I am at your continued assistance should the School District require it in your site selection and acquisition efforts.

Sincerely,

George M. Shaw, Field Consultant
School Facilities Planning Division
(805) 692-9913

GMS

Enclosures



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

VICINITY MAP
PROPOSED SCHOOLSITE #22

DATE:	02 JAN 01
SCALE:	1" = 1000'
DRAWING No.	

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Northeast Quadrant: Site 6 SFP Application No.: 50/72538-00-

Location (cross streets): Camino Del Sol and Rose Avenue

Master Plan Capacity 500 **Site Size:** Gross acres 7.5 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 7.10

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☐ Flood ☐ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☐ Other ☐
Comment: Rose Avenue separates the site from Del Sol Park.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain soon
Special needs: Well ☐ Septic ☐ Other: A storm drain system along Camino Del Sol is in construction.

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: _____

Street improvements: (y = yes n = no p = proposed)
Sidewalk 2 Curb & gutter 2 Street paving 2 Street lighting 2 Fire Hydrant 4
Comment: The site is in a developed residential area.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is condemnation required? Yes ☐ No ☐ Unknown ☒
Comment: The property is on the market for lease.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 2 Number of sites evaluated 6 Relative ranking of this site 1

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: The site is near Rose Elementary School, but could be paired with it. It is approvable for 500 elementary students, K-6. Multi-story construction, joint-use agreements, or educational justification may allow for more.

NORTHEAST QUADRANT

SFPD 4.0 School Site Field Reviews

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 6, at the intersection of Camino Del Sol and Rose Avenue is approvable provided all environmental hazards are adequately addressed and successfully mitigated.

This site is generally free from environmental hazards. It is located in an established residential neighborhood and would be a neighborhood school. Rose Elementary School is one long block away and could be used in tandem with it. Primary and elementary schools, for instance, for grades K-3 and 4-6, are a common arrangement and might work well here, given the proximity of the two sites and sufficient population density. Del Sol Park is directly across Rose Avenue from the schoolsite. With proper traffic mitigation, the school might be able to use the park jointly with the community under a joint-use arrangement. This could allow for a full-size elementary school on the campus. A creative physical education program or multi-story construction may also be useful in justifying more than 500 students at this school. The site is large enough to serve 700 K-3 grade students or 400 4-6 grade students, in either a K-3 and 4-6 configuration.

All in all, this site has considerable potential and environmentally is one of the best sites reviewed. The School District needs to determine whether this site will be centrally located to an elementary population of 400 to 700 students in addition to those students attending Rose Elementary.

Conditions:

Completion of requirements listed on form SFPD 4.01.

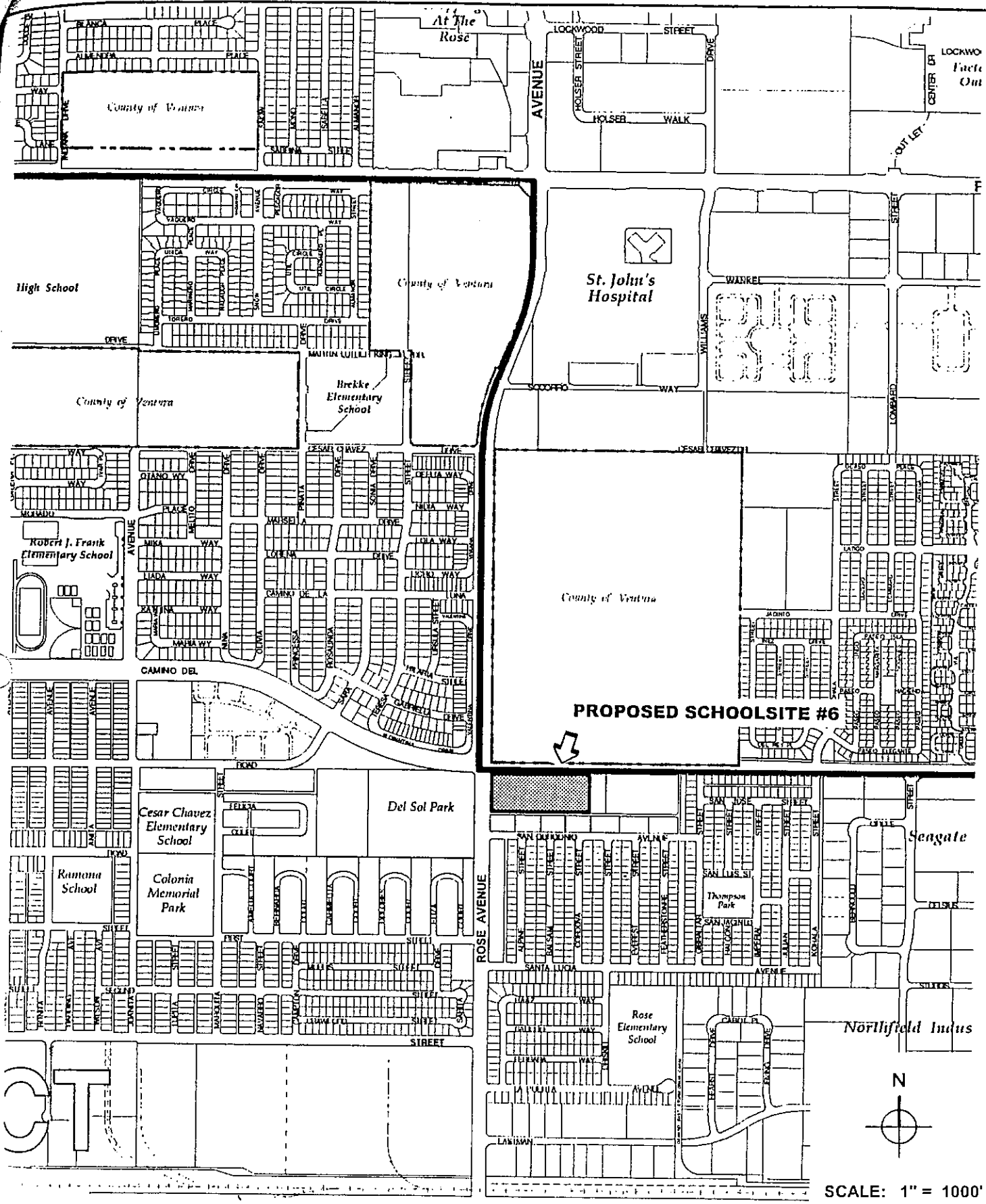
A traffic hazard study and a safe routes to school plan is required if students are to cross Rose Avenue or another arterial road.

The California Department of Transportation must evaluate this site's safety relative to airports within two air miles.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.

An educational or architectural plan or joint-use agreement demonstrating how the School District's educational program can be effectively delivered on this site if the school is to accommodate more than 500 elementary students.



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

VICINITY MAP
PROPOSED SCHOOLSITE #6

DATE:	02 JAN 01
SCALE:	1" = 1000'
DRAWING No.	

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 3/1/01

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Northeast Quadrant: Site 5 SFP Application No.: 50/72538-00-

Location (cross streets): Oxnard Boulevard between Camino del Sol and Morado Place, west of Frank Intermediate School

Master Plan Capacity 630 **Site Size:** Gross acres 45 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☒ Noise ☒
Gas transmission lines ☒ Electric transmission lines ☐ Other ☐
Comment: Please see Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas ____ Water ____ Sewer ____ Electricity ____ Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: Residential infrastructure is developing in the area.

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
Railroad and gas transmission pipeline mitigation measures

Are there **existing structures** on the site which need to be removed or demolished? Yes ☒ No ☐
Comment: One house

Street improvements: (y = yes n = no p = proposed)
Sidewalk N Curb & gutter N Street paving N Street lighting N Fire Hydrant N
Comment: A Camino del Sol extension appears to be planned. Residential infrastructure is developing in this area.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☐ Unknown ☒
Comment: _____

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 2- Number of sites evaluated 6 Relative ranking of this site 2

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: A schoolsite as far as possible from Highway 1 and the railroad tracks appears approvable and with proper investigation and mitigation of several hazards could be a safe and educationally supportive neighborhood school.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 5, just east of Frank Intermediate School, with frontage on Camino del Sol extended and Morado Place, is approvable provided all environmental hazards are adequately addressed and successfully mitigated. There are, however, several environmental hazards associated with this 45-acre site, and a 9.9-net acre schoolsite far from the Highway 1–Union Pacific Railroad corridor is strongly advised.

This large parcel is located on a busy, fast, noisy state highway. Union Pacific mainline railroad tracks run just east of Oxnard Boulevard. It is suspected that gas transmission lines are in the railroad track easement. The site is within two nautical miles of Oxnard Airport. The site is well located in a developing, new residential area. Effective mitigation of environmental hazards at this site is all-important to the viability of a school in this location and approval by the Board of Education and the Department of Education.

The school buildings should be situated far away from Oxnard Boulevard, and sound attenuation would need to be an architectural design element.

Conditions:

Completion of requirements listed on form SFPD 4.01.

A map of the attendance area for this school showing that no students will attend who live west of Oxnard Boulevard (Highway 1).

A traffic hazard study is required to address the risks of proximity to Oxnard Boulevard.

The existence of mainline railroad tracks within 1,500 feet of the site requires a railroad risk analysis pursuant to Title 5, Section 14010 (d).

The California Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw
Date of Review: 12/15/00

Site Information

District: Oxnard Elementary
County: Ventura
Site Identification: Northeast Quadrant: Site 13
SFP Application No.: 50/72538-00-
Location (cross streets): F Street and Doris Avenue

Master Plan Capacity 630
MTYRE
Grade level K-6
Site Size: Gross acres 10
Net acres
CDE Recommended acres 9.90
Planned Joint Use: Land/Park ☐ Buildings ☐

Safety

Potential Hazards: Seismic ☐ Traffic ☐ Toxic ☐ Flood ☐ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☒ Other ☐
Comment: Electric transmission lines exist in the alley behind the hospital.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain
Special needs: Well ☐ Septic ☐ Other: All utilities are on site.

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other:

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☒ No ☐
Comment: Major demolition of a former hospital constructed with asbestos and lead would be necessary.

Street improvements: (y = yes n = no p = proposed)
Sidewalk 3 Curb & gutter 3 Street paving 3 Street lighting Fire Hydrant
Comment: The site is in an established residential neighborhood with all infrastructure development.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☐
Comment: The property is for sale.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site * Number of sites evaluated 6 Relative ranking of this site *

☐ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☒ The CDE recommends that the district no longer pursue acquiring this site.

Comment: * This site would be ranked 2. and 3 overall in the northeast quadrant of the school district, except that it is located within the inner turning zone of Oxnard Airport's runway.

SITE DIAGRAM

Please see map of schoolsite, attached.

ımments:

ımentary Site 13, in the northeast quadrant of the school district, is unfortunately located within the "inner turning zone" Oxnard Airport's runway. This site in most other ways meets the criteria for schoolsites, and indeed has excellent ıential as a schoolsite except for its location relative to the airport. It is located deep within an established residential area ıd the school would be a neighborhood school to which students could walk or bicycle on residential streets. It is 1500 feet ıth of Curren Elementary, which is becoming overcrowded. The property is long and narrow and would require a creative hitectural design to ensure that the site would be secure and the playgrounds supervisable. Demolition of the former spital and remediation of the asbestos and lead paint used in the building could be costly. The Department of ınsportation has been asked to evaluate this site for air traffic safety.

e following section has been included in the event the Department of Transportation finds the site to be suitable terms of air traffic safety.

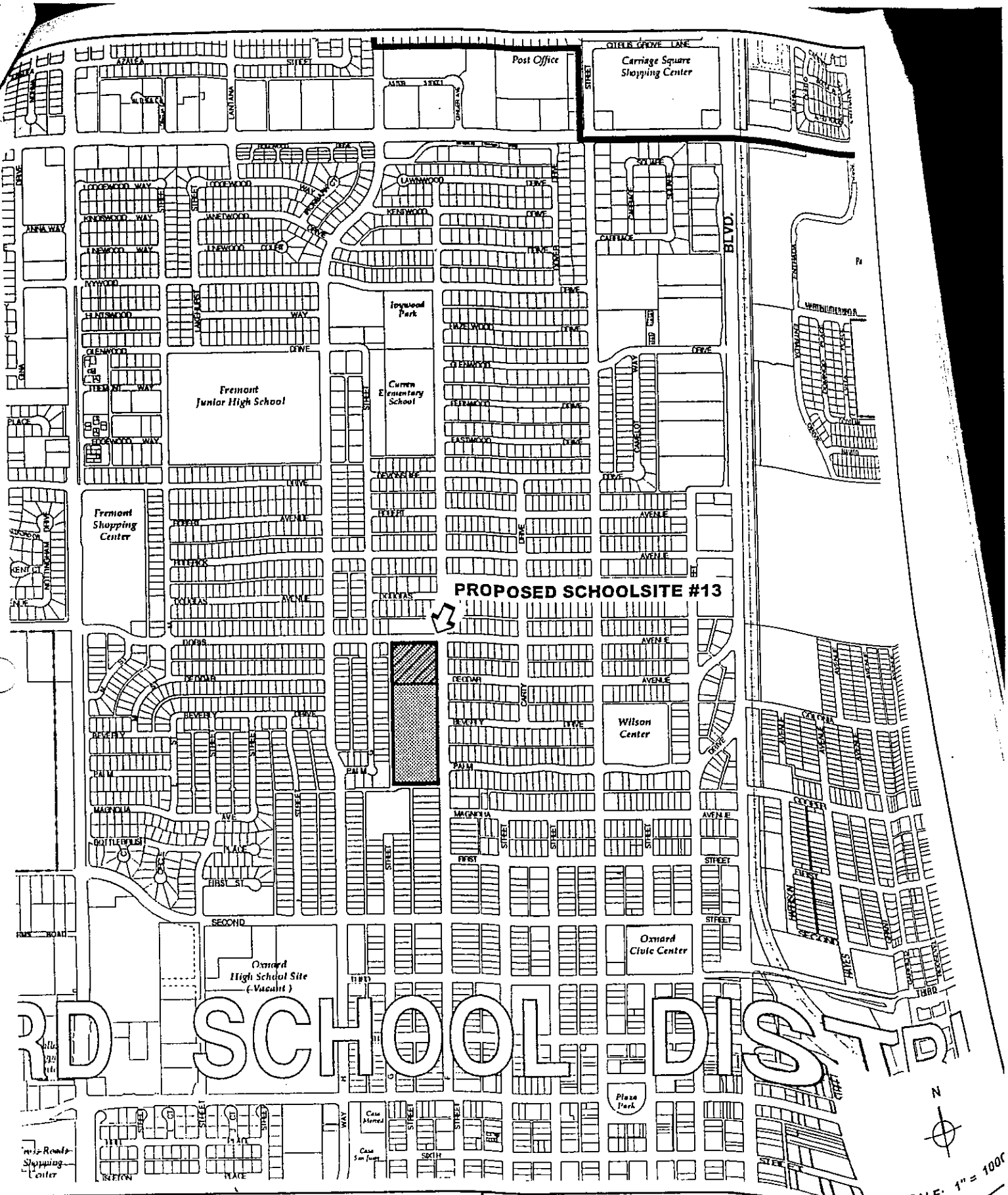
ınditions:

m on of requirements listed on form SFPD 4.01.

lifornia Department of Transportation's favorable evaluation of this site's safety relative to Oxnard Airport.

ə phase one environmental site assessment or the geological hazard report needs to include documentation of any gas ısmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a ısmission line risk analysis will be required.

verline easements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity s not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be erved.



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

VICINITY MAP
PROPOSED SCHOOLSITE #13

DATE: 02 JAN
SCALE: 1" = 1
DRAWIN
SHEET

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Northeast Quadrant: Site 12 SFP Application No.: 50/72538-00-

Location (cross streets): Oxnard Boulevard at Robert Avenue

Master Plan Capacity 630 **Site Size:** Gross acres 11 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☒ Noise ☒
Gas transmission lines ☒ Electric transmission lines ☐ Other ☐
Comment: See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain _____
Special needs: Well ☐ Septic ☐ Other: All major utilities exist on site.

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☒ No ☐
Comment: Buildings of Ford and Nissan auto dealerships

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter Yes Street paving 2 Street lighting _____ Fire Hydrant 1
Comment: _____

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☒
Comment: The Ford property is thought to be available; the Nissan is unknown. Many have relocated to the Auto Mall.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 3 Number of sites evaluated 6 Relative ranking of this site 4

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site is beleaguered by environmental hazards, from busy Oxnard Boulevard to mainline railroad tracks, and Oxnard Airport. It is located near Curren Elementary, which is full.

SITE DIAGRAM

Please see map of schoolsite, attached.

ents:

ary Site 12, at the intersection of Oxnard Boulevard (Highway 1) and Robert Avenue, is approvable provided all nental hazards are adequately addressed and successfully mitigated. There are, however, numerous environmental associated with this site.

is located on a busy, fast, noisy state highway. Union Pacific mainline railroad tracks run just east of Oxnard d. It is suspected that gas transmission lines are in the railroad track easement. The site is in the turning zone, ot the inner turning zone, of Oxnard Airport. It is likely that the auto dealerships' properties contain toxic residues r operations. However, the site is well located to a current student housing need and in all ways other than safety criteria for schoolsites. Effective mitigation of environmental hazards at this site is all-important to the viability ol in this location and approval by the Board of Education and the Department of Education.

ementary School is 1/3 mile from the site, but is presently full. It is understood that students would not come from xnard Boulevard. A school here would be a neighborhood school. Entrance to the school may be best on Robert School buildings should be situated away from Oxnard Boulevard and sound attenuation would need to be an ral design element.

ns:

n of requirements listed on form SFPD 4.01.

he attendance area for this school showing that no students will attend who live east of Oxnard Boulevard 1).

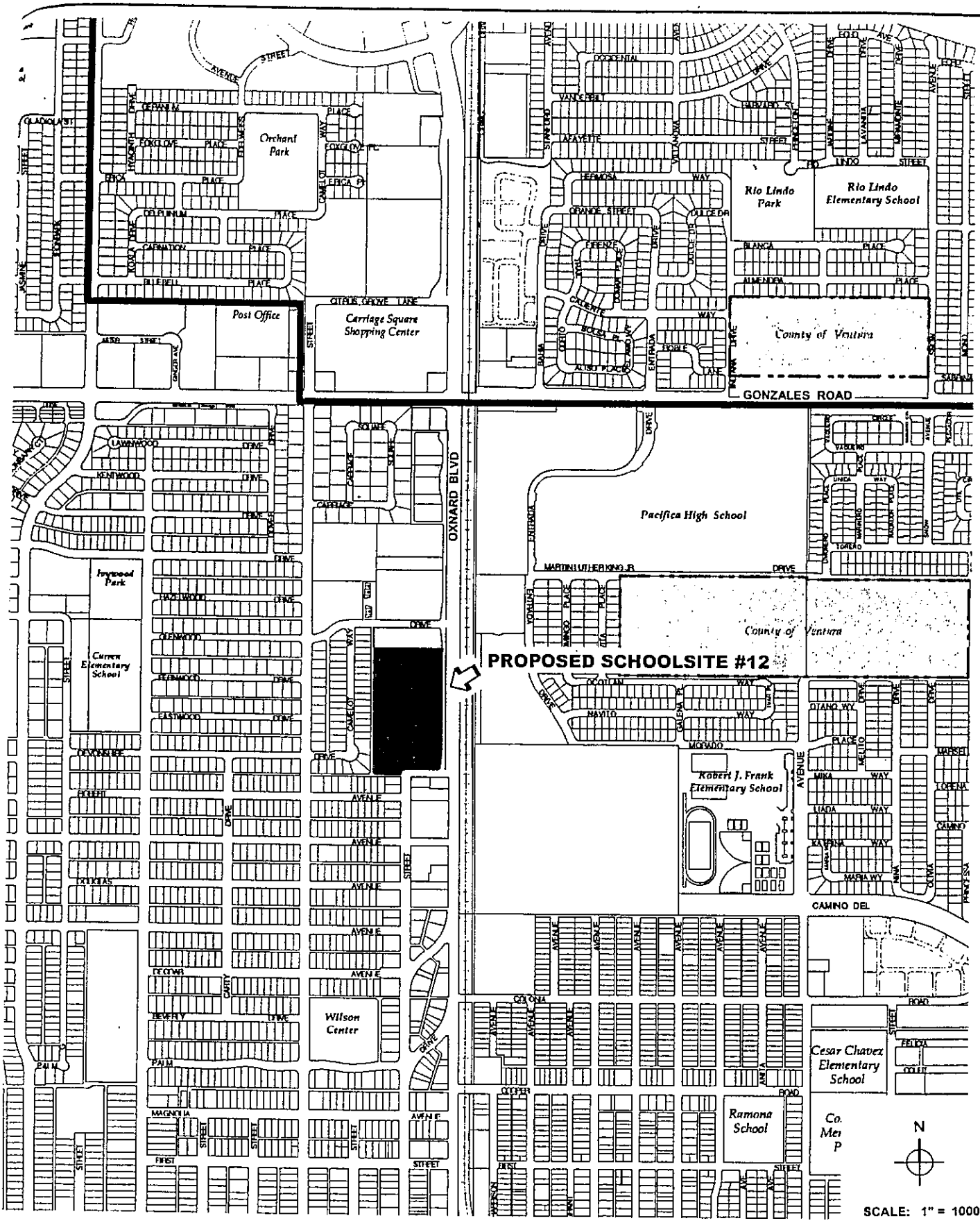
azard study is required to address the risks of proximity to Oxnard Boulevard.

ice of mainline railroad tracks within 1,500 feet of the site requires a railroad risk analysis pursuant to Title 5,)10 (d).

nia Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

ne environmental site assessment or the geological hazard report needs to include documentation of any gas n lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a n line risk analysis will be required.

asements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity eed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be



	OXNARD SCHOOL DISTRICT **1051 SOUTH "A" STREET** **OXNARD, CALIFORNIA 93030**	**VICINITY MAP** **PROPOSED SCHOOLSITE #12**	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Northeast Quadrant: Site 11 SFP Application No.: 50/72538-00-

Location (cross streets): Oxnard Boulevard at Robert Avenue

Master Plan Capacity 630 **Site Size:** Gross acres 9 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☐ Railroad ☒ Noise ☒
Gas transmission lines ☒ Electric transmission lines ☐ Other ☐
Comment: See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: All major utilities exist on site.

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☒ No ☐
Comment: Buildings of Chevrolet auto dealership

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter 1 Street paving 2 Street lighting ____ Fire Hydrant 1
Comment: _____

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is condemnation required? Yes ☐ No ☐ Unknown ☒
Comment: The auto dealership is active, but may be a willing seller. Many dealerships have moved to the Auto Mall.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 3 Number of sites evaluated 6 Relative ranking of this site 5

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site is beleaguered by environmental hazards, from busy Oxnard Boulevard to mainline railroad tracks, and Oxnard Airport. It is located near Curren Elementary, which is full.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 11, at the intersection of Oxnard Boulevard (Highway 1) and Glenwood Drive, is approvable provided all environmental hazards are adequately addressed and successfully mitigated. There are, however, numerous environmental hazards associated with this site.

This site is located on a busy, fast, noisy state highway. Union Pacific mainline railroad tracks run just east of Oxnard Boulevard. It is suspected that gas transmission lines are in the railroad track easement. The site is in the turning zone, though not the inner turning zone, of Oxnard Airport. It is likely that the auto dealership's property contains toxic residues from its operations. The site is well located, however, to a current student housing need and, in most ways other than safety, meets the criteria for schoolsites. Effective mitigation of environmental hazards at this site is all-important to the viability of a school in this location and approval by the Board of Education and the Department of Education.

Curren Elementary School is 1/3 mile from the site, but is presently full. It is understood that students would not come from east of Oxnard Boulevard. A school here would be a neighborhood school. A private school exists just west of the site. Entrance to the school is best on Glenwood Drive. The school buildings should be situated away from Oxnard Boulevard, and sound attenuation would need to be an architectural design element.

Conditions:

Completion of requirements listed on form SFPD 4.01.

A map of the attendance area for this school showing that no students will attend who live east of Oxnard Boulevard (Highway 1).

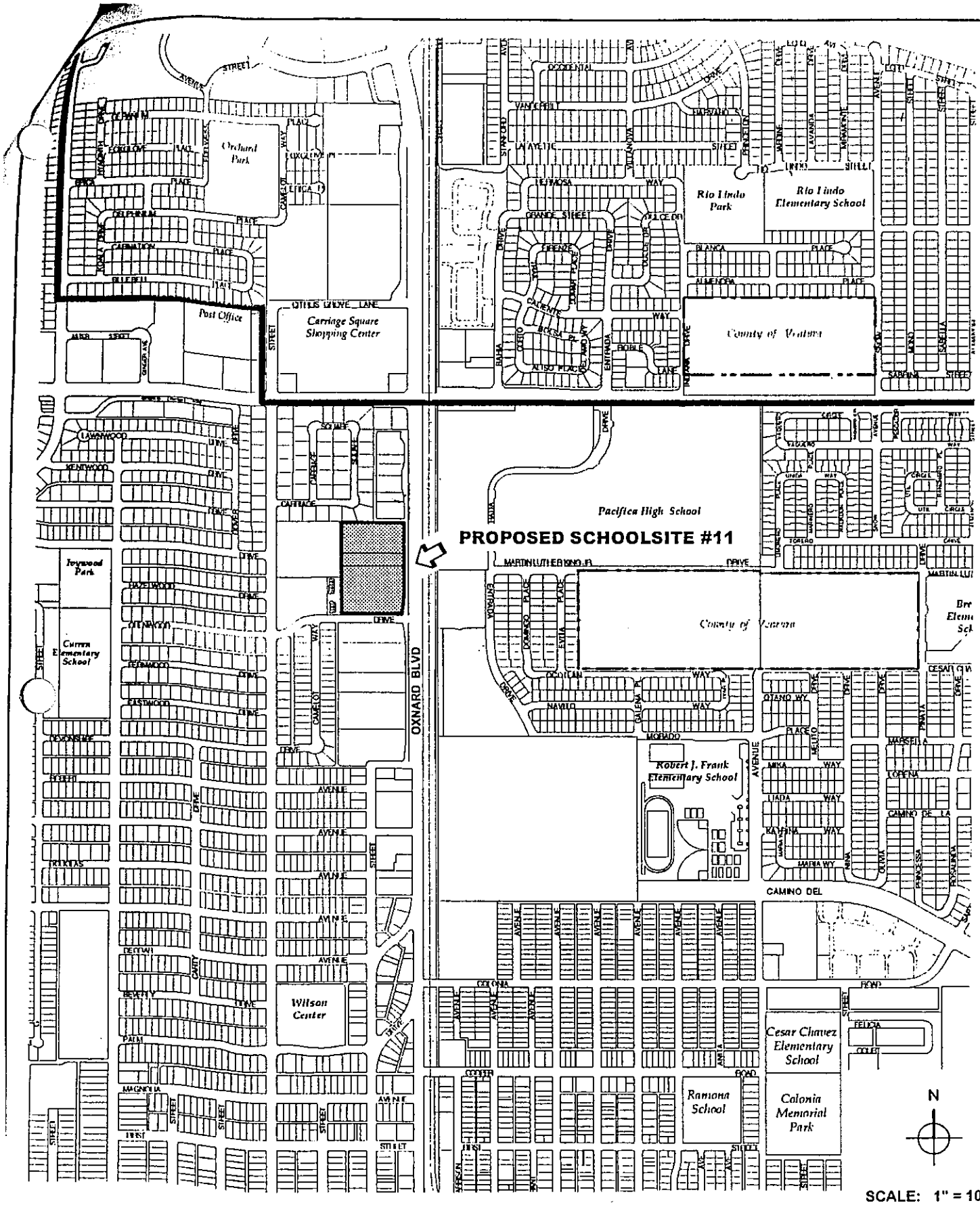
A traffic hazard study is required to address the risks of proximity to Oxnard Boulevard.

The existence of mainline railroad tracks within 1,500 feet of the site requires a railroad risk analysis pursuant to Title 5, Section 14010 (d).

The California Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.



SCALE: 1" = 1000'

OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

PROJECT SITE PLAN
PROPOSED SCHOOLSITE #11

DATE:	02 JAN 01
SCALE:	1" = 1000'
DRAWING No.	

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Northeast Quadrant: Site 7 SFP Application No.: 50/72538-00-

Location (cross streets): Rose Avenue between Third Street and 5th Street

Master Plan Capacity 630 **Site Size:** Gross acres 13 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres _____ Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☒ Railroad ☒ Noise ☒
Gas transmission lines ☒ Electric transmission lines ☐ Other ☒
Comment: A vent pipe may indicate on-site pipelines. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain _____
Special needs: Well ☐ Septic ☐ Other: All major utilities are in Third Street.

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
Drainage of the site could be problematic, but otherwise no special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: _____

Street improvements: (y = yes n = no p = proposed)
Sidewalk 2 Curb & gutter 2 Street paving 2 Street lighting 2 Fire Hydrant 0
Comment: All infrastructure is present and in operation.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☐
Comment: The property is for sale.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 4- Number of sites evaluated 6 Relative ranking of this site 6

☐ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☒ The CDE recommends that the district no longer pursue acquiring this site.

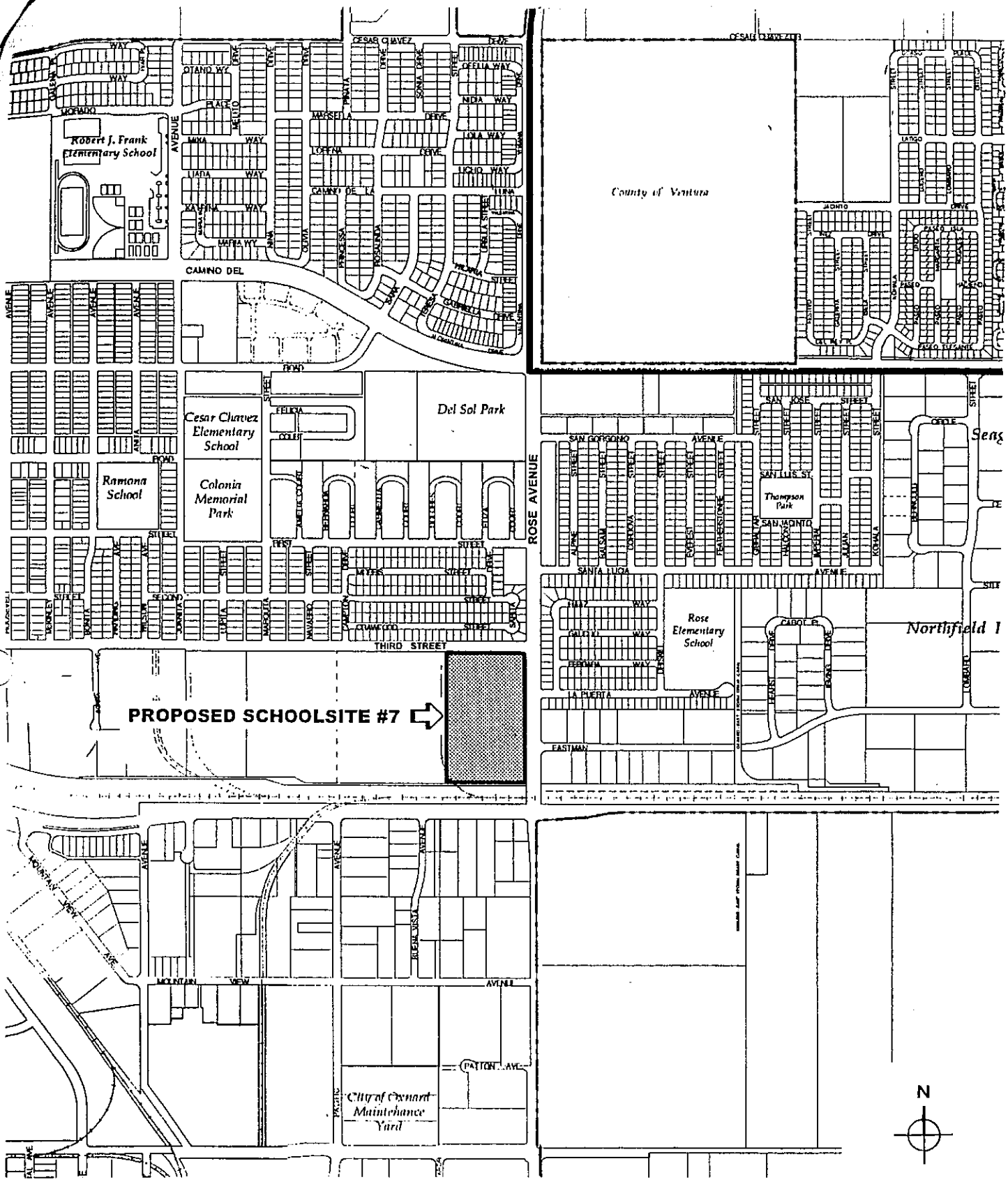
Comment: This site has so many environmental hazards that it is unlikely to be made consistent with Title 5 requirements through mitigation measures or to receive approval. Three elementary schools exist within 1/2 mile of this site.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 7, in the northeast quadrant of the school district, is located in a heavily industrialized area of the city. It is on the periphery of a residential area north across Third Street. However, three elementary schools exist nearby to serve this neighborhood. Five sets of railroad tracks run along the southern boundary of the site, only one of which seems to be a spur. Switching yards are ¼ mile west. One or more high-pressure gas lines are buried in the railroad right-of-way according to markers near the tracks. A vent pipe on the site may indicate the presence of pipelines on the property. The intersection of 5th Street and Rose Avenue and the rail yards are very noisy. The land is in an area prone to flooding and has a high water table. Isolated by industry and by busy Rose Avenue, a school here would not really be a neighborhood school. Besides the size and availability of the site, the property has few of the desirable qualities needed to make a safe and educationally advantageous school. It is doubtful that all of the site's negative qualities can be sufficiently mitigated to make it consistent with Title 5 and to obtain approval. The Department of Education advises the School District against pursuing this site.



SCALE: 1" = 1000'

OXNARD SCHOOL DISTRICT **1051 SOUTH "A" STREET** **OXNARD, CALIFORNIA 93030**	**VICINITY MAP** **PROPOSED SCHOOLSITE #7**	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.

SOUTHWEST QUADRANT

SFPD 4.0 School Site Field Reviews

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southwest Quadrant: Site 4 SFP Application No.: 50/72538-00-

Location (cross streets): Victoria Avenue, between Hemlock Street and Wooley Road

Master Plan Capacity 630 **Site Size:** Gross acres 130 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres 9.9 Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☒ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☒ Other ☒
Comment: Open canal system. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas 200 ft Water 200 ft Sewer 200 ft Electricity 200 ft Storm Drain _____
Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident. The building pads will need to be raised from the flood plain.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: _____

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter No Street paving No Street lighting No Fire Hydrant No
Comment: The site is presently landlocked. An road from Hemlock, Victoria or Wooley would need to be constructed.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre _____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☐ Unknown ☒
Comment: In concept the owner of the property is thought to be interested; disagreement is possible over exact location.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 3+ Number of sites evaluated 2 Relative ranking of this site 1

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This large parcel contains several good site configurations. The School District will want to stay away from the powerlines in Wooley Road, the arterial Victoria Avenue, the Edison Canal, and the Edison Substation at Victoria and Hemlock.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Several potential elementary school sites within the 130-acre area known as Mandalay Bay, located south of Wooley Road, east of the Edison Canal, west of Victoria Avenue, and north of Hemlock Street, are approvable provided all environmental hazards are adequately addressed and successfully mitigated. Sites bordering Victoria Avenue and Wooley Road should especially be avoided.

These sites exist within the local coastal plan, within two miles of Oxnard Airport, and within an area subject to flooding. Victoria Avenue, on the east, is a fast, busy, noisy, arterial road. Wooley Road, on the north, contains high-voltage powerlines. A Southern California Edison substation is located on the northwest corner of the Victoria Avenue and Hemlock Street intersection. And an open and unfenced canal system exists in this developing residential area. Nevertheless, the 130-acre area is in an advantageous location for a new, neighborhood elementary school to serve the students living south of Wooley Road and west of Victoria Avenue, and with proper mitigation of environmental dangers, will make a safe and educationally advantageous school.

Concurrence in the site selection from the City of Oxnard, the local administering agency of the Coastal Act, is very desirable and should be sought early in the site selection process. An analysis of the flood plain and attendant design and transportation issues should be performed early in the School District's investigation of the site. Risks associated with open canals in this area of the city need to be carefully considered and addressed. It is thought that Wooley Road and Victoria Avenue will mark the northern and eastern boundaries of the attendance area for this school. The majority of students, it is anticipated, will walk or bicycle to school.

This is a cultivated agricultural site, on which residual pesticides are likely to exist. A Preliminary Environmental Assessment, conducted under the auspices of the Department of Toxic Substances Control, is virtually a certainty for any land long cultivated.

Conditions:

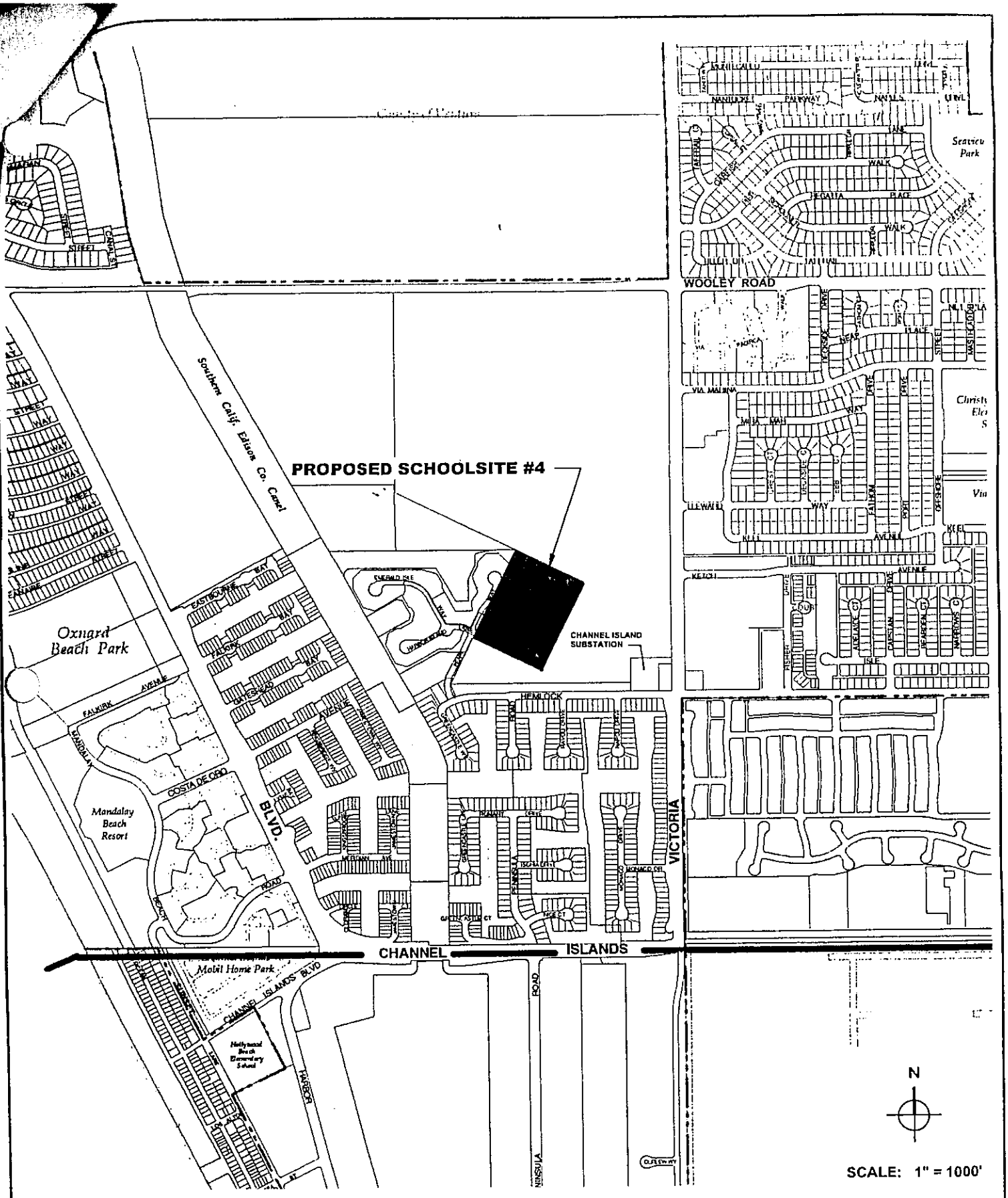
Completion of requirements listed on form SFPD 4.01.

If students are to cross Victoria Avenue or Wooley Road, a traffic hazard study and a safe routes to school plan will be required.

The California Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements, including power substations, within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.



OXNARD SCHOOL DISTRICT **1051 SOUTH "A" STREET** **OXNARD, CALIFORNIA 93030**	**VICINITY MAP** **PROPOSED SCHOOLSITE #4**	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.

SHEET 1 of 2

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southwest Quadrant: Site 18 SFP Application No.: 50/72538-00-

Location (cross streets): Hemlock Street between Victoria Avenue and Fisher Drive

Master Plan Capacity 630 **Site Size:** Gross acres 10 **Planned Joint Use:** Land/Park ☐

MTYRE ____ Net acres 9.6 Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☒ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☒ Other ☐
Comment: See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: ____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: ____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☒ No ☐
Comment: A commercial shopping center, a gas station, and six 4-plex residences

Street improvements: (y = yes n = no p = proposed)
Sidewalk Y Curb & gutter Y Street paving 3 Street lighting Y Fire Hydrant ____
Comment: All major infrastructure is present and operating.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre ____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☒ No ☐ Unknown ☐
Comment: Households in 24 residences and several commercial businesses would also need to be relocated.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 4 Number of sites evaluated 2 Relative ranking of this site 2

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site is located on the wrong side of Victoria Avenue and, after probable condemnation and certain relocation of residences and businesses, would be very expensive. The site is approvable for a new elementary, though badly located.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 18, in the southwest quadrant of the school district, located on Hemlock Street between Victoria Avenue and Fisher Drive, is approvable provided all environmental hazards are adequately addressed and successfully mitigated.

This site is located on the east side of Victoria Avenue, and as such is substantially inferior to a comparable site west of Victoria to serve the student population west of Victoria Avenue and south of Wooley Road. The majority of students would have to cross Victoria Avenue. McAuliffe Elementary is 4/10 mile by street route from this site.

This site is within two miles of Oxnard Airport and adjacent toVictoria Avenue on the west, a fast, busy, noisy, arterial road. A Southern California Edison substation is located on the northwest corner of the Victoria Avenue and Hemlock Street intersection. This may be an indication of high-voltage powerlines in Victoria or Hemlock. A Chevron gas station and a dry cleaning establishment operate on the property, which may foretell time consuming and costly environmental cleanup. The site is within an area subject to flooding, and an analysis of the flood plain and attendant design and transportation issues should be performed early in the School District's investigation of the site. *Eminent domain* court proceedings and relocation of residents and businesses can be arduous and costly.

onditions:

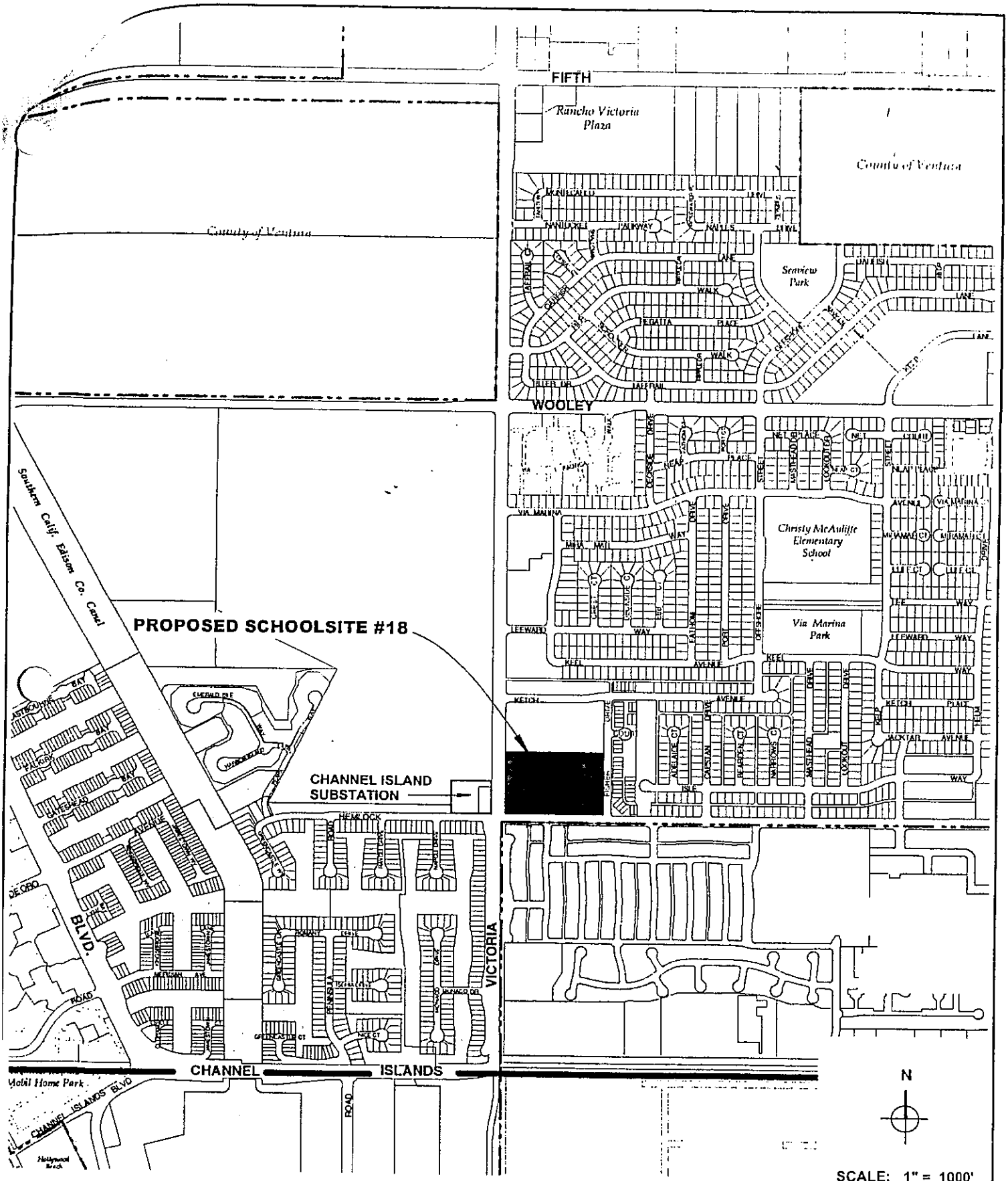
Completion of requirements listed on form SFPD 4.01.

A traffic hazard study and a safe routes to school plan will be required.

The California Department of Transportation must evaluate this site's safety relative to Oxnard Airport.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements, including power substations, within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.



	OXNARD SCHOOL DISTRICT **1051 SOUTH "A" STREET** **OXNARD, CALIFORNIA 93030**	**VICINITY MAP** **PROPOSED SCHOOLSITE #18**	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.

NORTHWEST QUADRANT

SFPD 4.0 School Site Field Reviews

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw
Date of Review: 9/13/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Northwest Quadrant: Site 3 SFP Application No.: 50/72538-00-

Location (cross streets): Gonzalez Road, immediately south of Oxnard High School, and 500 feet east of Patterson Road

Master Plan Capacity 630 **Site Size:** Gross acres 27 **Planned Joint Use:** Land/Park ☒

MTYRE ____ Net acres 9.9 Buildings ☒

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☒ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☐ Other ☐
Comment: See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas 1800 ft Water 1800 ft Sewer 1200 ft Electricity 1800 ft Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: ____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: ____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident. The building pads will need to be raised from the flood plain.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: ____

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter No Street paving No Street lighting No Fire Hydrant No
Comment: The site is presently landlocked. A road from Patterson Road or Doris Avenue would need to be constructed.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre ____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☐
Comment: The site is owned either by the Oxnard High District or the State of California.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 2 Number of sites evaluated 3 Relative ranking of this site 1

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site has excellent potential for a new elementary school. The opportunity may exist to create an "educational park" with adjacent Oxnard High School and a new intermediate school.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 3, on 27 acres immediately south of and adjacent to Oxnard High School on Gonzalez Road, east of the intersection with Patterson Road, is approvable provided all environmental hazards are adequately addressed and successfully mitigated.

The site, though existing within two miles of Oxnard Airport, in an area subject to flooding, and presently surrounded on three sides by agriculture, is nevertheless in a good location for a new school or complex of schools. Acreage is sufficient to construct both a new middle school and a new elementary school on this property.

The Aeronautics Program of the California Department of Transportation has found this site to be acceptably safe from an air traffic safety perspective. An analysis of the flood plain and attendant design and transportation issues should be performed early in the School District's investigation of the site. The safe transport of students to and from school needs to be carefully considered as students are likely to need to cross busy, arterial roads. This is a cultivated agricultural site, on which residual pesticides are likely to exist. To the extent that the surrounding land continues in agricultural production, pesticide drift could be an issue, even though those applying pesticides are obligated to control their travel. A Preliminary Environmental Assessment, conducted under the auspices of the Department of Toxic Substances Control, is virtually a certainty for any land long cultivated. The District will want to take into consideration the likelihood and timing of residential construction east of Victoria Avenue, both in terms of environmental concerns and in terms of large off-site and utility extension costs.

Conditions:

Completion of requirements listed on form SFPD 4.01.

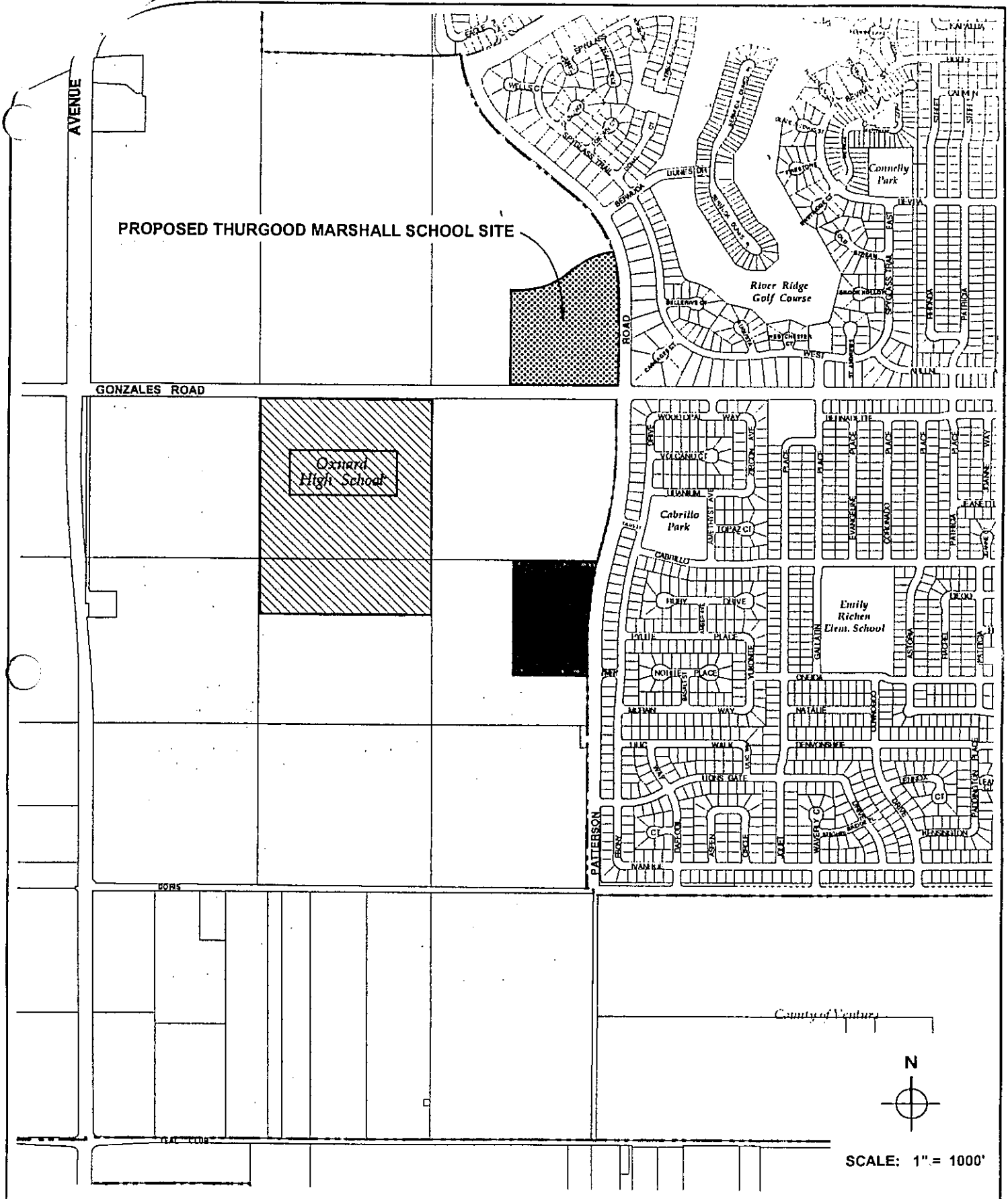
A traffic hazard study and a safe routes to school plan will be required. It is thought that seventy to eighty percent of the student population that would initially attend this school would need to be bused.

If Nebula Street is extended west across Patterson Road to provide access to homes and this schoolsite, a mitigation plan for hazards associated with the drainage canal running along the probable street extension will be a requirement of site approval.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.

A high-pressure water line exists along the eastern perimeter of the property. The potential safety and property hazards of having this line in this location needs to be assessed by competent personnel and any required mitigations need to be incorporated into the plans.



	OXNARD SCHOOL DISTRICT **1051 SOUTH "A" STREET** **OXNARD, CALIFORNIA 93030**	**VICINITY MAP** **PROPOSED MARSHALL SCHOOL SITE**	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/01

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Northwest Quadrant: Site 28 SFP Application No.: 50/72538-00-

Location (cross streets): Gonzalez Road between Oxnard High School and Patterson Road

Master Plan Capacity 630 **Site Size:** Gross acres 76 **Planned Joint Use:** Land/Park ☐

MTYRE _____ Net acres 9.9 Buildings ☐

Grade level K-6 CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☒ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☒ Other ☒
Comment: Drainage Canal. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain adj
Special needs: Well ☐ Septic ☐ Other: _____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: _____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
The drainage channel will require mitigation. Building pads will need to be raised from the flood plain.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: _____

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter 1 Street paving 2 Street lighting Yes Fire Hydrant _____
Comment: An asphalt pedestrian walkway and a bike path in the roadway exist along Patterson Road.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre $220,000

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☐ Unknown ☒
Comment: _____

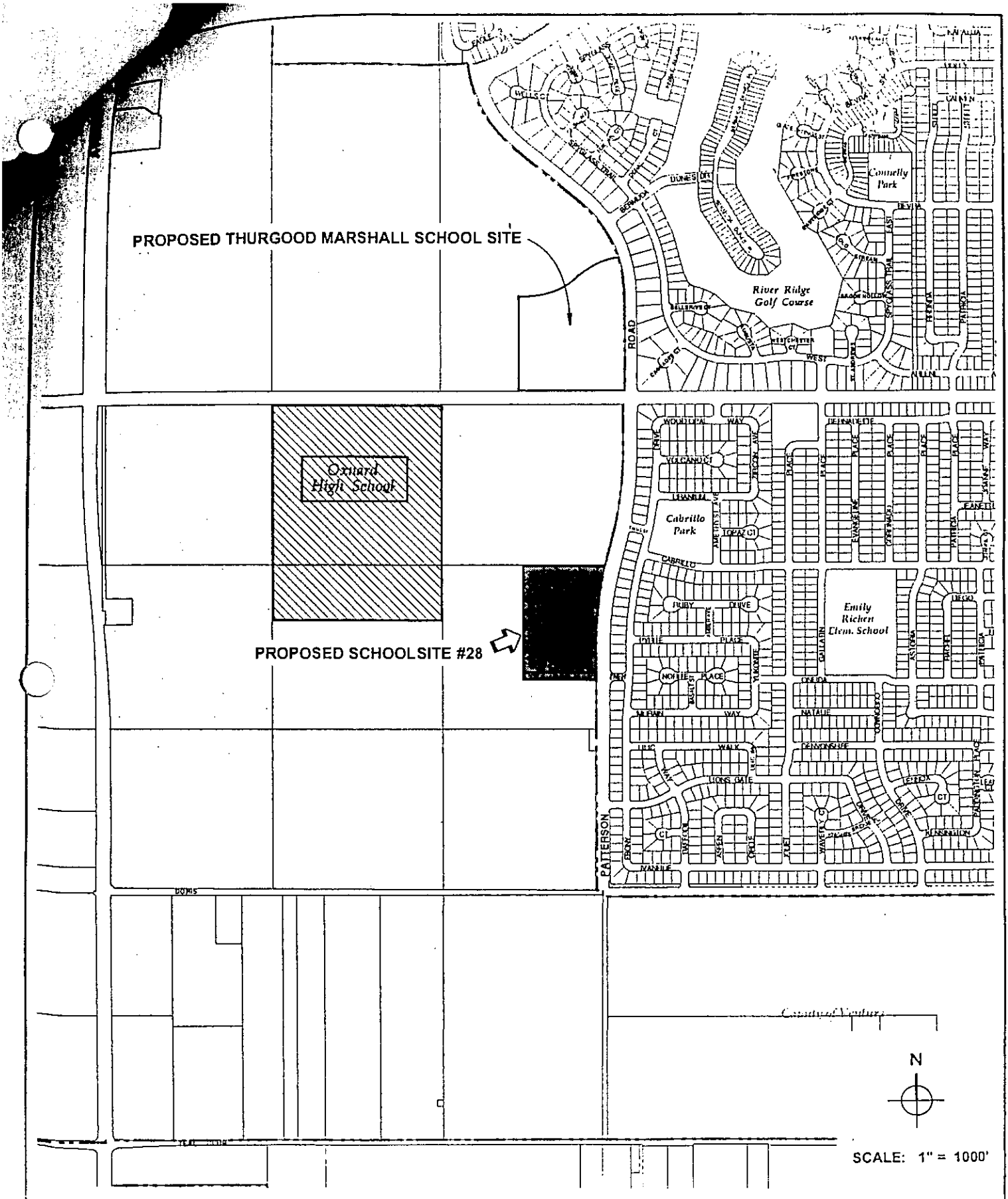
Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 3 Number of sites evaluated 3 Relative ranking of this site 2

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site is located south across Gonzalez Road from the soon-to-be-constructed Marshall Elementary. A school here should face Patterson Road or an extension of Nebula Street, and should be set back from Gonzalez Road.



OXNARD SCHOOL DISTRICT 1051 SOUTH "A" STREET OXNARD, CALIFORNIA 93030	VICINITY MAP PROPOSED SCHOOLSITE #28	DATE: 02 JAN 01 SCALE: 1" = 1000' DRAWING No.	

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw
Date of Review: 9/13/00

Site Information

District: Oxnard Elementary
County: Ventura
Site Identification: Northwest Quadrant: Site 2
SFP Application No.: 50/72538-00-
Location (cross streets): Vineyard Avenue and Ventura Road

Master Plan Capacity 630
Site Size: Gross acres 19
Planned Joint Use: Land/Park ☐
MTYRE
Net acres 9.9
Buildings ☐
Grade level K-6
CDE Recommended acres 9.90

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☒ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☐ Other ☒
Comment: Former city dump and Santa Clara River are nearby. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐
Within two miles of **heliport**? Yes ☒ No ☐

Site

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain
Special needs: Well ☐ Septic ☐ Other:

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other:

Development

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment:

Street improvements: (y = yes n = no p = proposed)
Sidewalk Curb & gutter Street paving 2 Street lighting Fire Hydrant
Comment:

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☐ Unknown ☒
Comment:

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 4 Number of sites evaluated 3 Relative ranking of this site 3

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site is located at the junction of two major arterial roads and near a toxic former city dumpsite. It is at the northern extremity of the school district and would naturally serve the same student population as Marshall Elementary.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Elementary Site 2, on 19 acres at the northwest corner of Ventura Road and Vineyard Avenue, and bounded on the northwest by a former city dump, is an aesthetically attractive yet poorly located site for a new elementary school. It is approvable only if no better alternatives exist and provided all environmental hazards can be adequately addressed and successfully mitigated.

This site is located, however, at the northern extremity of the school district at the intersection of two busy, four-lane divided, arterial roadways. Sierra Linda School is located nearby and serves students living east of Ventura Road and North of Gonzalez Road. The soon-to-be-constructed Marshall School will serve students living west of Ventura Road and North of Gonzalez Road. The acreage is sufficient on which to construct an intermediate school, though it would still be inconveniently located relative to roadways, the landfill, and the school district. A Preliminary Endangerment Assessment, conducted under the auspices of the Department of Toxic Substances Control, is a virtual certainty. The site is within two air miles of Oxnard Airport and will require a favorable evaluation from the Department of Transportation.

Conditions:

Completion of requirements listed on form SFPD 4.01.

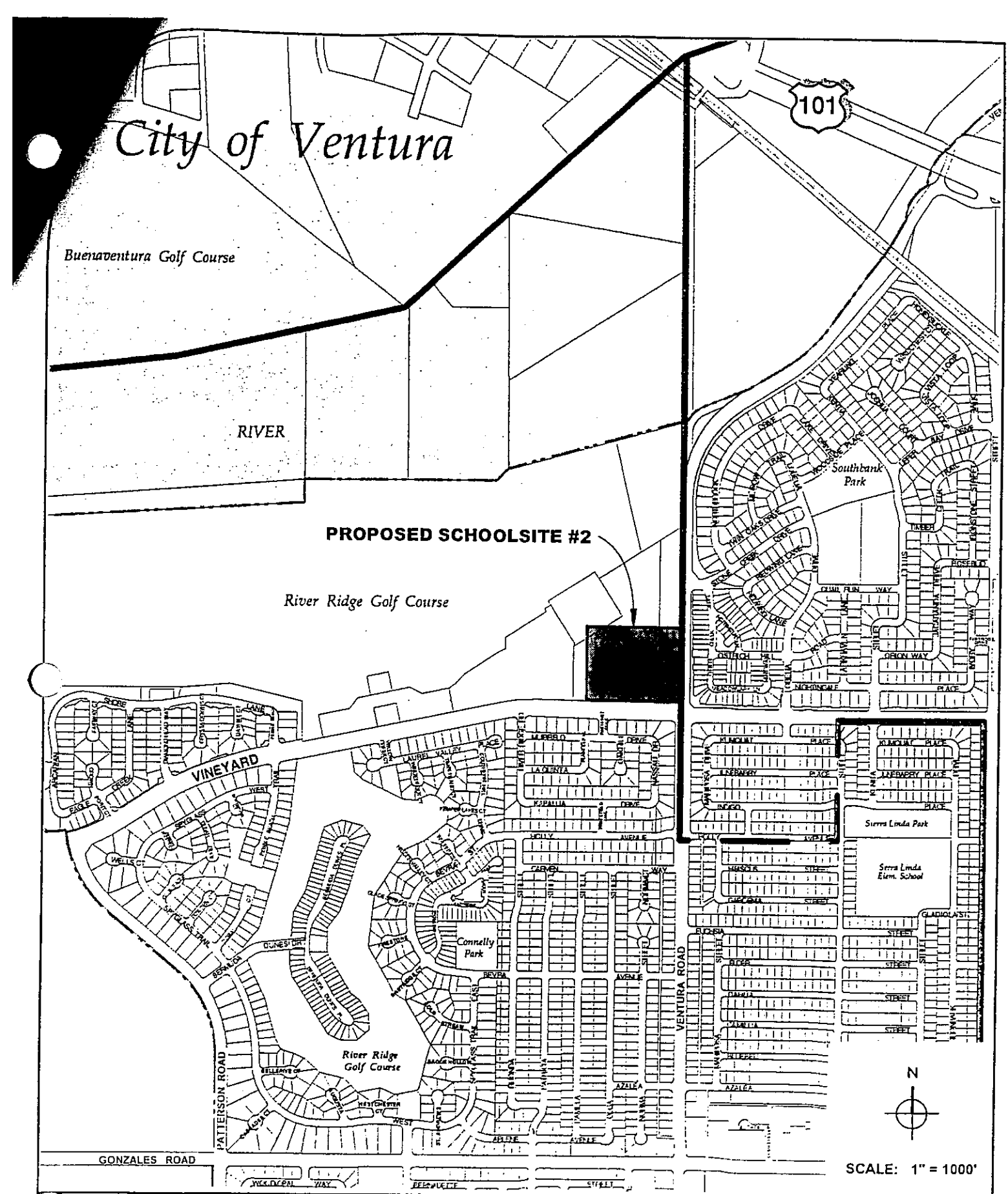
A traffic hazard study and a safe routes to school plan will be required.

An analysis of the Santa Clara River and its potential to inundate the site will be necessary.

The Department of Transportation, Aeronautics Program, must evaluate this site for air traffic safety.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

VICINITY MAP
PROPOSED SCHOOLSITE #2

DATE:	23 JAN 01
SCALE:	1" = 1000'
DRAWING No.	

MIDDLE SCHOOL SITES

SFPD 4.0 School Site Field Reviews

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 9/13/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Site 3 SFP Application No.: 50/72538-00-

Location (cross streets): Gonzalez Road, immediately south of Oxnard High School, and 500 feet east of Patterson Road

Master Plan Capacity 950 **Site Size:** Gross acres 27 **Planned Joint Use:** Land/Park ☐

MTYRE No Net acres 15 Buildings ☐

Grade level 7-8 CDE Recommended acres 15.00

Safety

Potential Hazards: Seismic ☐ Traffic ☒ Toxic ☒ Flood ☒ Railroad ☐ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☐ Other ☐
Comment: See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas 1800 ft Water 1800 ft Sewer 1200 ft Electricity 1800 ft Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: ____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: ____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident. The building pads will need to be raised from the flood plain.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: ____

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter No Street paving No Street lighting No Fire Hydrant No
Comment: The site is presently landlocked. A road from Patterson Road or Doris Avenue would need to be constructed.

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre ____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☐
Comment: The site is owned either by the Oxnard High District or the State of California.

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 2 Number of sites evaluated 1 Relative ranking of this site ____

☒ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☐ The CDE recommends that the district no longer pursue acquiring this site.

Comment: This site has excellent potential for a new middle school. The opportunity may exist to create an "educational park" with adjacent Oxnard High School and a new elementary school.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Intermediate Site 3, immediately south of and adjacent to Oxnard High School on Gonzalez Road, and east of the intersection with Patterson Road, is approvable provided all environmental hazards are adequately addressed and successfully mitigated.

The site, though existing within two miles of Oxnard Airport, in an area subject to flooding, and presently surrounded on three sides by agriculture, is nevertheless in a good location for a new school or complex of schools. Acreage is sufficient to construct both a new middle school and a new elementary school on this property.

The Aeronautics Program of the California Department of Transportation has found this site to be acceptably safe from an air traffic safety perspective. An analysis of the flood plain and attendant design and transportation issues should be performed early in the School District's investigation of the site. The safe transport of students to and from school needs to be carefully considered as students are likely to need to cross busy, arterial roads. This is a cultivated agricultural site, on which residual pesticides are likely to exist. To the extent that the surrounding land continues in agricultural production, pesticide drift could be an issue, even though those applying pesticides are obligated to control their travel. A Preliminary Environmental Assessment, conducted under the auspices of the Department of Toxic Substances Control, is virtually a certainty for any land long cultivated. The District will want to take into consideration the likelihood and timing of residential construction east of Victoria Avenue, both in terms of environmental concerns and in terms of large off-site and utility extension costs.

Conditions:

Completion of requirements listed on form SFPD 4.01.

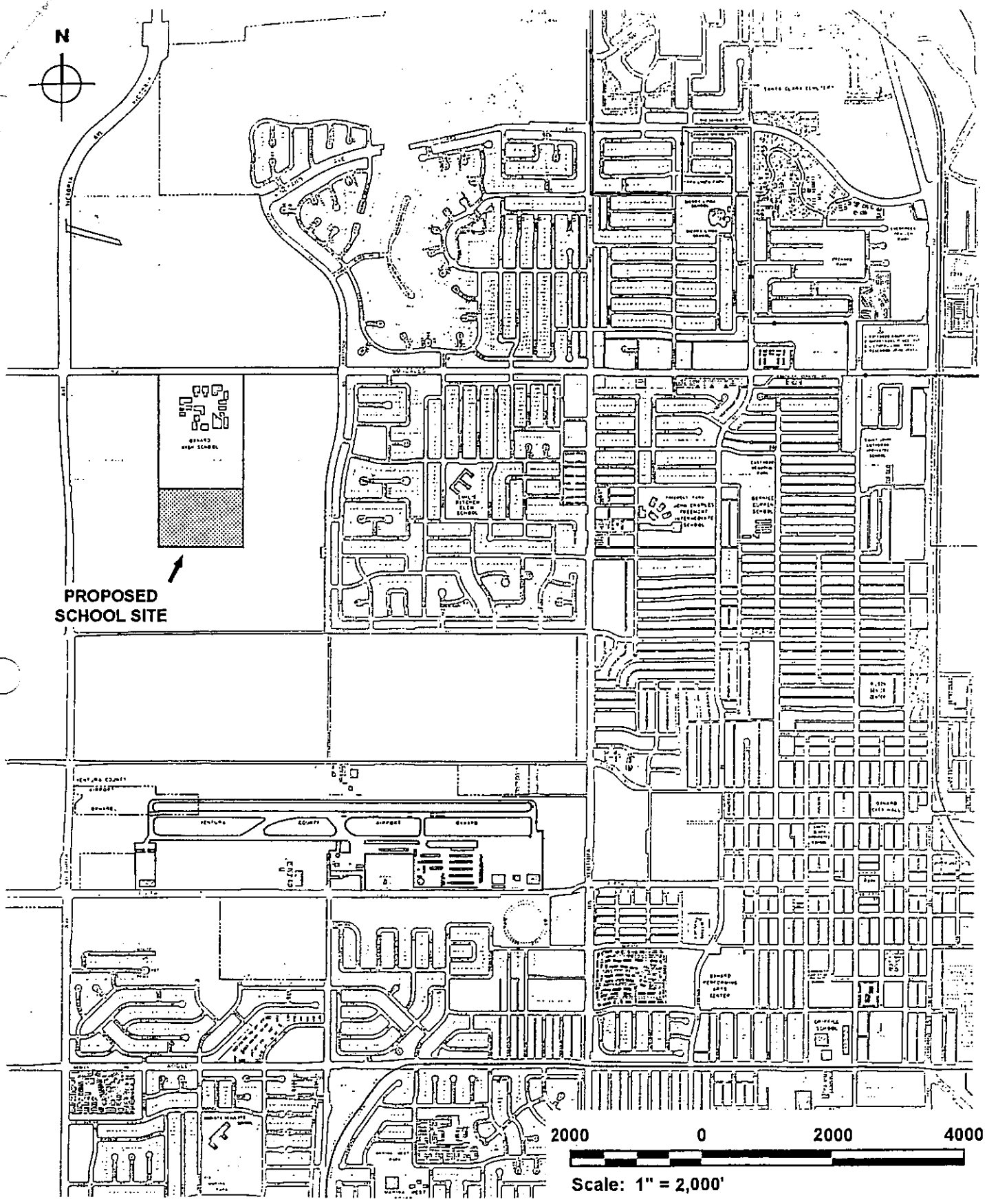
A traffic hazard study and a safe routes to school plan will be required. It is thought that seventy to eighty percent of the student population that would initially attend this school would need to be bused.

If Nebula Street is extended west across Patterson Road to provide access to homes and this schoolsite, a mitigation plan for hazards associated with the drainage canal running along the probable street extension will be a requirement of site approval.

The phase one environmental site assessment or the geological hazard report needs to include documentation of any gas transmission lines or easements within 1,500 feet. In the event such gas or gasoline transmission lines or easements exist, a transmission line risk analysis will be required.

Powerline easements within 500 feet radius of the schoolsite need to be checked to ensure their *potential* carrying capacity does not exceed 50 kilovolts. In the event such easements do exist, the setbacks found in Title 5, Section 14010 (c), must be observed.

A high-pressure water line exists along the eastern perimeter of the property. The potential safety and property hazards of having this line in this location needs to be assessed by competent personnel and any required mitigations need to be incorporated into the plans.



DATE: 16 OCT 00	**OXNARD SCHOOL DISTRICT**	VICINITY MAP	DRAWING No.
SCALE: 1" = 2,000'	**1051 SOUTH A STREET**	PROPOSED NORTHWEST SCHOOL	SHEET 1 of 2
DRAWN: JA	**OXNARD, CALIFORNIA**		

SFPD 4.0 School Site Field Review

California Department of Education
School Facilities Planning Division

Consultant: George Shaw

Date of Review: 12/15/00

Site Information

District: Oxnard Elementary County: Ventura

Site Identification: Southeast Quadrant: Site 8 SFP Application No.: 50/72538-00-

Location (cross streets): Wooley Road between Pacific Avenue and Mercantile Street, north of Voyager Place

Master Plan Capacity 950 **Site Size:** Gross acres 25 **Planned Joint Use:** Land/Park ☐

MTYRE ____ Net acres 15.0 Buildings ☐

Grade level 7-8 CDE Recommended acres 15.00

Safety

Potential Hazards: Seismic ☐ Traffic ☐ Toxic ☒ Flood ☐ Railroad ☒ Noise ☐
Gas transmission lines ☐ Electric transmission lines ☒ Other ☒
Comment: Industrial area. See Comments and Conditions, page two.

Within two miles of **airport runway**? Yes ☒ No ☐ Within two miles of **heliport**? Yes ☒ No ☐

Site Development

Utilities: (distance to nearest line of suitable capacity in ft = feet, yds = yards, or mi = miles, adj = adjacent)
Gas adj Water adj Sewer adj Electricity adj Storm Drain ____
Special needs: Well ☐ Septic ☐ Other: ____

Topography of site: Level ☒ Rolling ☐ Sloping ☐ Steep ☐ Other: ____

Site Development: Comment on any of the following which may present a cause for concern: erosion control, drainage problems, special soil conditions, extensive grading, extensive work required for streets and sidewalks:
No special site preparation problems are evident.

Are there **existing structures** on the site which need to be removed or demolished? Yes ☐ No ☒
Comment: ____

Street improvements: (y = yes n = no p = proposed)
Sidewalk No Curb & gutter 1 Street paving 2.5 Street lighting ____ Fire Hydrant ____
Comment: ____

Finance

Funding: State ☒ Local ☒ Developer ☐ Other ☐ Estimated Land Value per acre ____

Does the district plan to file a **Financial Hardship Application** for this project (per SB 50 Reg. 1859.81)? Yes ☐ No ☒

Is **condemnation required?** Yes ☐ No ☒ Unknown ☐
Comment: ____

Ranking

Ranking: (1=high and 5 = low)
Ranking of this Site 5 Number of sites evaluated 1 Relative ranking of this site ____

☐ The CDE's preliminary review of this site indicates that the district may proceed with further evaluation of the site including the completion of the SFPD 4.01, 4.02 and 4.03. **THIS REVIEW DOES NOT CONSTITUTE A FINAL SITE APPROVAL.**

☒ The CDE recommends that the district no longer pursue acquiring this site.

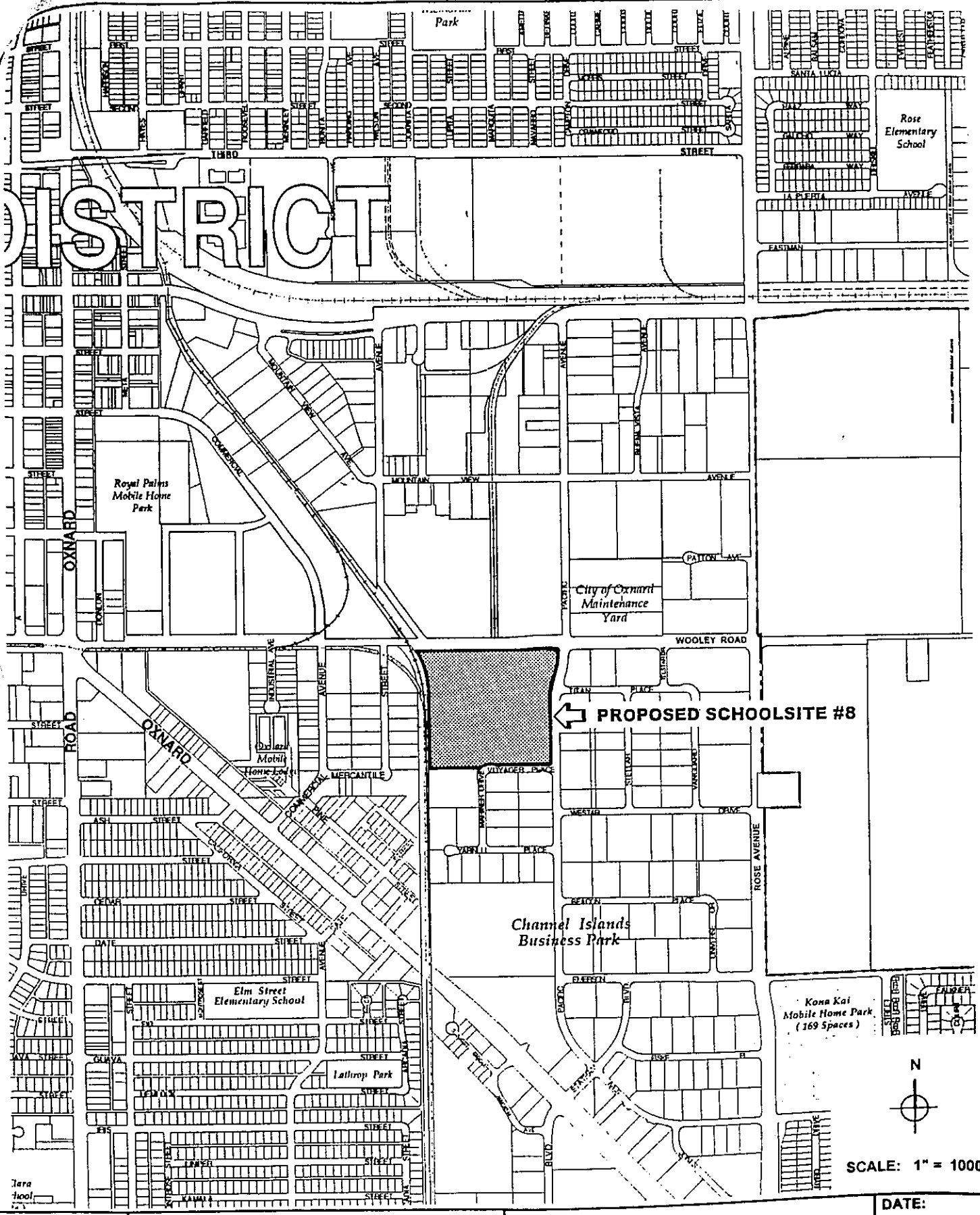
Comment: This site is in the center of industrial Oxnard, surrounded by all environmental hazards schools should avoid.

SITE DIAGRAM

Please see map of schoolsite, attached.

Comments:

Intermediate Site 8, in the southeast quadrant of the school district, is located in an old industrial zone. A pesticide mixing facility is directly north of the site. An old sugarbeet factory at which lead was used in processing is to the northwest. A chrome plating facility and a show girls bar are among the businesses located west of the site, on the other side of railroad tracks and high-voltage powerlines. The activities and events likely to occur around the schoolsite over time could well be inconsistent with the goals of the School District to keep its students and teachers safe from environmental hazards. Few homes exist in the vicinity of the site. A busing program would be an inevitable and permanent reality for the school. A school here would never be a neighborhood school. Apart from the size and availability of the site, it is difficult to find any positive qualities in this property that make it suitable for a school of any kind. The site's negative qualities cannot in all likelihood be mitigated sufficiently to make it consistent with Title 5 and to obtain approval. Although it recognizes that intermediate school sites are difficult to identify in the city, the Department of Education advises the School District against proceeding with this site. If an intermediate school site is required in this section of the school district, Site 19 and the area around it might be considered.



OXNARD SCHOOL DISTRICT
1051 SOUTH "A" STREET
OXNARD, CALIFORNIA 93030

VICINITY MAP
PROPOSED SCHOOLSITE #8

DATE:	02 JAN 01
SCALE:	1" = 1000'
DRAWING No.	

SHEET 1 of 2

C AIR QUALITY

Doris-Patterson

Ventura County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.34	58,522.36	0
Junior High School	1,200.00	Student	23.09	141,074.02	0
General Office Building	24.84	1000sqft	0.57	24,840.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total site size 25 acres

Construction Phase - Cosnstruction expected to conclude prior to opening in 2020-2021 school year

Architectural Coating - Low VOC paint at 100 g/L

Vehicle Trips - 1.29 to 1.50, 11.01 to 22.62, 1.62 to 1.61 as calculated from traffic study

Area Coating - Low VOC at 100 g/L

Construction Off-road Equipment Mitigation - Tier 2 engines

Mobile Land Use Mitigation -

Area Mitigation - Mitigation as recorded

Water Mitigation -

Waste Mitigation - 48% reduction in CA

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	370.00	270.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	PhaseEndDate	5/4/2020	6/3/2020
tblConstructionPhase	PhaseStartDate	4/7/2020	5/7/2020
tblLandUse	LotAcreage	3.24	23.09
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.9496	54.2635	40.9347	0.0636	18.2141	2.5061	20.3657	9.9699	2.3056	11.9493	0.0000	6,250.6834	6,250.6834	1.9400	0.0000	6,291.4240
2020	104.3179	21.6530	24.0008	0.0436	0.9994	1.1586	2.1581	0.2698	1.0886	1.3584	0.0000	3,922.8095	3,922.8095	0.7034	0.0000	3,937.5815
Total	**109.2675**	**75.9164**	**64.9355**	**0.1072**	**19.2136**	**3.6648**	**22.5238**	**10.2397**	**3.3943**	**13.3077**	**0.0000**	**10,173.4929**	**10,173.4929**	**2.6435**	**0.0000**	**10,229.0055**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.9505	51.0121	38.5891	0.0636	8.2777	1.3795	9.2398	4.5080	1.3794	5.4701	0.0000	6,250.6834	6,250.6834	1.9400	0.0000	6,291.4240
2020	104.1896	26.0306	25.0080	0.0436	0.9994	0.9474	1.9468	0.2698	0.9438	1.2135	0.0000	3,922.8095	3,922.8095	0.7034	0.0000	3,937.5815
Total	**106.1402**	**77.0427**	**63.5971**	**0.1072**	**9.2771**	**2.3268**	**11.1867**	**4.7778**	**2.3231**	**6.6836**	**0.0000**	**10,173.4929**	**10,173.4929**	**2.6435**	**0.0000**	**10,229.0055**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.86**	**-1.48**	**2.06**	**0.00**	**51.72**	**36.51**	**50.33**	**53.34**	**31.56**	**49.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.0328	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Energy	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935
Mobile	8.4757	17.0495	77.1898	0.1995	14.8060	0.2290	15.0350	3.9471	0.2113	4.1584		15,341.3788	15,341.3788	0.5714		15,353.3792
Total	**14.5887**	**17.7806**	**78.0002**	**0.2039**	**14.8060**	**0.2852**	**15.0912**	**3.9471**	**0.2675**	**4.2145**		**16,216.9674**	**16,216.9674**	**0.5893**	**0.0160**	**16,234.3176**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.0325	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Energy	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935
Mobile	8.3837	16.3698	74.8443	0.1899	14.0678	0.2189	14.2867	3.7503	0.2020	3.9523		14,604.2994	14,604.2994	0.5466		14,615.7780
Total	**13.4964**	**17.1010**	**75.6547**	**0.1943**	**14.0678**	**0.2751**	**14.3428**	**3.7503**	**0.2582**	**4.0084**		**15,479.8880**	**15,479.8880**	**0.5645**	**0.0160**	**15,496.7164**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.49**	**3.82**	**3.01**	**4.69**	**4.99**	**3.55**	**4.96**	**4.99**	**3.49**	**4.89**	**0.00**	**4.55**	**4.55**	**4.21**	**0.00**	**4.54**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	2/4/2019	5	25	
2	Grading	Grading	2/5/2019	3/25/2019	5	35	
3	Building Construction	Building Construction	3/26/2019	4/6/2020	5	270	
4	Paving	Paving	5/7/2020	6/3/2020	5	20	
5	Architectural Coating	Architectural Coating	6/4/2020	7/1/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 336,655; Non-Residential Outdoor: 112,218 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	92.00	37.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0188	42.5046	34.8088	0.0391		2.1505	2.1505		1.9784	1.9784		3,876.7233	3,876.7233	1.2266		3,902.4810
Total	**4.0188**	**42.5046**	**34.8088**	**0.0391**	**18.0663**	**2.1505**	**20.2167**	**9.9307**	**1.9784**	**11.9091**		**3,876.7233**	**3,876.7233**	**1.2266**		**3,902.4810**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0591	0.5813	1.6800e-003	0.1479	1.0800e-003	0.1489	0.0392	1.0000e-003	0.0402		125.4342	125.4342	5.8300e-003		125.5566
Total	**0.0525**	**0.0591**	**0.5813**	**1.6800e-003**	**0.1479**	**1.0800e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**125.4342**	**125.4342**	**5.8300e-003**		**125.5566**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	1.2300	34.4240	23.4003	0.0391		0.9611	0.9611		0.9611	0.9611	0.0000	3,876.7233	3,876.7233	1.2266		3,902.4810
Total	**1.2300**	**34.4240**	**23.4003**	**0.0391**	**8.1298**	**0.9611**	**9.0909**	**4.4688**	**0.9611**	**5.4299**	**0.0000**	**3,876.7233**	**3,876.7233**	**1.2266**		**3,902.4810**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0525	0.0591	0.5813	1.6800e-003	0.1479	1.0800e-003	0.1489	0.0392	1.0000e-003	0.0402		125.4342	125.4342	5.8300e-003		125.5566
Total	**0.0525**	**0.0591**	**0.5813**	**1.6800e-003**	**0.1479**	**1.0800e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**125.4342**	**125.4342**	**5.8300e-003**		**125.5566**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.8912	54.1978	40.2888	0.0617		2.5049	2.5049		2.3045	2.3045		6,111.3121	6,111.3121	1.9336		6,151.9167
Total	**4.8912**	**54.1978**	**40.2888**	**0.0617**	**8.6733**	**2.5049**	**11.1783**	**3.5965**	**2.3045**	**5.9010**		**6,111.3121**	**6,111.3121**	**1.9336**		**6,151.9167**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0657	0.6459	1.8700e-003	0.1643	1.2000e-003	0.1655	0.0436	1.1100e-003	0.0447		139.3713	139.3713	6.4700e-003		139.5073
Total	**0.0584**	**0.0657**	**0.6459**	**1.8700e-003**	**0.1643**	**1.2000e-003**	**0.1655**	**0.0436**	**1.1100e-003**	**0.0447**		**139.3713**	**139.3713**	**6.4700e-003**		**139.5073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	1.8922	50.9465	37.9432	0.0617		1.3783	1.3783		1.3783	1.3783	0.0000	6,111.3121	6,111.3121	1.9336		6,151.9167
Total	**1.8922**	**50.9465**	**37.9432**	**0.0617**	**3.9030**	**1.3783**	**5.2813**	**1.6184**	**1.3783**	**2.9967**	**0.0000**	**6,111.3121**	**6,111.3121**	**1.9336**		**6,151.9167**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0657	0.6459	1.8700e-003	0.1643	1.2000e-003	0.1655	0.0436	1.1100e-003	0.0447		139.3713	139.3713	6.4700e-003		139.5073
Total	**0.0584**	**0.0657**	**0.6459**	**1.8700e-003**	**0.1643**	**1.2000e-003**	**0.1655**	**0.0436**	**1.1100e-003**	**0.0447**		**139.3713**	**139.3713**	**6.4700e-003**		**139.5073**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2875	2.7389	4.5524	8.2000e-003	0.2436	0.0448	0.2883	0.0693	0.0412	0.1104		782.3751	782.3751	5.1300e-003		782.4829
Worker	0.2685	0.3022	2.9709	8.5900e-003	0.7558	5.5000e-003	0.7613	0.2005	5.1000e-003	0.2056		641.1080	641.1080	0.0298		641.7335
Total	**0.5560**	**3.0410**	**7.5233**	**0.0168**	**0.9994**	**0.0503**	**1.0496**	**0.2697**	**0.0463**	**0.3160**		**1,423.4831**	**1,423.4831**	**0.0349**		**1,424.2163**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0782	23.4615	17.8156	0.0268		0.9016	0.9016		0.9016	0.9016	0.0000	2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**1.0782**	**23.4615**	**17.8156**	**0.0268**		**0.9016**	**0.9016**		**0.9016**	**0.9016**	**0.0000**	**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2875	2.7389	4.5524	8.2000e-003	0.2436	0.0448	0.2883	0.0693	0.0412	0.1104		782.3751	782.3751	5.1300e-003		782.4829
Worker	0.2685	0.3022	2.9709	8.5900e-003	0.7558	5.5000e-003	0.7613	0.2005	5.1000e-003	0.2056		641.1080	641.1080	0.0298		641.7335
Total	**0.5560**	**3.0410**	**7.5233**	**0.0168**	**0.9994**	**0.0503**	**1.0496**	**0.2697**	**0.0463**	**0.3160**		**1,423.4831**	**1,423.4831**	**0.0349**		**1,424.2163**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465		2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**		**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2702	2.2890	4.4309	8.1900e-003	0.2437	0.0403	0.2840	0.0693	0.0371	0.1064		764.9558	764.9558	4.9900e-003		765.0606
Worker	0.2525	0.2801	2.7615	8.5900e-003	0.7558	5.4900e-003	0.7613	0.2005	5.0900e-003	0.2056		615.3738	615.3738	0.0282		615.9656
Total	**0.5228**	**2.5690**	**7.1924**	**0.0168**	**0.9994**	**0.0458**	**1.0453**	**0.2698**	**0.0422**	**0.3119**		**1,380.3296**	**1,380.3296**	**0.0332**		**1,381.0262**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0782	23.4615	17.8156	0.0268		0.9016	0.9016		0.9016	0.9016	0.0000	2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**1.0782**	**23.4615**	**17.8156**	**0.0268**		**0.9016**	**0.9016**		**0.9016**	**0.9016**	**0.0000**	**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2702	2.2890	4.4309	8.1900e-003	0.2437	0.0403	0.2840	0.0693	0.0371	0.1064		764.9558	764.9558	4.9900e-003		765.0606
Worker	0.2525	0.2801	2.7615	8.5900e-003	0.7558	5.4900e-003	0.7613	0.2005	5.0900e-003	0.2056		615.3738	615.3738	0.0282		615.9656
Total	**0.5228**	**2.5690**	**7.1924**	**0.0168**	**0.9994**	**0.0458**	**1.0453**	**0.2698**	**0.0422**	**0.3119**		**1,380.3296**	**1,380.3296**	**0.0332**		**1,381.0262**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3301	13.7845	14.3523	0.0223		0.7390	0.7390		0.6799	0.6799		2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3301**	**13.7845**	**14.3523**	**0.0223**		**0.7390**	**0.7390**		**0.6799**	**0.6799**		**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0412	0.0457	0.4503	1.4000e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		100.3327	100.3327	4.5900e-003		100.4292
Total	**0.0412**	**0.0457**	**0.4503**	**1.4000e-003**	**0.1232**	**9.0000e-004**	**0.1241**	**0.0327**	**8.3000e-004**	**0.0335**		**100.3327**	**100.3327**	**4.5900e-003**		**100.4292**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9122	19.6998	16.9276	0.0223		0.6542	0.6542		0.6542	0.6542	0.0000	2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9122**	**19.6998**	**16.9276**	**0.0223**		**0.6542**	**0.6542**		**0.6542**	**0.6542**	**0.0000**	**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0412	0.0457	0.4503	1.4000e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		100.3327	100.3327	4.5900e-003		100.4292
Total	**0.0412**	**0.0457**	**0.4503**	**1.4000e-003**	**0.1232**	**9.0000e-004**	**0.1241**	**0.0327**	**8.3000e-004**	**0.0335**		**100.3327**	**100.3327**	**4.5900e-003**		**100.4292**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	104.0263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9057
Total	**104.2685**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9057**

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0494	0.0548	0.5403	1.6800e-003	0.1479	1.0700e-003	0.1489	0.0392	1.0000e-003	0.0402		120.3992	120.3992	5.5100e-003		120.5150
Total	**0.0494**	**0.0548**	**0.5403**	**1.6800e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**120.3992**	**120.3992**	**5.5100e-003**		**120.5150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	104.0263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9057
Total	**104.1402**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9057**

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0494	0.0548	0.5403	1.6800e-003	0.1479	1.0700e-003	0.1489	0.0392	1.0000e-003	0.0402		120.3992	120.3992	5.5100e-003		120.5150
Total	**0.0494**	**0.0548**	**0.5403**	**1.6800e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**120.3992**	**120.3992**	**5.5100e-003**		**120.5150**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3837	16.3698	74.8443	0.1899	14.0678	0.2189	14.2867	3.7503	0.2020	3.9523		14,604.2994	14,604.2994	0.5466		14,615.7780
Unmitigated	8.4757	17.0495	77.1898	0.1995	14.8060	0.2290	15.0350	3.9471	0.2113	4.1584		15,341.3788	15,341.3788	0.5714		15,353.3792

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	903.00	0.00	0.00	1,422,186	1,351,276
General Office Building	273.49	58.87	24.34	495,244	470,551
Junior High School	1,944.00	0.00	0.00	3,121,778	2,966,127
Total	3,120.49	58.87	24.34	5,039,208	4,787,953

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.475060	0.062670	0.180903	0.157882	0.069305	0.010127	0.013604	0.017861	0.000759	0.000687	0.005630	0.000316	0.005195

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935
NaturalGas Unmitigated	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior High School	4796.52	0.0517	0.4703	0.3950	2.8200e-003		0.0357	0.0357		0.0357	0.0357		564.2961	564.2961	0.0108	0.0104	567.7303
Elementary School	1989.76	0.0215	0.1951	0.1639	1.1700e-003		0.0148	0.0148		0.0148	0.0148		234.0894	234.0894	4.4900e-003	4.2900e-003	235.5141
General Office Building	652.645	7.0400e-003	0.0640	0.0538	3.8000e-004		4.8600e-003	4.8600e-003		4.8600e-003	4.8600e-003		76.7818	76.7818	1.4700e-003	1.4100e-003	77.2491
Total		**0.0802**	**0.7293**	**0.6126**	**4.3700e-003**		**0.0554**	**0.0554**		**0.0554**	**0.0554**		**875.1673**	**875.1673**	**0.0168**	**0.0161**	**880.4935**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior High School	4.79652	0.0517	0.4703	0.3950	2.8200e-003		0.0357	0.0357		0.0357	0.0357		564.2961	564.2961	0.0108	0.0104	567.7303
Elementary School	1.98976	0.0215	0.1951	0.1639	1.1700e-003		0.0148	0.0148		0.0148	0.0148		234.0894	234.0894	4.4900e-003	4.2900e-003	235.5141
General Office Building	0.652645	7.0400e-003	0.0640	0.0538	3.8000e-004		4.8600e-003	4.8600e-003		4.8600e-003	4.8600e-003		76.7818	76.7818	1.4700e-003	1.4100e-003	77.2491
Total		**0.0802**	**0.7293**	**0.6126**	**4.3700e-003**		**0.0554**	**0.0554**		**0.0554**	**0.0554**		**875.1673**	**875.1673**	**0.0168**	**0.0161**	**880.4935**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0325	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Unmitigated	6.0328	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2113					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8029					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0186	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Total	**6.0328**	**1.8300e-003**	**0.1978**	**1.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**		**0.4213**	**0.4213**	**1.1300e-003**		**0.4450**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5700					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0186	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Total	**5.0325**	**1.8300e-003**	**0.1978**	**1.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**		**0.4213**	**0.4213**	**1.1300e-003**		**0.4450**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Doris-Patterson

Ventura County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.34	58,522.36	0
Junior High School	1,200.00	Student	23.09	141,074.02	0
General Office Building	24.84	1000sqft	0.57	24,840.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total site size 25 acres

Construction Phase - Cosnstruction expected to conclude prior to opening in 2020-2021 school year

Architectural Coating - Low VOC paint at 100 g/L

Vehicle Trips - 1.29 to 1.50, 11.01 to 22.62, 1.62 to 1.61 as calculated from traffic study

Area Coating - Low VOC at 100 g/L

Construction Off-road Equipment Mitigation - Tier 2 engines

Mobile Land Use Mitigation -

Area Mitigation - Mitigation as recorded

Water Mitigation -

Waste Mitigation - 48% reduction in CA

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	370.00	270.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	PhaseEndDate	5/4/2020	6/3/2020
tblConstructionPhase	PhaseStartDate	4/7/2020	5/7/2020
tblLandUse	LotAcreage	3.24	23.09
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	4.9458	54.2539	40.9388	0.0637	18.2141	2.5061	20.3657	9.9699	2.3056	11.9493	0.0000	6,257.7260	6,257.7260	1.9400	0.0000	6,298.4666
2020	104.3148	21.5513	22.6545	0.0441	0.9994	1.1582	2.1577	0.2698	1.0883	1.3580	0.0000	3,960.2766	3,960.2766	0.7034	0.0000	3,975.0486
Total	**109.2607**	**75.8052**	**63.5933**	**0.1077**	**19.2136**	**3.6643**	**22.5233**	**10.2397**	**3.3939**	**13.3073**	**0.0000**	**10,218.0026**	**10,218.0026**	**2.6435**	**0.0000**	**10,273.5152**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.9468	51.0025	38.5932	0.0637	8.2777	1.3795	9.2398	4.5080	1.3794	5.4701	0.0000	6,257.7260	6,257.7260	1.9400	0.0000	6,298.4666
2020	104.1866	25.9289	23.6617	0.0441	0.9994	0.9470	1.9464	0.2698	0.9434	1.2131	0.0000	3,960.2766	3,960.2766	0.7034	0.0000	3,975.0486
Total	**106.1334**	**76.9315**	**62.2549**	**0.1077**	**9.2771**	**2.3264**	**11.1862**	**4.7778**	**2.3227**	**6.6832**	**0.0000**	**10,218.0026**	**10,218.0026**	**2.6435**	**0.0000**	**10,273.5151**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.86**	**-1.49**	**2.10**	**0.00**	**51.72**	**36.51**	**50.33**	**53.34**	**31.56**	**49.78**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.0328	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Energy	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935
Mobile	7.8896	15.7683	69.4560	0.2075	14.8060	0.2279	15.0339	3.9471	0.2103	4.1574		15,937.2703	15,937.2703	0.5709		15,949.2591
Total	**14.0026**	**16.4995**	**70.2664**	**0.2119**	**14.8060**	**0.2840**	**15.0900**	**3.9471**	**0.2664**	**4.2135**		**16,812.8589**	**16,812.8589**	**0.5888**	**0.0160**	**16,830.1975**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.0325	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Energy	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935
Mobile	7.7964	15.1435	66.9589	0.1975	14.0678	0.2178	14.2855	3.7503	0.2010	3.9512		15,171.3425	15,171.3425	0.5461		15,182.8095
Total	**12.9091**	**15.8746**	**67.7693**	**0.2019**	**14.0678**	**0.2739**	**14.3417**	**3.7503**	**0.2571**	**4.0074**		**16,046.9311**	**16,046.9311**	**0.5640**	**0.0160**	**16,063.7479**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.81**	**3.79**	**3.55**	**4.71**	**4.99**	**3.56**	**4.96**	**4.99**	**3.50**	**4.89**	**0.00**	**4.56**	**4.56**	**4.22**	**0.00**	**4.55**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	2/4/2019	5	25	
2	Grading	Grading	2/5/2019	3/25/2019	5	35	
3	Building Construction	Building Construction	3/26/2019	4/6/2020	5	270	
4	Paving	Paving	5/7/2020	6/3/2020	5	20	
5	Architectural Coating	Architectural Coating	6/4/2020	7/1/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 336,655; Non-Residential Outdoor: 112,218 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	92.00	37.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0188	42.5046	34.8088	0.0391		2.1505	2.1505		1.9784	1.9784		3,876.7233	3,876.7233	1.2266		3,902.4810
Total	**4.0188**	**42.5046**	**34.8088**	**0.0391**	**18.0663**	**2.1505**	**20.2167**	**9.9307**	**1.9784**	**11.9091**		**3,876.7233**	**3,876.7233**	**1.2266**		**3,902.4810**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0492	0.0505	0.5850	1.7700e-003	0.1479	1.0800e-003	0.1489	0.0392	1.0000e-003	0.0402		131.7725	131.7725	5.8300e-003		131.8949
Total	**0.0492**	**0.0505**	**0.5850**	**1.7700e-003**	**0.1479**	**1.0800e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**131.7725**	**131.7725**	**5.8300e-003**		**131.8949**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	1.2300	34.4240	23.4003	0.0391		0.9611	0.9611		0.9611	0.9611	0.0000	3,876.7233	3,876.7233	1.2266		3,902.4810
Total	**1.2300**	**34.4240**	**23.4003**	**0.0391**	**8.1298**	**0.9611**	**9.0909**	**4.4688**	**0.9611**	**5.4299**	**0.0000**	**3,876.7233**	**3,876.7233**	**1.2266**		**3,902.4810**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0492	0.0505	0.5850	1.7700e-003	0.1479	1.0800e-003	0.1489	0.0392	1.0000e-003	0.0402		131.7725	131.7725	5.8300e-003		131.8949
Total	**0.0492**	**0.0505**	**0.5850**	**1.7700e-003**	**0.1479**	**1.0800e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**131.7725**	**131.7725**	**5.8300e-003**		**131.8949**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.8912	54.1978	40.2888	0.0617		2.5049	2.5049		2.3045	2.3045		6,111.3121	6,111.3121	1.9336		6,151.9167
Total	**4.8912**	**54.1978**	**40.2888**	**0.0617**	**8.6733**	**2.5049**	**11.1783**	**3.5965**	**2.3045**	**5.9010**		**6,111.3121**	**6,111.3121**	**1.9336**		**6,151.9167**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0547	0.0561	0.6500	1.9600e-003	0.1643	1.2000e-003	0.1655	0.0436	1.1100e-003	0.0447		146.4139	146.4139	6.4700e-003		146.5499
Total	**0.0547**	**0.0561**	**0.6500**	**1.9600e-003**	**0.1643**	**1.2000e-003**	**0.1655**	**0.0436**	**1.1100e-003**	**0.0447**		**146.4139**	**146.4139**	**6.4700e-003**		**146.5499**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	1.8922	50.9465	37.9432	0.0617		1.3783	1.3783		1.3783	1.3783	0.0000	6,111.3121	6,111.3121	1.9336		6,151.9167
Total	**1.8922**	**50.9465**	**37.9432**	**0.0617**	**3.9030**	**1.3783**	**5.2813**	**1.6184**	**1.3783**	**2.9967**	**0.0000**	**6,111.3121**	**6,111.3121**	**1.9336**		**6,151.9167**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0547	0.0561	0.6500	1.9600e-003	0.1643	1.2000e-003	0.1655	0.0436	1.1100e-003	0.0447		146.4139	146.4139	6.4700e-003		146.5499
Total	**0.0547**	**0.0561**	**0.6500**	**1.9600e-003**	**0.1643**	**1.2000e-003**	**0.1655**	**0.0436**	**1.1100e-003**	**0.0447**		**146.4139**	**146.4139**	**6.4700e-003**		**146.5499**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3516	20.9650	17.1204	0.0268		1.2850	1.2850		1.2083	1.2083		2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**2.3516**	**20.9650**	**17.1204**	**0.0268**		**1.2850**	**1.2850**		**1.2083**	**1.2083**		**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2468	2.6649	3.1674	8.2400e-003	0.2436	0.0443	0.2878	0.0693	0.0407	0.1100		788.8396	788.8396	4.9500e-003		788.9436
Worker	0.2514	0.2579	2.9898	9.0200e-003	0.7558	5.5000e-003	0.7613	0.2005	5.1000e-003	0.2056		673.5039	673.5039	0.0298		674.1294
Total	**0.4981**	**2.9228**	**6.1572**	**0.0173**	**0.9994**	**0.0498**	**1.0491**	**0.2697**	**0.0458**	**0.3155**		**1,462.3436**	**1,462.3436**	**0.0347**		**1,463.0729**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0782	23.4615	17.8156	0.0268		0.9016	0.9016		0.9016	0.9016	0.0000	2,580.7618	2,580.7618	0.6279		2,593.9479
Total	**1.0782**	**23.4615**	**17.8156**	**0.0268**		**0.9016**	**0.9016**		**0.9016**	**0.9016**	**0.0000**	**2,580.7618**	**2,580.7618**	**0.6279**		**2,593.9479**

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2468	2.6649	3.1674	8.2400e-003	0.2436	0.0443	0.2878	0.0693	0.0407	0.1100		788.8396	788.8396	4.9500e-003		788.9436
Worker	0.2514	0.2579	2.9898	9.0200e-003	0.7558	5.5000e-003	0.7613	0.2005	5.1000e-003	0.2056		673.5039	673.5039	0.0298		674.1294
Total	**0.4981**	**2.9228**	**6.1572**	**0.0173**	**0.9994**	**0.0498**	**1.0491**	**0.2697**	**0.0458**	**0.3155**		**1,462.3436**	**1,462.3436**	**0.0347**		**1,463.0729**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1113	19.0839	16.8084	0.0268		1.1128	1.1128		1.0465	1.0465		2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**2.1113**	**19.0839**	**16.8084**	**0.0268**		**1.1128**	**1.1128**		**1.0465**	**1.0465**		**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2329	2.2282	3.0592	8.2400e-003	0.2437	0.0399	0.2836	0.0693	0.0367	0.1060		771.2974	771.2974	4.8000e-003		771.3983
Worker	0.2368	0.2392	2.7869	9.0200e-003	0.7558	5.4900e-003	0.7613	0.2005	5.0900e-003	0.2056		646.4993	646.4993	0.0282		647.0910
Total	**0.4696**	**2.4674**	**5.8461**	**0.0173**	**0.9994**	**0.0454**	**1.0448**	**0.2698**	**0.0418**	**0.3116**		**1,417.7967**	**1,417.7967**	**0.0330**		**1,418.4893**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0782	23.4615	17.8156	0.0268		0.9016	0.9016		0.9016	0.9016	0.0000	2,542.4799	2,542.4799	0.6194		2,555.4880
Total	**1.0782**	**23.4615**	**17.8156**	**0.0268**		**0.9016**	**0.9016**		**0.9016**	**0.9016**	**0.0000**	**2,542.4799**	**2,542.4799**	**0.6194**		**2,555.4880**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2329	2.2282	3.0592	8.2400e-003	0.2437	0.0399	0.2836	0.0693	0.0367	0.1060		771.2974	771.2974	4.8000e-003		771.3983
Worker	0.2368	0.2392	2.7869	9.0200e-003	0.7558	5.4900e-003	0.7613	0.2005	5.0900e-003	0.2056		646.4993	646.4993	0.0282		647.0910
Total	**0.4696**	**2.4674**	**5.8461**	**0.0173**	**0.9994**	**0.0454**	**1.0448**	**0.2698**	**0.0418**	**0.3116**		**1,417.7967**	**1,417.7967**	**0.0330**		**1,418.4893**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3301	13.7845	14.3523	0.0223		0.7390	0.7390		0.6799	0.6799		2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3301**	**13.7845**	**14.3523**	**0.0223**		**0.7390**	**0.7390**		**0.6799**	**0.6799**		**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0386	0.0390	0.4544	1.4700e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		105.4075	105.4075	4.5900e-003		105.5040
Total	**0.0386**	**0.0390**	**0.4544**	**1.4700e-003**	**0.1232**	**9.0000e-004**	**0.1241**	**0.0327**	**8.3000e-004**	**0.0335**		**105.4075**	**105.4075**	**4.5900e-003**		**105.5040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9122	19.6998	16.9276	0.0223		0.6542	0.6542		0.6542	0.6542	0.0000	2,160.7571	2,160.7571	0.6988		2,175.4326
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9122**	**19.6998**	**16.9276**	**0.0223**		**0.6542**	**0.6542**		**0.6542**	**0.6542**	**0.0000**	**2,160.7571**	**2,160.7571**	**0.6988**		**2,175.4326**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0386	0.0390	0.4544	1.4700e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		105.4075	105.4075	4.5900e-003		105.5040
Total	**0.0386**	**0.0390**	**0.4544**	**1.4700e-003**	**0.1232**	**9.0000e-004**	**0.1241**	**0.0327**	**8.3000e-004**	**0.0335**		**105.4075**	**105.4075**	**4.5900e-003**		**105.5040**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	104.0263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9057
Total	**104.2685**	**1.6838**	**1.8314**	**2.9700e-003**		**0.1109**	**0.1109**		**0.1109**	**0.1109**		**281.4481**	**281.4481**	**0.0218**		**281.9057**

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0463	0.0468	0.5453	1.7700e-003	0.1479	1.0700e-003	0.1489	0.0392	1.0000e-003	0.0402		126.4890	126.4890	5.5100e-003		126.6048
Total	**0.0463**	**0.0468**	**0.5453**	**1.7700e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**126.4890**	**126.4890**	**5.5100e-003**		**126.6048**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	104.0263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9057
Total	**104.1402**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0218**		**281.9057**

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0463	0.0468	0.5453	1.7700e-003	0.1479	1.0700e-003	0.1489	0.0392	1.0000e-003	0.0402		126.4890	126.4890	5.5100e-003		126.6048
Total	**0.0463**	**0.0468**	**0.5453**	**1.7700e-003**	**0.1479**	**1.0700e-003**	**0.1489**	**0.0392**	**1.0000e-003**	**0.0402**		**126.4890**	**126.4890**	**5.5100e-003**		**126.6048**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7964	15.1435	66.9589	0.1975	14.0678	0.2178	14.2855	3.7503	0.2010	3.9512		15,171.3425	15,171.3425	0.5461		15,182.8095
Unmitigated	7.8896	15.7683	69.4560	0.2075	14.8060	0.2279	15.0339	3.9471	0.2103	4.1574		15,937.2703	15,937.2703	0.5709		15,949.2591

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	903.00	0.00	0.00	1,422,186	1,351,276
General Office Building	273.49	58.87	24.34	495,244	470,551
Junior High School	1,944.00	0.00	0.00	3,121,778	2,966,127
Total	3,120.49	58.87	24.34	5,039,208	4,787,953

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.475060	0.062670	0.180903	0.157882	0.069305	0.010127	0.013604	0.017861	0.000759	0.000687	0.005630	0.000316	0.005195

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935
NaturalGas Unmitigated	0.0802	0.7293	0.6126	4.3800e-003		0.0554	0.0554		0.0554	0.0554		875.1673	875.1673	0.0168	0.0160	880.4935

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior High School	4796.52	0.0517	0.4703	0.3950	2.8200e-003		0.0357	0.0357		0.0357	0.0357		564.2961	564.2961	0.0108	0.0104	567.7303
Elementary School	1989.76	0.0215	0.1951	0.1639	1.1700e-003		0.0148	0.0148		0.0148	0.0148		234.0894	234.0894	4.4900e-003	4.2900e-003	235.5141
General Office Building	652.645	7.0400e-003	0.0640	0.0538	3.8000e-004		4.8600e-003	4.8600e-003		4.8600e-003	4.8600e-003		76.7818	76.7818	1.4700e-003	1.4100e-003	77.2491
Total		**0.0802**	**0.7293**	**0.6126**	**4.3700e-003**		**0.0554**	**0.0554**		**0.0554**	**0.0554**		**875.1673**	**875.1673**	**0.0168**	**0.0161**	**880.4935**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior High School	4.79652	0.0517	0.4703	0.3950	2.8200e-003		0.0357	0.0357		0.0357	0.0357		564.2961	564.2961	0.0108	0.0104	567.7303
Elementary School	1.98976	0.0215	0.1951	0.1639	1.1700e-003		0.0148	0.0148		0.0148	0.0148		234.0894	234.0894	4.4900e-003	4.2900e-003	235.5141
General Office Building	0.652645	7.0400e-003	0.0640	0.0538	3.8000e-004		4.8600e-003	4.8600e-003		4.8600e-003	4.8600e-003		76.7818	76.7818	1.4700e-003	1.4100e-003	77.2491
Total		**0.0802**	**0.7293**	**0.6126**	**4.3700e-003**		**0.0554**	**0.0554**		**0.0554**	**0.0554**		**875.1673**	**875.1673**	**0.0168**	**0.0161**	**880.4935**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0325	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Unmitigated	6.0328	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.2113					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.8029					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0186	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Total	**6.0328**	**1.8300e-003**	**0.1978**	**1.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**		**0.4213**	**0.4213**	**1.1300e-003**		**0.4450**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5700					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.4438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0186	1.8300e-003	0.1978	1.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004		0.4213	0.4213	1.1300e-003		0.4450
Total	**5.0325**	**1.8300e-003**	**0.1978**	**1.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**		**0.4213**	**0.4213**	**1.1300e-003**		**0.4450**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Doris-Patterson

Ventura County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.34	58,522.36	0
Junior High School	1,200.00	Student	23.09	141,074.02	0
General Office Building	24.84	1000sqft	0.57	24,840.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total site size 25 acres

Construction Phase - Cosnstruction expected to conclude prior to opening in 2020-2021 school year

Architectural Coating - Low VOC paint at 100 g/L

Vehicle Trips - 1.29 to 1.50, 11.01 to 22.62, 1.62 to 1.61 as calculated from traffic study

Area Coating - Low VOC at 100 g/L

Construction Off-road Equipment Mitigation - Tier 2 engines

Mobile Land Use Mitigation -

Area Mitigation - Mitigation as recorded

Water Mitigation -

Waste Mitigation - 48% reduction in CA

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	100
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	370.00	270.00
tblConstructionPhase	NumDays	10.00	25.00
tblConstructionPhase	PhaseEndDate	5/4/2020	6/3/2020
tblConstructionPhase	PhaseStartDate	4/7/2020	5/7/2020
tblLandUse	LotAcreage	3.24	23.09
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.4254	3.8954	3.5671	6.0100e-003	0.4809	0.2049	0.6858	0.2150	0.1912	0.4061	0.0000	510.5347	510.5347	0.1052	0.0000	512.7439
2020	1.1464	0.9030	0.9767	1.7900e-003	0.0365	0.0485	0.0850	9.8600e-003	0.0455	0.0553	0.0000	147.2198	147.2198	0.0271	0.0000	147.7879
Total	**1.5718**	**4.7984**	**4.5438**	**7.8000e-003**	**0.5174**	**0.2534**	**0.7708**	**0.2248**	**0.2366**	**0.4615**	**0.0000**	**657.7545**	**657.7545**	**0.1323**	**0.0000**	**660.5317**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2101	3.9884	3.4533	6.0100e-003	0.2732	0.1318	0.4050	0.1121	0.1314	0.2435	0.0000	510.5343	510.5343	0.1052	0.0000	512.7434
2020	1.1053	1.1199	1.0372	1.7900e-003	0.0365	0.0402	0.0767	9.8600e-003	0.0401	0.0499	0.0000	147.2197	147.2197	0.0271	0.0000	147.7877
Total	**1.3153**	**5.1083**	**4.4905**	**7.8000e-003**	**0.3097**	**0.1720**	**0.4817**	**0.1219**	**0.1715**	**0.2934**	**0.0000**	**657.7540**	**657.7540**	**0.1323**	**0.0000**	**660.5311**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**16.31**	**-6.46**	**1.17**	**0.00**	**40.14**	**32.13**	**37.51**	**45.76**	**27.54**	**36.42**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0993	1.6000e-004	0.0178	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0344	0.0344	9.0000e-005	0.0000	0.0363
Energy	0.0146	0.1331	0.1118	8.0000e-004		0.0101	0.0101		0.0101	0.0101	0.0000	650.6113	650.6113	0.0260	7.4700e-003	653.4722
Mobile	1.0320	2.2063	9.5208	0.0262	1.9003	0.0298	1.9301	0.5074	0.0275	0.5349	0.0000	1,829.4476	1,829.4476	0.0677	0.0000	1,830.8684
Waste						0.0000	0.0000		0.0000	0.0000	75.0762	0.0000	75.0762	4.4369	0.0000	168.2506
Water						0.0000	0.0000		0.0000	0.0000	2.8619	79.8729	82.7349	0.2976	7.7000e-003	91.3720
Total	**2.1459**	**2.3395**	**9.6504**	**0.0270**	**1.9003**	**0.0400**	**1.9403**	**0.5074**	**0.0377**	**0.5450**	**77.9382**	**2,559.9662**	**2,637.9043**	**4.8283**	**0.0152**	**2,743.9995**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9167	1.6000e-004	0.0178	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0344	0.0344	9.0000e-005	0.0000	0.0363
Energy	0.0146	0.1331	0.1118	8.0000e-004		0.0101	0.0101		0.0101	0.0101	0.0000	650.6113	650.6113	0.0260	7.4700e-003	653.4722
Mobile	1.0200	2.1181	9.2132	0.0250	1.8056	0.0285	1.8341	0.4821	0.0263	0.5084	0.0000	1,741.5877	1,741.5877	0.0647	0.0000	1,742.9466
Waste						0.0000	0.0000		0.0000	0.0000	39.0396	0.0000	39.0396	2.3072	0.0000	87.4903
Water						0.0000	0.0000		0.0000	0.0000	2.4155	66.4002	68.8156	0.2511	6.4800e-003	76.0976
Total	**1.9513**	**2.2514**	**9.3428**	**0.0258**	**1.8056**	**0.0387**	**1.8443**	**0.4821**	**0.0365**	**0.5185**	**41.4551**	**2,458.6335**	**2,500.0886**	**2.6491**	**0.0140**	**2,560.0430**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**9.07**	**3.77**	**3.19**	**4.66**	**4.99**	**3.30**	**4.95**	**4.99**	**3.24**	**4.86**	**46.81**	**3.96**	**5.22**	**45.13**	**8.04**	**6.70**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2019	2/4/2019	5	25	
2	Grading	Grading	2/5/2019	3/25/2019	5	35	
3	Building Construction	Building Construction	3/26/2019	4/6/2020	5	270	
4	Paving	Paving	5/7/2020	6/3/2020	5	20	
5	Architectural Coating	Architectural Coating	6/4/2020	7/1/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 336,655; Non-Residential Outdoor: 112,218 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	162	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	125	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	130	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	92.00	37.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2258	0.0000	0.2258	0.1241	0.0000	0.1241	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0502	0.5313	0.4351	4.9000e-004		0.0269	0.0269		0.0247	0.0247	0.0000	43.9613	43.9613	0.0139	0.0000	44.2534
Total	**0.0502**	**0.5313**	**0.4351**	**4.9000e-004**	**0.2258**	**0.0269**	**0.2527**	**0.1241**	**0.0247**	**0.1489**	**0.0000**	**43.9613**	**43.9613**	**0.0139**	**0.0000**	**44.2534**

3.2 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	7.2000e-004	7.1400e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4339	1.4339	7.0000e-005	0.0000	1.4352
Total	**6.0000e-004**	**7.2000e-004**	**7.1400e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8300e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4339**	**1.4339**	**7.0000e-005**	**0.0000**	**1.4352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1016	0.0000	0.1016	0.0559	0.0000	0.0559	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0154	0.4303	0.2925	4.9000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	43.9613	43.9613	0.0139	0.0000	44.2533
Total	**0.0154**	**0.4303**	**0.2925**	**4.9000e-004**	**0.1016**	**0.0120**	**0.1136**	**0.0559**	**0.0120**	**0.0679**	**0.0000**	**43.9613**	**43.9613**	**0.0139**	**0.0000**	**44.2533**

3.2 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	7.2000e-004	7.1400e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4339	1.4339	7.0000e-005	0.0000	1.4352
Total	**6.0000e-004**	**7.2000e-004**	**7.1400e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8300e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4339**	**1.4339**	**7.0000e-005**	**0.0000**	**1.4352**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1518	0.0000	0.1518	0.0629	0.0000	0.0629	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0856	0.9485	0.7051	1.0800e-003		0.0438	0.0438		0.0403	0.0403	0.0000	97.0216	97.0216	0.0307	0.0000	97.6662
Total	**0.0856**	**0.9485**	**0.7051**	**1.0800e-003**	**0.1518**	**0.0438**	**0.1956**	**0.0629**	**0.0403**	**0.1033**	**0.0000**	**97.0216**	**97.0216**	**0.0307**	**0.0000**	**97.6662**

3.3 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.4000e-004	1.1100e-003	0.0111	3.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.2304	2.2304	1.0000e-004	0.0000	2.2326
Total	**9.4000e-004**	**1.1100e-003**	**0.0111**	**3.0000e-005**	**2.8200e-003**	**2.0000e-005**	**2.8400e-003**	**7.5000e-004**	**2.0000e-005**	**7.7000e-004**	**0.0000**	**2.2304**	**2.2304**	**1.0000e-004**	**0.0000**	**2.2326**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0683	0.0000	0.0683	0.0283	0.0000	0.0283	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.8916	0.6640	1.0800e-003		0.0241	0.0241		0.0241	0.0241	0.0000	97.0214	97.0214	0.0307	0.0000	97.6661
Total	**0.0331**	**0.8916**	**0.6640**	**1.0800e-003**	**0.0683**	**0.0241**	**0.0924**	**0.0283**	**0.0241**	**0.0524**	**0.0000**	**97.0214**	**97.0214**	**0.0307**	**0.0000**	**97.6661**

3.3 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.4000e-004	1.1100e-003	0.0111	3.0000e-005	2.8200e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.2304	2.2304	1.0000e-004	0.0000	2.2326
Total	**9.4000e-004**	**1.1100e-003**	**0.0111**	**3.0000e-005**	**2.8200e-003**	**2.0000e-005**	**2.8400e-003**	**7.5000e-004**	**2.0000e-005**	**7.7000e-004**	**0.0000**	**2.2304**	**2.2304**	**1.0000e-004**	**0.0000**	**2.2326**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2363	2.1070	1.7206	2.6900e-003		0.1292	0.1292		0.1214	0.1214	0.0000	235.2934	235.2934	0.0573	0.0000	236.4956
Total	**0.2363**	**2.1070**	**1.7206**	**2.6900e-003**		**0.1292**	**0.1292**		**0.1214**	**0.1214**	**0.0000**	**235.2934**	**235.2934**	**0.0573**	**0.0000**	**236.4956**

3.4 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0268	0.2775	0.3947	8.3000e-004	0.0241	4.4700e-003	0.0286	6.8700e-003	4.1100e-003	0.0110	0.0000	71.6726	71.6726	4.6000e-004	0.0000	71.6822
Worker	0.0249	0.0294	0.2934	8.7000e-004	0.0746	5.5000e-004	0.0751	0.0198	5.1000e-004	0.0203	0.0000	58.9216	58.9216	2.7200e-003	0.0000	58.9786
Total	**0.0517**	**0.3069**	**0.6881**	**1.7000e-003**	**0.0987**	**5.0200e-003**	**0.1037**	**0.0267**	**4.6200e-003**	**0.0313**	**0.0000**	**130.5942**	**130.5942**	**3.1800e-003**	**0.0000**	**130.6609**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1084	2.3579	1.7905	2.6900e-003		0.0906	0.0906		0.0906	0.0906	0.0000	235.2931	235.2931	0.0573	0.0000	236.4953
Total	**0.1084**	**2.3579**	**1.7905**	**2.6900e-003**		**0.0906**	**0.0906**		**0.0906**	**0.0906**	**0.0000**	**235.2931**	**235.2931**	**0.0573**	**0.0000**	**236.4953**

3.4 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0268	0.2775	0.3947	8.3000e-004	0.0241	4.4700e-003	0.0286	6.8700e-003	4.1100e-003	0.0110	0.0000	71.6726	71.6726	4.6000e-004	0.0000	71.6822
Worker	0.0249	0.0294	0.2934	8.7000e-004	0.0746	5.5000e-004	0.0751	0.0198	5.1000e-004	0.0203	0.0000	58.9216	58.9216	2.7200e-003	0.0000	58.9786
Total	**0.0517**	**0.3069**	**0.6881**	**1.7000e-003**	**0.0987**	**5.0200e-003**	**0.1037**	**0.0267**	**4.6200e-003**	**0.0313**	**0.0000**	**130.5942**	**130.5942**	**3.1800e-003**	**0.0000**	**130.6609**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0728	0.6584	0.5799	9.2000e-004		0.0384	0.0384		0.0361	0.0361	0.0000	79.5742	79.5742	0.0194	0.0000	79.9813
Total	**0.0728**	**0.6584**	**0.5799**	**9.2000e-004**		**0.0384**	**0.0384**		**0.0361**	**0.0361**	**0.0000**	**79.5742**	**79.5742**	**0.0194**	**0.0000**	**79.9813**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6800e-003	0.0796	0.1315	2.8000e-004	8.2800e-003	1.3800e-003	9.6600e-003	2.3600e-003	1.2700e-003	3.6300e-003	0.0000	24.0566	24.0566	1.5000e-004	0.0000	24.0598
Worker	8.0300e-003	9.3600e-003	0.0937	3.0000e-004	0.0256	1.9000e-004	0.0258	6.8000e-003	1.8000e-004	6.9700e-003	0.0000	19.4151	19.4151	8.8000e-004	0.0000	19.4336
Total	**0.0167**	**0.0889**	**0.2252**	**5.8000e-004**	**0.0339**	**1.5700e-003**	**0.0354**	**9.1600e-003**	**1.4500e-003**	**0.0106**	**0.0000**	**43.4717**	**43.4717**	**1.0300e-003**	**0.0000**	**43.4934**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0372	0.8094	0.6146	9.2000e-004		0.0311	0.0311		0.0311	0.0311	0.0000	79.5741	79.5741	0.0194	0.0000	79.9813
Total	**0.0372**	**0.8094**	**0.6146**	**9.2000e-004**		**0.0311**	**0.0311**		**0.0311**	**0.0311**	**0.0000**	**79.5741**	**79.5741**	**0.0194**	**0.0000**	**79.9813**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6800e-003	0.0796	0.1315	2.8000e-004	8.2800e-003	1.3800e-003	9.6600e-003	2.3600e-003	1.2700e-003	3.6300e-003	0.0000	24.0566	24.0566	1.5000e-004	0.0000	24.0598
Worker	8.0300e-003	9.3600e-003	0.0937	3.0000e-004	0.0256	1.9000e-004	0.0258	6.8000e-003	1.8000e-004	6.9700e-003	0.0000	19.4151	19.4151	8.8000e-004	0.0000	19.4336
Total	**0.0167**	**0.0889**	**0.2252**	**5.8000e-004**	**0.0339**	**1.5700e-003**	**0.0354**	**9.1600e-003**	**1.4500e-003**	**0.0106**	**0.0000**	**43.4717**	**43.4717**	**1.0300e-003**	**0.0000**	**43.4934**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0133	0.1378	0.1435	2.2000e-004		7.3900e-003	7.3900e-003		6.8000e-003	6.8000e-003	0.0000	19.6021	19.6021	6.3400e-003	0.0000	19.7352
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0133**	**0.1378**	**0.1435**	**2.2000e-004**		**7.3900e-003**	**7.3900e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**19.6021**	**19.6021**	**6.3400e-003**	**0.0000**	**19.7352**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	4.4000e-004	4.4300e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9175	0.9175	4.0000e-005	0.0000	0.9184
Total	**3.8000e-004**	**4.4000e-004**	**4.4300e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9175**	**0.9175**	**4.0000e-005**	**0.0000**	**0.9184**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1200e-003	0.1970	0.1693	2.2000e-004		6.5400e-003	6.5400e-003		6.5400e-003	6.5400e-003	0.0000	19.6020	19.6020	6.3400e-003	0.0000	19.7352
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1200e-003**	**0.1970**	**0.1693**	**2.2000e-004**		**6.5400e-003**	**6.5400e-003**		**6.5400e-003**	**6.5400e-003**	**0.0000**	**19.6020**	**19.6020**	**6.3400e-003**	**0.0000**	**19.7352**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	4.4000e-004	4.4300e-003	1.0000e-005	1.2100e-003	1.0000e-005	1.2200e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9175	0.9175	4.0000e-005	0.0000	0.9184
Total	**3.8000e-004**	**4.4000e-004**	**4.4300e-003**	**1.0000e-005**	**1.2100e-003**	**1.0000e-005**	**1.2200e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9175**	**0.9175**	**4.0000e-005**	**0.0000**	**0.9184**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5574
Total	**1.0427**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	5.3000e-004	5.3100e-003	2.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1010	1.1010	5.0000e-005	0.0000	1.1021
Total	**4.6000e-004**	**5.3000e-004**	**5.3100e-003**	**2.0000e-005**	**1.4500e-003**	**1.0000e-005**	**1.4600e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.1010**	**1.1010**	**5.0000e-005**	**0.0000**	**1.1021**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1400e-003	0.0235	0.0183	3.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5574
Total	**1.0414**	**0.0235**	**0.0183**	**3.0000e-005**		**9.5000e-004**	**9.5000e-004**		**9.5000e-004**	**9.5000e-004**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5574**

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	5.3000e-004	5.3100e-003	2.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1010	1.1010	5.0000e-005	0.0000	1.1021
Total	**4.6000e-004**	**5.3000e-004**	**5.3100e-003**	**2.0000e-005**	**1.4500e-003**	**1.0000e-005**	**1.4600e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.1010**	**1.1010**	**5.0000e-005**	**0.0000**	**1.1021**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0200	2.1181	9.2132	0.0250	1.8056	0.0285	1.8341	0.4821	0.0263	0.5084	0.0000	1,741.5877	1,741.5877	0.0647	0.0000	1,742.9466
Unmitigated	1.0320	2.2063	9.5208	0.0262	1.9003	0.0298	1.9301	0.5074	0.0275	0.5349	0.0000	1,829.4476	1,829.4476	0.0677	0.0000	1,830.8684

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	903.00	0.00	0.00	1,422,186	1,351,276
General Office Building	273.49	58.87	24.34	495,244	470,551
Junior High School	1,944.00	0.00	0.00	3,121,778	2,966,127
Total	3,120.49	58.87	24.34	5,039,208	4,787,953

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Junior High School	9.50	7.30	7.30	72.80	22.20	5.00	63	25	12

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.475060	0.062670	0.180903	0.157882	0.069305	0.010127	0.013604	0.017861	0.000759	0.000687	0.005630	0.000316	0.005195

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	505.7175	505.7175	0.0233	4.8100e-003	507.6966
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	505.7175	505.7175	0.0233	4.8100e-003	507.6966
NaturalGas Mitigated	0.0146	0.1331	0.1118	8.0000e-004		0.0101	0.0101		0.0101	0.0101	0.0000	144.8938	144.8938	2.7800e-003	2.6600e-003	145.7756
NaturalGas Unmitigated	0.0146	0.1331	0.1118	8.0000e-004		0.0101	0.0101		0.0101	0.0101	0.0000	144.8938	144.8938	2.7800e-003	2.6600e-003	145.7756

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	1.75073e+006	9.4400e-003	0.0858	0.0721	5.1000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	93.4255	93.4255	1.7900e-003	1.7100e-003	93.9941
Elementary School	726262	3.9200e-003	0.0356	0.0299	2.1000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	38.7561	38.7561	7.4000e-004	7.1000e-004	38.9920
General Office Building	238216	1.2800e-003	0.0117	9.8100e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7121	12.7121	2.4000e-004	2.3000e-004	12.7895
Total		**0.0146**	**0.1331**	**0.1118**	**7.9000e-004**		**0.0101**	**0.0101**		**0.0101**	**0.0101**	**0.0000**	**144.8938**	**144.8938**	**2.7700e-003**	**2.6500e-003**	**145.7756**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Junior High School	1.75073e+006	9.4400e-003	0.0858	0.0721	5.1000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003	0.0000	93.4255	93.4255	1.7900e-003	1.7100e-003	93.9941
Elementary School	726262	3.9200e-003	0.0356	0.0299	2.1000e-004		2.7100e-003	2.7100e-003		2.7100e-003	2.7100e-003	0.0000	38.7561	38.7561	7.4000e-004	7.1000e-004	38.9920
General Office Building	238216	1.2800e-003	0.0117	9.8100e-003	7.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	12.7121	12.7121	2.4000e-004	2.3000e-004	12.7895
Total		**0.0146**	**0.1331**	**0.1118**	**7.9000e-004**		**0.0101**	**0.0101**		**0.0101**	**0.0101**	**0.0000**	**144.8938**	**144.8938**	**2.7700e-003**	**2.6500e-003**	**145.7756**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	404390	115.7229	5.3200e-003	1.1000e-003	116.1758
General Office Building	388001	111.0330	5.1000e-003	1.0600e-003	111.4675
Junior High School	974821	278.9616	0.0128	2.6500e-003	280.0534
Total		**505.7175**	**0.0232**	**4.8100e-003**	**507.6966**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	404390	115.7229	5.3200e-003	1.1000e-003	116.1758
General Office Building	388001	111.0330	5.1000e-003	1.0600e-003	111.4675
Junior High School	974821	278.9616	0.0128	2.6500e-003	280.0534
Total		**505.7175**	**0.0232**	**4.8100e-003**	**507.6966**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9167	1.6000e-004	0.0178	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0344	0.0344	9.0000e-005	0.0000	0.0363
Unmitigated	1.0993	1.6000e-004	0.0178	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0344	0.0344	9.0000e-005	0.0000	0.0363

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2211					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8765					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6700e-003	1.6000e-004	0.0178	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0344	0.0344	9.0000e-005	0.0000	0.0363
Total	**1.0993**	**1.6000e-004**	**0.0178**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0344**	**0.0344**	**9.0000e-005**	**0.0000**	**0.0363**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1040					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8110					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6700e-003	1.6000e-004	0.0178	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0344	0.0344	9.0000e-005	0.0000	0.0363
Total	**0.9167**	**1.6000e-004**	**0.0178**	**0.0000**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.0344**	**0.0344**	**9.0000e-005**	**0.0000**	**0.0363**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Reclaimed Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	68.8156	0.2511	6.4800e-003	76.0976
Unmitigated	82.7349	0.2976	7.7000e-003	91.3720

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	1.69697 / 4.36363	20.7349	0.0562	1.5000e-003	22.3799
General Office Building	4.41491 / 2.70591	26.4543	0.1450	3.6400e-003	30.6264
Junior High School	2.90909 / 7.48051	35.5456	0.0964	2.5700e-003	38.3656
Total		**82.7349**	**0.2976**	**7.7100e-003**	**91.3720**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	1.43224 / 3.58739	17.1966	0.0474	1.2600e-003	18.5831
General Office Building	3.72618 / 2.22456	22.1391	0.1224	3.0600e-003	25.6578
Junior High School	2.45527 / 6.14981	29.4799	0.0813	2.1600e-003	31.8567
Total		**68.8156**	**0.2511**	**6.4800e-003**	**76.0976**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	39.0396	2.3072	0.0000	87.4903
Unmitigated	75.0762	4.4369	0.0000	168.2506

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	127.75	25.9321	1.5325	0.0000	58.1155
General Office Building	23.1	4.6891	0.2771	0.0000	10.5086
Junior High School	219	44.4550	2.6272	0.0000	99.6266
Total		**75.0762**	**4.4369**	**0.0000**	**168.2506**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	66.43	13.4847	0.7969	0.0000	30.2201
General Office Building	12.012	2.4383	0.1441	0.0000	5.4645
Junior High School	113.88	23.1166	1.3662	0.0000	51.8058
Total		**39.0396**	**2.3072**	**0.0000**	**87.4903**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

TIER 2 SCREENING RISK ASSESSMENT REPORT

(Version 8.0 & Attachment M, Revision Mar 2016) - RiskTool (V1.03)

A/N: N/A **Application deemed complete date:** 8/30/2020

Fac: Doris-Patterson

2. Tier 2 Data

Equipment Type	Diesel ICE		With T-BACT			
Operation Schedule	8	hours/day;	5	days/week;	48	weeks/year
Stack Height	8	ft				
Distance - Residential	170	m				
Distance - Commercial	1000	m				
Meteorological Station	Reseda					

Dispersion Factors tables	Point Source
For Chronic X/Q	Table 2
For Acute X/Q max	Table 6

Dilution Factors

Receptor	X/Q (µg/m³)/(tons/yr)	X/Qmax (µg/m³)/(lbs/hr)
Residential	0.316	23.481
Commercial - Worker	0.010	3.364

Adjustment and Intake Factors

	Residential	Worker
Year of Exposure	2	
Combined Exposure Factor (CEF) - Table 9.1 & 9.2	310.99	4.50
Worker Adjustment Factor (WAF) - Table 10	1	4.20

A/N: N/A Application deemed complete date: 08/30/20

3. Rule 1401 Compound Data

Compound	R1 - Uncontrolled (lbs/hr)	R2 - Controlled (lbs/hr)	CP (mg/kg-day)$^{-1}$	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic (µg/m³)	REL 8-hr Chronic (µg/m³)	REL Acute (µg/m³)	MWAF
Particulate Emissions from Diesel-Fueled Engines	1.19E-01	5.96E-02	1.10E+00	1.00	1.00	1.00	1.00	5.00E+00			1

4. Emission Calculations

Compound	R1 (lbs/hr)	R2 (lbs/hr)	R2 (lbs/yr)	R2 (tons/yr)
Particulate Emissions from Diesel-Fueled Engines	1.19E-01	5.96E-02	1.15E+02	5.73E-02
Total	**1.19E-01**	**5.96E-02**	**1.15E+02**	**5.73E-02**

TIER 2 RESULTS **A/N:** N/A **Application deemed complete date:** 08/30/20

5a. MICR

MICR Resident = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Resident * CEF Resident * MP Resident * 1e-6 * MWAF

MICR Worker = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Worker * CEF Worker* MP Worker* WAF Worker* 1e-6 * MWAF

Compound	Residential	Commercial
Particulate Emissions from Diesel-Fueled Engines	6.19E-06	1.19E-08
Total	**6.19E-06**	**1.19E-08**
	PASS	**PASS**

5b. Cancer Burden Calculation?	**YES**
X/Q for one-in-a-million (µg/m³)/(tons/yr):	5.11E-02
New Distance at which MICR is 1 in a million (m):	344.70
Zone Impact Area (km²):	3.73E-01
Population (7000 person/km²):	2.61E+03
Cancer Burden:	**1.62E-02**
	PASS

6. Hazard Index **A/N:** N/A **Application deemed complete date:** 08/30/20

HIA = [Q(lb/hr) * (X/Q)max * MWAF]/ Acute REL
HIC = [Q(ton/yr) * (X/Q) * MP * MWAF] / Chronic REL
HIC 8-hr= [Q(ton/yr) * (X/Q) * WAF * MWAF] / 8-hr Chronic REL

Target Organs	Acute	Chronic	8-hr Chronic	Acute Pass/Fail	Chronic Pass/Fail	8-hr Chronic Pass/Fail
Alimentary system (liver) - AL				Pass	Pass	Pass
Bones and teeth - BN				Pass	Pass	Pass
Cardiovascular system - CV				Pass	Pass	Pass
Developmental - DEV				Pass	Pass	Pass
Endocrine system - END				Pass	Pass	Pass
Eye				Pass	Pass	Pass
Hematopoietic system - HEM				Pass	Pass	Pass
Immune system - IMM				Pass	Pass	Pass
Kidney - KID				Pass	Pass	Pass
Nervous system - NS				Pass	Pass	Pass
Reproductive system - REP				Pass	Pass	Pass
Respiratory system - RES		3.62E-03		Pass	Pass	Pass
Skin				Pass	Pass	Pass

6a. Hazard Index Acute - Resident

HIA = [Q(lb/hr) * (X/Q)max resident * MWAF] / Acute REL

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Engines										
Total										

6a. Hazard Index Acute - Worker **A/N:** N/A **Application deemed complete date:** 08/30/20

HIA = [Q(lb/hr) * (X/Q)max Worker * MWAF] / Acute REL

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Engines										
Total										

6b. Hazard Index Chronic - Resident

HIC = [Q(ton/yr) * (X/Q) Resident * MP Chronic Resident * MWAF] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Engines												3.62E-03	
Total												3.62E-03	

6b. Hazard Index Chronic - Worker

HIC = [Q(ton/yr) * (X/Q) * MP Chronic Worker * MWAF] / Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Engines												1.15E-04	
Total												1.15E-04	

6c. 8-hour Hazard Index Chronic - Resident **A/N:** N/A **Application deemed complete date:** 08/30/20

HIC 8-hr = [Q(ton/yr) * (X/Q) Resident * WAF Resident * MWAF] / 8-hr Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Engines													
Total													

6c. 8-hour Hazard Index Chronic - Worker

HIC 8-hr = [Q(ton/yr) * (X/Q) Worker * WAF Worker * MWAF] / 8-hr Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled Engines													
Total													

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Doris-Patterson
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: CO

I. SITE VARIABLES

U=	1.0 M/S	Z0=	100. CM	ALT=	12. (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	7 (G)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	0.0 PPM		
SIGTH=	20. DEGREES	TEMP=	7.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. 1N-55	*	500	1500	500	1227	* AG	4555	35.0	0.0	36.0
B. 2N-55	*	500	1227	500	0	* AG	4637	35.0	0.0	26.0
C. 3N-55	*	500	0	500	-590	* AG	4559	35.0	0.0	26.0
D. 4N-55	*	500	-590	500	-1190	* AG	3902	35.0	0.0	36.0
E. 4S-55	*	500	-1190	500	-1990	* AG	3484	35.0	0.0	36.0
F. 1E-45	*	1800	1227	500	1227	* AG	1954	35.0	0.0	26.0
G. 1W-55	*	100	1227	500	1227	* AG	464	35.0	0.0	31.0
H. 2E-45	*	500	0	1700	0	* AG	727	35.0	0.0	16.0
I. 2W-25	*	100	0	500	0	* AG	42	53.0	0.0	15.0
J. 3E-30	*	1700	-590	500	-590	* AG	343	46.0	0.0	15.0
K. 3W-30	*	100	-590	500	-590	* AG	24	46.0	0.0	15.0
L. 4E-45	*	500	-1190	1500	-1190	* AG	1217	35.0	0.0	36.0
M. 4W-50	*	100	-1190	500	-1190	* AG	471	35.0	0.0	26.0
N. 7N-40	*	1800	1227	1700	0	* AG	396	38.0	0.0	26.0
O. 7S-40	*	1700	0	1700	-50	* AG	447	38.0	0.0	20.0
P. 10N-30	*	1700	-590	1700	-200	* AG	348	46.0	0.0	20.0
Q. 10E-30	*	1700	-590	2200	-590	* AG	399	46.0	0.0	14.0
R. 7E-45	*	1700	0	1900	0	* AG	863	35.0	0.0	23.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Doris-Patterson
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: CO

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. DP Schoo	*	1740	-40	1.8
2. Residenc	*	575	1257	1.8
3. High Sch	*	1120	1162	1.8

4. Resident	1733	30	1.8
5. Bussines	530	-1160	1.8
6. Bussines	560	-1250	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. DP Schoo	310.	1.5	0.1	0.4	0.0	0.0	0.0	0.1	0.0	0.4
2. Residenc	196.	4.1	0.0	2.3	0.1	0.1	0.1	1.4	0.0	0.0
3. High Sch	286.	1.8	0.5	0.1	0.0	0.0	0.0	1.2	0.0	0.0
4. Resident	227.	1.8	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.3
5. Bussines	195.	4.7	0.0	0.0	0.0	0.4	3.4	0.0	0.0	0.0
6. Bussines	346.	3.5	0.0	0.2	0.3	2.2	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R
1. DP Schoo	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.3
2. Residenc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. High Sch	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Resident	0.0	0.1	0.0	0.1	0.0	0.2	0.2	0.0	0.0	0.4
5. Bussines	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
6. Bussines	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0

Doris Patterson Emfac Output Results

calendar_year	season_month	sub_area	vehicle_class	temperature	relative_humidity	process	speed_time	pollutant	emission_rate (g/mi)
2020	Winter	Ventura (SCC)	LDA	60	70	RUNEX	25	CO	0.788655
2020	Winter	Ventura (SCC)	LDA	60	70	RUNEX	30	CO	0.723368
2020	Winter	Ventura (SCC)	LDA	60	70	RUNEX	40	CO	0.617481
2020	Winter	Ventura (SCC)	LDA	60	70	RUNEX	45	CO	0.574642
2020	Winter	Ventura (SCC)	LDA	60	70	RUNEX	55	CO	0.505894
2020	Winter	Ventura (SCC)	LDT1	60	70	RUNEX	25	CO	1.872307
2020	Winter	Ventura (SCC)	LDT1	60	70	RUNEX	30	CO	1.70298
2020	Winter	Ventura (SCC)	LDT1	60	70	RUNEX	40	CO	1.449729
2020	Winter	Ventura (SCC)	LDT1	60	70	RUNEX	45	CO	1.357196
2020	Winter	Ventura (SCC)	LDT1	60	70	RUNEX	55	CO	1.230339
2020	Winter	Ventura (SCC)	LDT2	60	70	RUNEX	25	CO	0.999214
2020	Winter	Ventura (SCC)	LDT2	60	70	RUNEX	30	CO	0.917002
2020	Winter	Ventura (SCC)	LDT2	60	70	RUNEX	40	CO	0.782764
2020	Winter	Ventura (SCC)	LDT2	60	70	RUNEX	45	CO	0.728111
2020	Winter	Ventura (SCC)	LDT2	60	70	RUNEX	55	CO	0.639495
2020	Winter	Ventura (SCC)	LHD1	60	70	RUNEX	25	CO	1.26056
2020	Winter	Ventura (SCC)	LHD1	60	70	RUNEX	30	CO	1.115026
2020	Winter	Ventura (SCC)	LHD1	60	70	RUNEX	40	CO	0.966679
2020	Winter	Ventura (SCC)	LHD1	60	70	RUNEX	45	CO	0.947498
2020	Winter	Ventura (SCC)	LHD1	60	70	RUNEX	55	CO	1.023414
2020	Winter	Ventura (SCC)	LHD2	60	70	RUNEX	25	CO	0.587802
2020	Winter	Ventura (SCC)	LHD2	60	70	RUNEX	30	CO	0.509647
2020	Winter	Ventura (SCC)	LHD2	60	70	RUNEX	40	CO	0.429514
2020	Winter	Ventura (SCC)	LHD2	60	70	RUNEX	45	CO	0.416148
2020	Winter	Ventura (SCC)	LHD2	60	70	RUNEX	55	CO	0.440137
2020	Winter	Ventura (SCC)	MCY	60	70	RUNEX	25	CO	23.01662
2020	Winter	Ventura (SCC)	MCY	60	70	RUNEX	30	CO	20.49253
2020	Winter	Ventura (SCC)	MCY	60	70	RUNEX	40	CO	17.98684
2020	Winter	Ventura (SCC)	MCY	60	70	RUNEX	45	CO	17.75734
2020	Winter	Ventura (SCC)	MCY	60	70	RUNEX	55	CO	19.51042
2020	Winter	Ventura (SCC)	MDV	60	70	RUNEX	25	CO	1.810765
2020	Winter	Ventura (SCC)	MDV	60	70	RUNEX	30	CO	1.652753
2020	Winter	Ventura (SCC)	MDV	60	70	RUNEX	40	CO	1.416306
2020	Winter	Ventura (SCC)	MDV	60	70	RUNEX	45	CO	1.330399
2020	Winter	Ventura (SCC)	MDV	60	70	RUNEX	55	CO	1.218581
2020	Winter	Ventura (SCC)	MH	60	70	RUNEX	25	CO	4.190974
2020	Winter	Ventura (SCC)	MH	60	70	RUNEX	30	CO	3.720479
2020	Winter	Ventura (SCC)	MH	60	70	RUNEX	40	CO	3.258962
2020	Winter	Ventura (SCC)	MH	60	70	RUNEX	45	CO	3.221468
2020	Winter	Ventura (SCC)	MH	60	70	RUNEX	55	CO	3.563919
2020	Winter	Ventura (SCC)	OBUS	60	70	RUNEX	25	CO	1.530371
2020	Winter	Ventura (SCC)	OBUS	60	70	RUNEX	30	CO	1.404941
2020	Winter	Ventura (SCC)	OBUS	60	70	RUNEX	40	CO	1.203045
2020	Winter	Ventura (SCC)	OBUS	60	70	RUNEX	45	CO	1.122494
2020	Winter	Ventura (SCC)	OBUS	60	70	RUNEX	55	CO	0.997659
2020	Winter	Ventura (SCC)	SBUS	60	70	RUNEX	25	CO	0.973675
2020	Winter	Ventura (SCC)	SBUS	60	70	RUNEX	30	CO	0.858759

Doris Patterson Emfac Output Results

calendar_year	season_month	sub_area	vehicle_class	temperature	relative_humidity	process	speed_time	pollutant	emission_rate (g/mi)
2020	Winter	Ventura (SCC)	SBUS	60	70	RUNEX	40	CO	0.685313
2020	Winter	Ventura (SCC)	SBUS	60	70	RUNEX	45	CO	0.620954
2020	Winter	Ventura (SCC)	SBUS	60	70	RUNEX	55	CO	0.527236
2020	Winter	Ventura (SCC)	T6 Ag	60	70	RUNEX	25	CO	2.230272
2020	Winter	Ventura (SCC)	T6 Ag	60	70	RUNEX	30	CO	1.861309
2020	Winter	Ventura (SCC)	T6 Ag	60	70	RUNEX	40	CO	1.31373
2020	Winter	Ventura (SCC)	T6 Ag	60	70	RUNEX	45	CO	1.126211
2020	Winter	Ventura (SCC)	T6 Ag	60	70	RUNEX	55	CO	0.910138
2020	Winter	Ventura (SCC)	T6 Public	60	70	RUNEX	25	CO	0.311663
2020	Winter	Ventura (SCC)	T6 Public	60	70	RUNEX	30	CO	0.242626
2020	Winter	Ventura (SCC)	T6 Public	60	70	RUNEX	40	CO	0.151009
2020	Winter	Ventura (SCC)	T6 Public	60	70	RUNEX	45	CO	0.121983
2020	Winter	Ventura (SCC)	T6 Public	60	70	RUNEX	55	CO	0.087246
2020	Winter	Ventura (SCC)	T6 Utility	60	70	RUNEX	25	CO	0.290089
2020	Winter	Ventura (SCC)	T6 Utility	60	70	RUNEX	30	CO	0.213774
2020	Winter	Ventura (SCC)	T6 Utility	60	70	RUNEX	40	CO	0.116093
2020	Winter	Ventura (SCC)	T6 Utility	60	70	RUNEX	45	CO	0.085552
2020	Winter	Ventura (SCC)	T6 Utility	60	70	RUNEX	55	CO	0.04646
2020	Winter	Ventura (SCC)	T7 SWCV	60	70	RUNEX	25	CO	7.456263
2020	Winter	Ventura (SCC)	T7 SWCV	60	70	RUNEX	30	CO	5.501839
2020	Winter	Ventura (SCC)	T7 SWCV	60	70	RUNEX	40	CO	2.998484
2020	Winter	Ventura (SCC)	T7 SWCV	60	70	RUNEX	45	CO	2.215739
2020	Winter	Ventura (SCC)	T7 SWCV	60	70	RUNEX	55	CO	1.215732
2020	Winter	Ventura (SCC)	UBUS	60	70	RUNEX	25	CO	6.051383
2020	Winter	Ventura (SCC)	UBUS	60	70	RUNEX	30	CO	5.242881
2020	Winter	Ventura (SCC)	UBUS	60	70	RUNEX	40	CO	4.196209
2020	Winter	Ventura (SCC)	UBUS	60	70	RUNEX	45	CO	3.876804
2020	Winter	Ventura (SCC)	UBUS	60	70	RUNEX	55	CO	3.565757

D CULTURAL RESOURCES (RECORDS SEARCH AND NATIVE AMERICAN CONSULTATION)

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

8/17/2017 Records Search File No.: 17953.4033

Jenna Farrell
Tetra Tech, Inc.
2969 Prospect Park Dr., Ste. 100
Rancho Cordova, CA 95670

Re: Record Search Results for Oxnard School District Project

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Oxnard, CA USGS 7.5' quadrangle. The following reflects the results of the records search for the project area and a 1-mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☐ custom GIS maps ☒ shape files ☐ hand-drawn maps

Resources within project area: 0	None
Resources within 1-mile radius: 2	SEE ATTACHED LIST
Resources listed in the OHP Historic Properties Directory within project area: 0	None
Resources listed in the OHP Historic Properties Directory within 1-mile radius: 4	SEE ATTACHED LIST FOR INDIVIDUAL PROPERTY STATUS CODES – resource locations from the OHP HPD may or may not be plotted on the custom GIS map or provided as a shape file
Resources listed in the Historic Properties Directory that lack specific locational information: 3	SEE ATTACHED LIST FOR INDIVIDUAL PROPERTY STATUS CODES - These properties may or may not be in your project area or in the search radius.
Reports within project area: 1	VN-02978
Reports within 1-mile radius: 32	SEE ATTACHED MAP or LIST. 1 is an overview report.

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Digital Database (spreadsheet):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Report Digital Database (spreadsheet):	☐ enclosed	☒ not requested	☐ nothing listed

Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed
OHP Historic Properties Directory:	☒ enclosed	☐ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
Los Angeles Historic-Cultural Monuments	☐ enclosed	☐ not requested	☒ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☒ not available at SCCIC		
Historical Literature:	☒ not available at SCCIC		
GLO and/or Rancho Plat Maps:	☒ not available at SCCIC		
Caltrans Bridge Survey:	☒ not available at SCCIC; please go to http://www.dot.ca.gov/hq/structur/strmaint/historic.htm		
Shipwreck Inventory:	☒ not available at SCCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp		
Soil Survey Maps: (see below)	☒ not available at SCCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx		

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

For Isabela Kott
GIS Technician/Staff Researcher

Enclosures:

(X) GIS Shapefiles – 35 shapes

(X) Resource Database Printout (list) – 1 page

(X) Resource Database Printout (details) – 5 pages

(X) Report Database Printout (list) – 3 pages

(X) Report Database Printout (details) – 34 pages

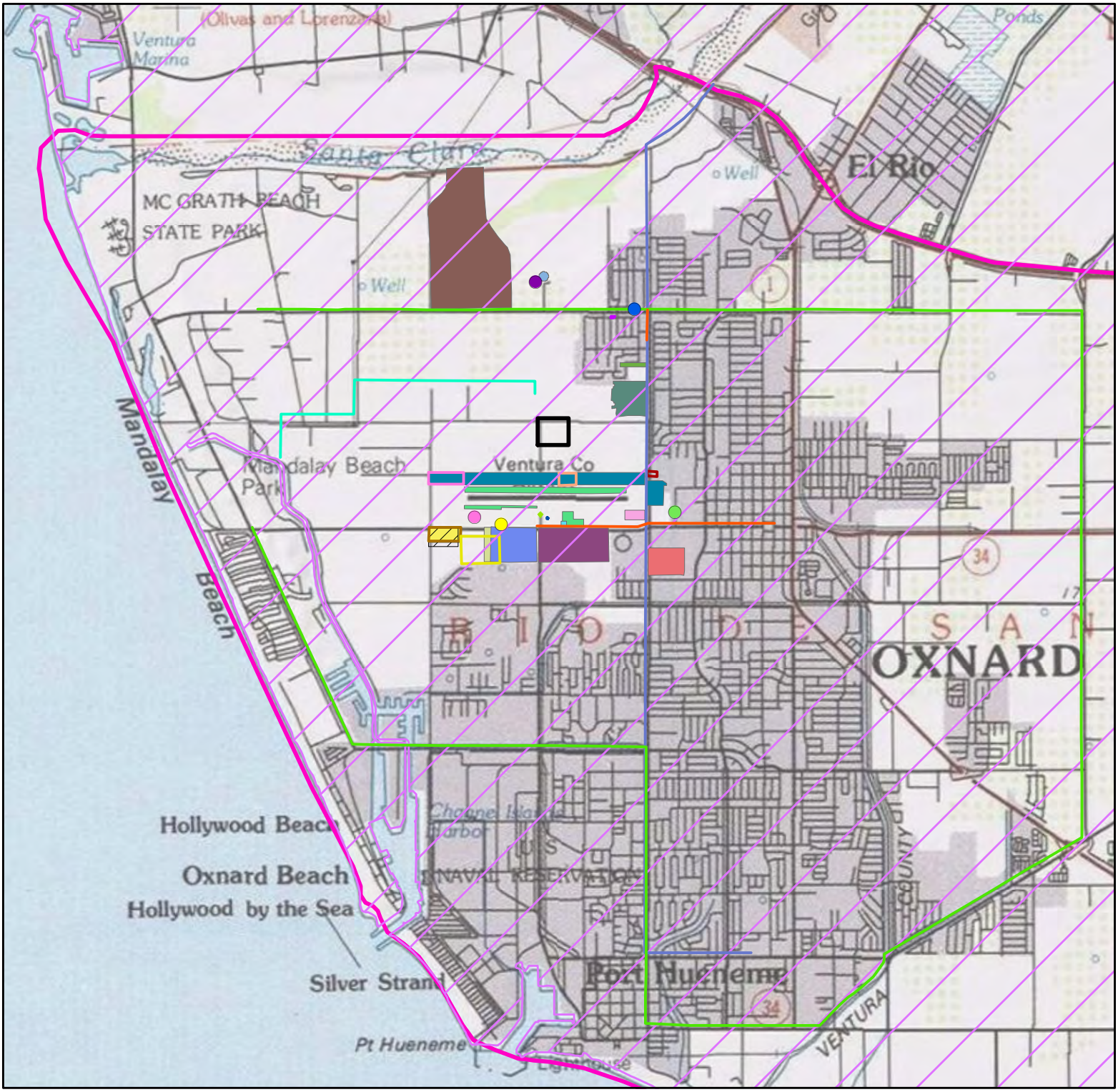
(X) Resource Record Copies – (all) 104 pages

(X) Report Copies – (all) 740 pages

(X) OHP Historic Properties Directory – 3 pages

(X) National Register Status Codes – 1 page

(X) Invoice #17953.4033



N

0 0.5 1 Miles

Legend

Project Area	VN-02933	VN-02978	VN2008	VN459
VN-02796	VN236	VN1005	VN2017	VN470
VN-03023	VN2434	VN1133	VN2021	VN513
VN-03054	VN976	VN1136	VN2438	VN815
VN2404	VN-02627	VN1578	VN2468	VN904
VN2465	VN-02679	VN1583	VN2473	VN990
	VN-02884	VN1819	VN2478	VN991

Previous Surveys

Doris/Patterson Road
Educational Facilities Project
Ventura County, CA

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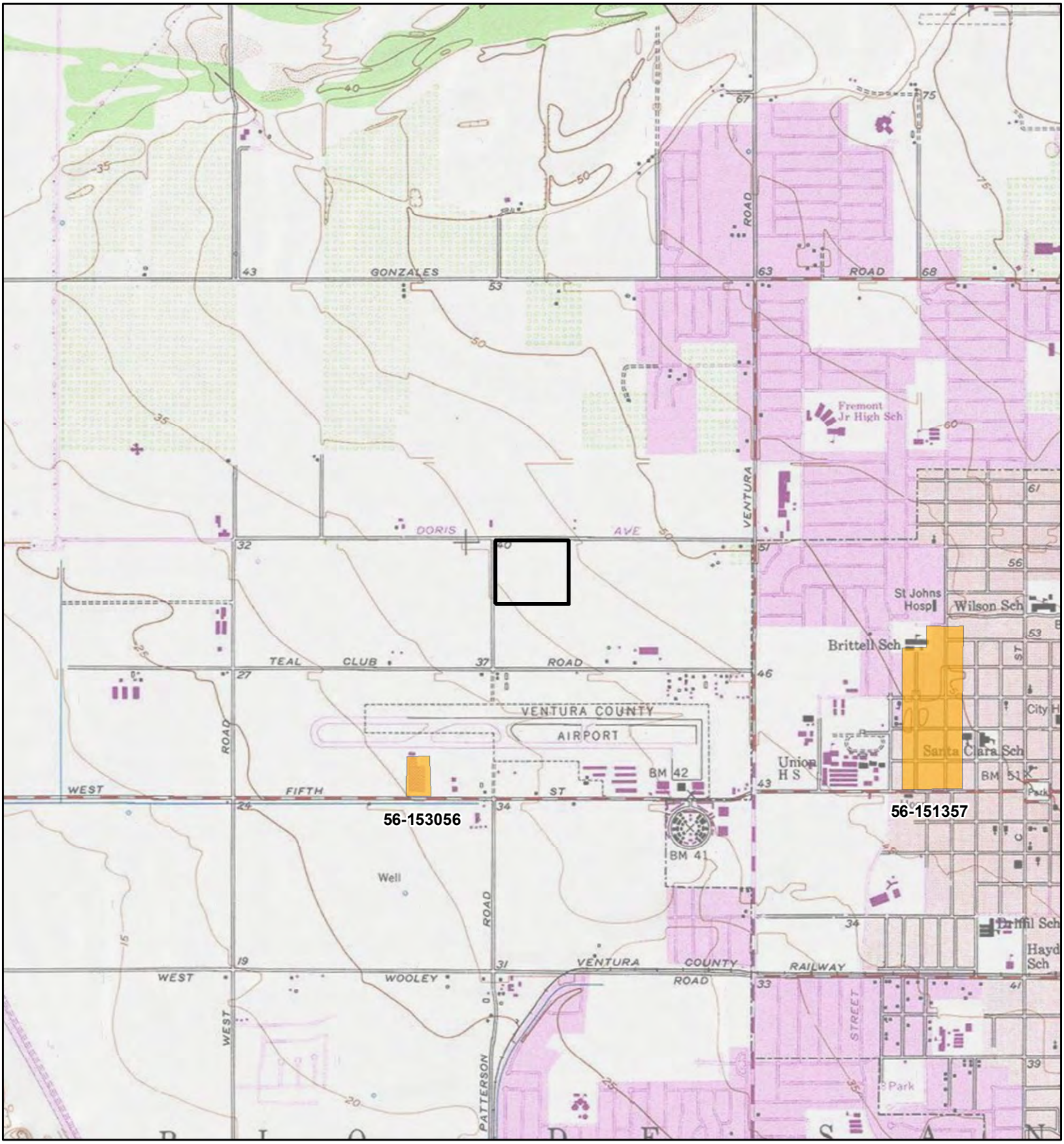

Legend

- Project Area
- Previously Identified Resource

N

0 1,000 2,000 Feet

Previously Identified Resources

Doris/Patterson Road
Educational Facilities Project
Ventura County, CA

R:\PROJECTS\DORIS_PATTERSON_T34007\ARCHEO\MAPS\Previous_Sites.mxd

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-00236		1980	Horne, Stephen	Final Report: Onshore Cultural Resources Assessment, Union Oil Company Platform Gina and Platform Gilda Project Federal Lease Ocs P-0202 and P-0216, Offshore Southern California	Dames & Moore/Stephen Horne	56-000553, 56-000662, 56-000663, 56-000664, 56-000665, 56-000666, 56-000667, 56-001234, 56-120002, 56-120003
VN-00459		1985	Bissell, Ronald M.	A Cultural Resources Assessment of Portions of Camarillo and Oxnard Airports, Ventura County, California	RMW Paleo Associates, Inc.	
VN-00470		1985	Singer, Clay A.	Cultural Resources Survey and Impact Assessment for the Channel Islands Community Hospital Eir		
VN-00513		1986	Mouriquand-Blodgett, Leslie	Archival Search for a 31.8 Acre Parcel on the Northwest Corner of Ventura Road and Doris Avenue, Oxnard, California.	LESLIE MOURIQUAND-BLODGETT,	
VN-00815		1990	Salls, Roy A.	Report of Archaeological Reconnaissance Survey Of: Tentative Tract 4648 Oxnard, California	NCPA	
VN-00904		1990	Bleitz, Dana E.	Report of Archaeological Reconnaissance Survey of Parcel 1, Tentative Parcel Map 90-5 Oxnard, California	Northridge Center for Public Archaeology, CSUN	
VN-00976		1990	Singer, Clay A. and John E. Atwood	Cultural Resources Survey and Impact Assessment for the Proposed Realignment of the Doris Drain in the City of Oxnard, Ventura County, Californiar	C.A. Singer & Associates, Inc.	
VN-00990		1991	Brown, Joan C.	Cultural Resources Reconnaissance of a 20 Acre Parcel in the City of Oxnard, California.	RMW Paleo Associates, Inc.	
VN-00991		1990	Brown, Joan. C.	Cultural Resources Reconnaissance of an 80 Acre Parcel in the City of Oxnard, California.	RMW Paleo Associates, Inc.	
VN-01005		1991	Brown, Joan C.	Cultural Resources Reconnaissance of a 20 Acre Parcel in the City of Oxnard, California (Revised)	RMW Paleo Associates, Inc.	
VN-01133		1992	Brown, Joan C.	Cultural Resources Reconnaissance of a 51.03 Acre Parcel Located in Oxnard, Ventura County, California	RMW Paleo Associates, Inc.	
VN-01136		1992	MacFarlane, Heather	Phase 1 Cultural Resources Survey 9.42 Acres Located at the SE Corner of Teal Club Road and Victoria Avenue (a.p.n. 183-0-090-575) Annexation #87-8 and Zone Change 767 Ventura County, California	MacFarlane Archaeological Consultants	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-01578		1998	McKenna, Jeanette A.	Historic Research and Review of the Mcloughlin/ Maxwell Property, Located in Both Unicorporated Ventura County (250 Acres) and the City of Oxnard (80 Acres), Ventura County, California	McKenna et al.	
VN-01583		1997	Anonymous	Phase 1 Archaeological Survey and Cultural Resources Assessment for the Northwest Golf Course Community Specific Plan Study Area, Oxnard, Ventura County, California	W & S Consultants	
VN-01819		1999	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 504-11, County of Ventura, California	LSA Associates, Inc.	
VN-02008		2001	Martinez, Al	Nhpa Section 106 Review, Per Fcc Direction of Sprint Pcs Wireless Communications Facility No. Vr54x442d (lemon Grove Located at South East Corner of Victoria Avenue and Gonzales Road, Oxnard, California 93030	Michael Brandman Associates	
VN-02017		2001	Billat, Lorna	Nextel Mobile Radio Facilities	Earth Touch	
VN-02021		2001	Higgins, Glen	Negative Archaeological Survey Report: Gold Coast Plaza	Compass Rose Archaeological, Inc.	
VN-02404		2006	Wlodarski, Robert J.	Records Search and Field Reconnaissance Phase for the Proposed Royal Street Communications Wireless Telecommunications Site La0931 (oxnard P.a.l.), Located at 350 South K Street, Oxnard, Ventura County, California 93030	Cellular, Archaeological Resource, Evaluations	
VN-02434		2006	Maki, Mary K.	Archaeological Survey Report of Approximately 44,000 Linear Feet for the Recycled Water Backbone System Project, City of Oxnard, Ventura County, California	Conejo Archaeological Consultants	56-000662, 56-000664, 56-150015, 56-150016, 56-150017, 56-152763, 56-152786, 56-152788, 56-152790, 56-152791, 56-152792, 56-152801, 56-152803, 56-152804, 56-152805, 56-152807, 56-152808, 56-152809, 56-152812, 56-152814
VN-02438		2006	Whitley, David S.	Phase I Archaeological Survey for the Rancho Victoria Study Area, Oxnard, Ventura County, California	W & S Consultants	
VN-02465		2004	McKenna, Jeanette A.	Cultural Resources Monitoring Program at the Mclaughlin House, Oxnard, Ventura County	McKenna et al.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
VN-02468		2003	Foster, John M.	Archaeological Investigation for Tentative Tract	Greenwood and Associates	
VN-02473		2004	Wlodarski, Robert J.	Phase I Archaeological Investigation: 2425 West 5th Street, Oxnard, Ca	Compass Rose Archaeological, Inc.	
VN-02478		2003	Simon, Joseph M.	Phase I Archaeological Survey of a 47 Acres Parcel at West Fifth Street and Patterson Road, Oxnard, Vetura County California	W & S Consultants	
VN-02627		1993	King, Chester	Native American Placenames in the Vicinity of the Pacific Pipeline: Part 2: Gaviota to the San Fernando Valley: Draft	Topanga Anthropological Consultants	
VN-02679		2008	Wlodarski, Robert J.	A Phase I Archaeological Study for Store 07449, Located at 481 South Ventura Road City of Oxnard, County of Ventura, California	Historical, Environmental, Archaeological, Research, Team	
VN-02796		2009	Schmidt, June A.	Moorpark-Shelline-Valdez 66kV New Pole Installation/ Old Pole Removal and WO 6039-4800; 9-4857 Deteriorated Pole Replacements, Various Distribution Circuits, Ventura County, California	Compass Rose Archaeological, Inc.	56-000031, 56-000032, 56-000033, 56-000034, 56-000201, 56-000241, 56-152746, 56-152747, 56-152748
VN-02884		2009	Austerman, Virginia	Draft Cultural Resources Survey for the Proposed Oxnard Airport Land/Easement Acquisition Project, City of Oxnard, Ventura County, California	SWCA Environmental Consultants	
VN-02933		2011	Toren, A. George	Phase I Archaeological Investigation for the City of Oxnard Recycled Water Project New Alignment	Compass Rose Archaelogical, Inc.	
VN-02978		2004	Sharpe, Jim and Durio, Lori	Groundwater Recovery Enhancement and Treatment (GREAT) Program, Cultural Resources Inventory Report	CH2MHill	56-000506, 56-000662, 56-000664, 56-000665, 56-000666, 56-000726, 56-000789, 56-000918, 56-100060, 56-152779, 56-152780, 56-152781, 56-152782, 56-152783, 56-152784
VN-03023		2011	Martorana, Dean	Verizon Wireless-Teal Club, 3551 West 5th Street	URS	
VN-03054		2012	Loftus, Shannon	Cultural Resource Records Search and Site Survey AT&T Site SBOV62 (36309) Oxnard Airport, 3151 West 5th Street Oxnard, Ventura County, California	ACE Environmental	56-153056

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-56-151357		OHP Property Number - 016751; Resource Name - Oxnard, Henry T Historic District; Other - Hentry T Oxnard Subdivision	District	Historic	HP02 (Single family property)	1981 (Judy Triem, Cutltural Heritage Board); 1998 (Moss, Benny & Rosanne, Friends of Old Oxnard)	
P-56-153056		Resource Name - Consulado de Mexico / Durham School Services; Other - SBOV62 (36309); Other - Oxnard Airport	Building, Structure	Historic	HP08 (Industrial building)	2012 (Shannon L. Loftus, ACE Environmental)	VN-03054

OPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
016794	56-151400	E ST	E STREET	OXNARD	P	0	HIST.SURV.	3030-0005-9999		5S2	
016789	56-151395	142 E ST		OXNARD	P	1950	HIST.SURV.	3030-0005-0038		5D2	
017019	56-151625	ETTING RD	OXNARD JAPANESE CEMETERY	OXNARD	P	1900	HIST.SURV.	3030-0018-0000		7R	
016751	56-151357	F ST	HENRY T OXNARD HISTORIC DISTRICT	OXNARD	P	1908	HIST.RES.	NPS-99000109-9999	02/05/99	1S	AC
							NAT.REG.	56-0022	02/05/99	3S	AC
							HIST.SURV.	3030-0004-9999		7N	
016674	56-151280	G ST	WALTER H. LATHROP SUBDIVISION, G S	OXNARD	P	1913	HIST.SURV.	3030-0003-9999		5S2	
016648	56-151254	355 G ST		OXNARD	P	1916	NAT.REG.	56-0022	02/05/99	1D	AC
							HIST.RES.	NPS-99000109-0119	02/05/99	1D	AC
							HIST.SURV.	3030-0003-0040		7N	
166007		1284 HILL ST		OXNARD	P	1950	PROJ.REVW.	HUD070501A	05/04/07	6Y	
169870		160 JAMES AVE		OXNARD	P	1950	PROJ.REVW.	HUD080116F	01/18/08	6Y	
067187	56-152254	266 MYRTLE AVE	SR 101 WIDEN	OXNARD	U		PROJ.REVW.	FHWA900227A	03/27/90	6Y	
067186	56-152253	301 MYRTLE AVE	SR 101 WIDEN	OXNARD	U		REG.UNIT	56-0027	03/10/01	7J	
							PROJ.REVW.	FHWA900227A	03/27/90	6Y	
016839	56-151445	121 N C ST		OXNARD	P	1935	HIST.SURV.	3030-0007-0008		5D2	
016832	56-151438	122 N C ST		OXNARD	P	1941	HIST.SURV.	3030-0007-0001		5D2	
016840	56-151446	123 N C ST		OXNARD	P	1935	HIST.SURV.	3030-0007-0009		5D2	
016820	56-151426	110 N D ST		OXNARD	P	1970	HIST.SURV.	3030-0006-0026		7R	
016795	56-151401	121 N D ST		OXNARD	P	1906	HIST.SURV.	3030-0006-0001		5D2	
016796	56-151402	127 N D ST		OXNARD	P	1925	HIST.SURV.	3030-0006-0002		5D2	
016821	56-151427	130 N D ST		OXNARD	P	1925	HIST.SURV.	3030-0006-0027		5D2	
016775	56-151381	117 N E ST		OXNARD	P	1925	HIST.SURV.	3030-0005-0024		5D2	
016778	56-151384	120 N E ST		OXNARD	P	1940	HIST.SURV.	3030-0005-0027		5D2	
016776	56-151382	123 N E ST		OXNARD	P	1925	HIST.SURV.	3030-0005-0025		5D2	
016777	56-151383	130 N E ST		OXNARD	P	1925	HIST.SURV.	3030-0005-0026		5D2	
016779	56-151385	131 N E ST		OXNARD	P	1925	HIST.SURV.	3030-0005-0028		5D2	
016742	56-151348	102 N F ST		OXNARD	P	1912	HIST.RES.	NPS-99000109-0009	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	3D	AC
							HIST.SURV.	3030-0004-0068		7N	
016675	56-151281	103 N F ST		OXNARD	P	1912	HIST.RES.	NPS-99000109-0001	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	1D	AC
							HIST.SURV.	3030-0004-0001		7N	
016743	56-151349	112 N F ST		OXNARD	P	1910	HIST.RES.	NPS-99000109-0008	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	3D	AC
							HIST.SURV.	3030-0004-0069		7N	
016676	56-151282	113 N F ST		OXNARD	P	1912	HIST.RES.	NPS-99000109-0002	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	1D	AC
							HIST.SURV.	3030-0004-0002		7N	
016744	56-151350	118 N F ST		OXNARD	P	1930	HIST.RES.	NPS-99000109-0007	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	3D	AC
							HIST.SURV.	3030-0004-0070		7N	
016677	56-151283	125 N F ST		OXNARD	P	1912	HIST.RES.	NPS-99000109-0003	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	1D	AC
							HIST.SURV.	3030-0004-0003		7N	
016745	56-151351	128 N F ST		OXNARD	P	1912	HIST.RES.	NPS-99000109-0006	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	3D	AC
							HIST.SURV.	3030-0004-0071		7N	
016678	56-151284	135 N F ST		OXNARD	P	1914	HIST.RES.	NPS-99000109-0010	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	1D	AC
							HIST.SURV.	3030-0004-0004		7N	
016746	56-151352	138 N F ST		OXNARD	P	1915	HIST.RES.	NPS-99000109-0005	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	3D	AC
							HIST.SURV.	3030-0004-0072		7N	
016679	56-151285	145 N F ST		OXNARD	P	1915	HIST.RES.	NPS-99000109-0011	02/05/99	1D	AC
							NAT.REG.	56-0022	02/05/99	1D	AC

PERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
017029	56-151635	248 S ROOSEVELT AVE		OXNARD	P	1920	HIST.SURV.	3030-0028-0000		7R	
017027	56-151633	249 S ROOSEVELT AVE	BETHEL AFRICAN METHODIST EPISCOPAL	OXNARD	P	1948	HIST.SURV.	3030-0026-0000		7R	
017039	56-151645	260 S WILSON AVE		OXNARD	P	1962	HIST.SURV.	3030-0038-0000		7R	
017040	56-151646	261 S WILSON AVE		OXNARD	P	1962	HIST.SURV.	3030-0039-0000		7R	
163511		2135 SAN MARINO ST		OXNARD	P	1950	PROJ.REVW.	HUD061010E	10/10/06	6Y	
128211		3025 SANTA CLARA AVE		OXNARD	P	1948	HIST.RES.	DOE-56-01-0006-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128210		3190 SANTA CLARA AVE		OXNARD	P	1948	HIST.RES.	DOE-56-01-0005-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128206		3222 SANTA CLARA AVE		OXNARD	P	1939	HIST.RES.	DOE-56-01-0004-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128205		3242 SANTA CLARA AVE		OXNARD	P	1938	HIST.RES.	DOE-56-01-0003-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128204		3302 SANTA CLARA AVE		OXNARD	P	1920	HIST.RES.	DOE-56-01-0002-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128203		3320 SANTA CLARA AVE		OXNARD	P	1920	HIST.RES.	DOE-56-01-0001-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
171765		478 TEAKWOOD ST		OXNARD		1956	PROJ.REVW.	HUD080604C	06/13/08	6Y	
181836		1420 VALLEY PARK DR		OXNARD	P	1949	PROJ.REVW.	HUD110222F	02/25/11	6Y	
128212		2371 VENTURA BLVD		OXNARD		1932	HIST.RES.	DOE-56-01-0007-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128215		2631 VENTURA BLVD		OXNARD	P	1938	HIST.RES.	DOE-56-01-0010-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128216		2651 VENTURA BLVD		OXNARD	P	1938	HIST.RES.	DOE-56-01-0011-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
128213		2661 VENTURA BLVD		OXNARD	P	1945	HIST.RES.	DOE-56-01-0008-0000	05/03/01	6Y	
							PROJ.REVW.	FHWA010404C	05/03/01	6Y	
016992	56-151598	W 1ST ST	WEST FIRST STREET	OXNARD	P	1905	HIST.SURV.	3030-0010-9999		5S2	
016964	56-151570	209 W 1ST ST		OXNARD	P	1921	HIST.SURV.	3030-0010-0006		5D2	
016965	56-151571	213 W 1ST ST		OXNARD	P	1921	HIST.SURV.	3030-0010-0007		5D2	
016971	56-151577	216 W 1ST ST		OXNARD	P	1920	HIST.SURV.	3030-0010-0013		5D2	
016966	56-151572	219 W 1ST ST		OXNARD	P	1921	HIST.SURV.	3030-0010-0008		5D2	
016967	56-151573	223 W 1ST ST		OXNARD	P	1921	HIST.SURV.	3030-0010-0009		5D2	
016968	56-151574	227 W 1ST ST		OXNARD	P	1935	HIST.SURV.	3030-0010-0010		5D2	
016969	56-151575	235 W 1ST ST		OXNARD	P	1922	HIST.SURV.	3030-0010-0011		5D2	
016970	56-151576	245 W 1ST ST		OXNARD	P	1905	HIST.SURV.	3030-0010-0012		5D2	
016972	56-151578	252 W 1ST ST		OXNARD	P	1960	HIST.SURV.	3030-0010-0014		7R	
016973	56-151579	303 W 1ST ST		OXNARD	P	1923	HIST.SURV.	3030-0010-0015		5D2	
016974	56-151580	307 W 1ST ST		OXNARD	P	1923	HIST.SURV.	3030-0010-0016		5D2	
016975	56-151581	311 W 1ST ST		OXNARD	P	1923	HIST.SURV.	3030-0010-0017		5D2	
016976	56-151582	321 W 1ST ST		OXNARD	P	1965	HIST.SURV.	3030-0010-0018		7R	
016977	56-151583	327 W 1ST ST		OXNARD	P	1929	HIST.SURV.	3030-0010-0019		5D2	
016979	56-151585	328 W 1ST ST		OXNARD	P	1920	HIST.SURV.	3030-0010-0021		5D2	
016980	56-151586	336 W 1ST ST		OXNARD	P	1926	HIST.SURV.	3030-0010-0022		5D2	
016978	56-151584	339 W 1ST ST		OXNARD	P	1912	HIST.SURV.	3030-0010-0020		5D2	
016959	56-151565	345 W 1ST ST		OXNARD	P	1908	HIST.SURV.	3030-0010-0001		5D2	
016981	56-151587	401 W 1ST ST		OXNARD	P	1925	HIST.SURV.	3030-0010-0023		5D2	
016960	56-151566	411 W 1ST ST		OXNARD	P	1907	HIST.SURV.	3030-0010-0002		5D2	
016985	56-151591	418 W 1ST ST		OXNARD	P	1911	HIST.SURV.	3030-0010-0027		5D2	
016982	56-151588	421 W 1ST ST		OXNARD	P	1965	HIST.SURV.	3030-0010-0024		7R	
016983	56-151589	425 W 1ST ST		OXNARD	P	1922	HIST.SURV.	3030-0010-0025		5D2	
016984	56-151590	435 W 1ST ST		OXNARD	P	1909	HIST.SURV.	3030-0010-0026		5D2	
016961	56-151567	501 W 1ST ST		OXNARD	P	1934	HIST.SURV.	3030-0010-0003		5D2	
016986	56-151592	509 W 1ST ST		OXNARD	P	1928	HIST.SURV.	3030-0010-0028		5D2	
016987	56-151593	521 W 1ST ST		OXNARD	P	1937	HIST.SURV.	3030-0010-0029		5D2	
016988	56-151594	529 W 1ST ST		OXNARD	P	1938	HIST.SURV.	3030-0010-0030		5D2	

ROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
016989	56-151595	537 W 1ST ST		OXNARD	P	1938	HIST.SURV.	3030-0010-0031		5D2	
016962	56-151568	603 W 1ST ST		OXNARD	P	1912	HIST.SURV.	3030-0010-0004		5D2	
016963	56-151569	611 W 1ST ST		OXNARD	P	1922	HIST.SURV.	3030-0010-0005		5D2	
016990	56-151596	618 W 1ST ST		OXNARD	P	1919	HIST.SURV.	3030-0010-0032		5D2	
016991	56-151597	619 W 1ST ST		OXNARD	P	1920	HIST.SURV.	3030-0010-0033		5D2	
016819	56-151425	529 W 4TH ST		OXNARD	P	1928	HIST.SURV.	3030-0006-0025		5D2	
017012	56-151618	W 5TH ST	WEST FIFTH STREET	OXNARD	P	1904	HIST.SURV.	3030-0011-9999		5S2	
016993	56-151599	426 W 5TH ST		OXNARD	P	1928	HIST.SURV.	3030-0011-0001		5D2	
017006	56-151612	500 W 5TH ST		OXNARD	P	1965	HIST.SURV.	3030-0011-0014		7R	
017007	56-151613	520 W 5TH ST		OXNARD	P	1970	HIST.SURV.	3030-0011-0015		7R	
017004	56-151610	521 W 5TH ST		OXNARD	P	1920	HIST.SURV.	3030-0011-0012		5D2	
016998	56-151604	527 W 5TH ST		OXNARD	P	1904	HIST.SURV.	3030-0011-0006		5D2	
016994	56-151600	534 W 5TH ST		OXNARD	P	1903	HIST.SURV.	3030-0011-0002		5D2	
016999	56-151605	535 W 5TH ST		OXNARD	P	1911	HIST.SURV.	3030-0011-0007		5D2	
016995	56-151601	542 W 5TH ST		OXNARD	P	1911	HIST.SURV.	3030-0011-0003		5D2	
017005	56-151611	545 W 5TH ST		OXNARD	P	1911	HIST.SURV.	3030-0011-0013		5D2	
016996	56-151602	600 W 5TH ST		OXNARD	P	1912	HIST.SURV.	3030-0011-0004		5D2	
017008	56-151614	603 W 5TH ST		OXNARD	P	1905	HIST.SURV.	3030-0011-0016		5D2	
017000	56-151606	611 W 5TH ST		OXNARD	P	1926	HIST.SURV.	3030-0011-0008		5D2	
017009	56-151615	618 W 5TH ST		OXNARD	P	1915	HIST.SURV.	3030-0011-0017		5D2	
017010	56-151616	626 W 5TH ST		OXNARD	P	1930	HIST.SURV.	3030-0011-0018		5D2	
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017001	56-151607	640 W 5TH ST		OXNARD	P	1931	HIST.SURV.	3030-0011-0009		5D2	
017011	56-151617	720 W 5TH ST		OXNARD	P	1965	HIST.SURV.	3030-0011-0019		7R	
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017003	56-151609	734 W 5TH ST		OXNARD	P	1931	HIST.SURV.	3030-0011-0011		5D2	
103299	56-152501	838 W 5TH ST		OXNARD			PROJ.REVW.	HUD941116A	08/29/96	6Y	
097257	56-152407	838 W 5TH ST		OXNARD	U	1926	PROJ.REVW.	HUD950622I	08/29/95	6Y	
097258	56-152408	840 W 5TH ST		OXNARD	U	1926	PROJ.REVW.	HUD950622H	08/29/95	6Y	
103298	56-152500	840 W 5TH ST		OXNARD			PROJ.REVW.	HUD941116A	08/29/96	6Y	
017018	56-151624	737 W 6TH ST	JOHN G. HILL HOUSE	OXNARD	P	1885	HIST.SURV.	3030-0017-0000		5S2	
163592		1150 W FIR ST		OXNARD	P	1955	PROJ.REVW.	HUD061030D	10/30/06	6Y	
163512		1315 W FIR ST		OXNARD	P	1955	PROJ.REVW.	HUD061010F	10/10/06	6Y	
116627		3779 W GONZALES RD	COOK'S CABIN	OXNARD	P	1910	HIST.RES.	DOE-56-98-0012-0003	07/27/98	2D2	
							PROJ.REVW.	HUD980702B	07/27/98	2D2	
116624		3779 W GONZALES RD	MAIN RESIDENCE	OXNARD	P	1910	HIST.RES.	DOE-56-98-0012-0002	07/27/98	2D2	
							PROJ.REVW.	HUD980702B	07/27/98	2D2	
116620		3779 W GONZALES RD	RANCH HOUSE	OXNARD	P	1870	HIST.RES.	DOE-56-98-0012-0001	07/27/98	2D2	
							PROJ.REVW.	HUD980702B	07/27/98	2D2	
116618		3779 W GONZALES RD	LEONARD RANCH HISTORIC DISTRICT	OXNARD			HIST.RES.	DOE-56-98-0012-9999	07/27/98	2S2	ABC
							PROJ.REVW.	HUD980702B	07/27/98	2S2	ABC
123542		5011 W GONZALES RD	McGRATH RANCH	OXNARD	P	1890	NAT.REG.	56-0023			
171329		1324 W HEMLOCK ST		OXNARD	P	1955	PROJ.REVW.	HUD080516C	05/19/08	6Y	
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016922	56-151528	231 W MAGNOLIA ST		OXNARD	P	1928	HIST.SURV.	3030-0009-0017		5D2	
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016923	56-151529	237 W MAGNOLIA ST		OXNARD	P	1930	HIST.SURV.	3030-0009-0018		5D2	
016921	56-151527	244 W MAGNOLIA ST		OXNARD	P	1921	HIST.SURV.	3030-0009-0016		5D2	
016924	56-151530	247 W MAGNOLIA ST		OXNARD	P	1929	HIST.SURV.	3030-0009-0019		5D2	
016925	56-151531	255 W MAGNOLIA ST		OXNARD	P	1926	HIST.SURV.	3030-0009-0020		5D2	
016926	56-151532	302 W MAGNOLIA ST		OXNARD	P	1916	HIST.SURV.	3030-0009-0021		5D2	
016930	56-151536	305 W MAGNOLIA ST		OXNARD	P	1922	HIST.SURV.	3030-0009-0025		5D2	

From: Farrell, Jenna
To: "nahc@nahc.ca.gov"
Subject: Sacred Lands File Search Request
Date: Friday, July 28, 2017 9:13:00 AM
Attachments: Doris_Patterson_SD_nahc-slf_contactform_14.pdf
Location Map.pdf

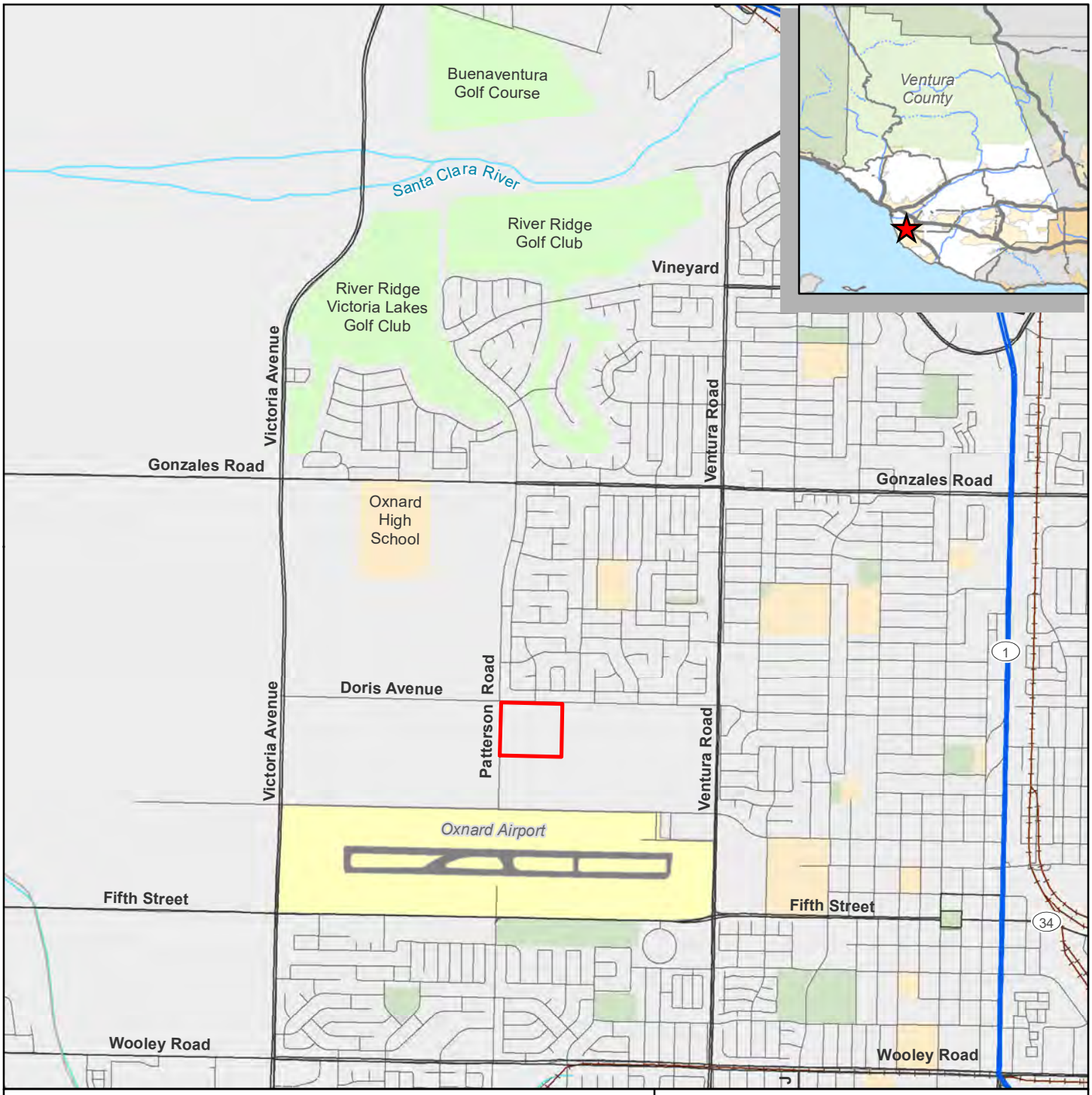
Please see attached for a request for a Sacred Lands File Search for the Doris Patterson Oxnard School Project.

Thank you,

Jenna

Jenna Farrell | Archaeologist
Direct: 916.853.4575 | Main: 916.852.8300 | Fax: 916.852.0307 | Cell: 916.206.8705
Jenna.Farrell@tetratech.com

Tetra Tech, Inc. | Sciences
2969 Prospect Park Drive, Suite 100 | Rancho Cordova, CA 95670 | www.tetratech.com



Legend

Project Boundary

N
W E
S

0 0.25 0.5 1 Miles

Background Map sources: ESRI, Ventura County GIS, Tetra Tech

Oxnard School District

Project Location and Vicinity Map

Doris Patterson
Educational Facilities Project

TETRA TECH
5383 Hollister Avenue
Suite 130
Santa Barbara, CA 93111

TC NO.	DATE	DRAWN BY	MAP NO.	FIGURE
34007.05	4/27/2017	REYNOLDS	9885	1-1

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

August 23, 2017

Jenna Farrell
Tetratech

Email to: jenna.farrell@tetratech.com

RE: Doris Avenue Patterson Road Education Facilities, Ventura County

Dear Ms. Farrel,

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not preclude the presence of cultural resources in any project area. Other sources for cultural resources should also be contacted for information regarding known and/or recorded sites.

Enclosed is a list of Native Americans tribes who may have knowledge of cultural resources in the project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at frank.lienert@nahc.ca.gov.

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contacts
8/23/2017

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517 Chumash
Santa Ynez , CA 93460
kkahn@santaynezchumash.org
(805) 688-7997
(805) 686-9578 Fax

Barbareno/Ventureno Band of Mission Indians
Julie Lynn Tumamait-Stenslie, Chair
365 North Poli Ave Chumash
Ojai , CA 93023
jtumamait@hotmail.com
(805) 646-6214

Barbareno/Ventureno Band of Mission Indians
Patrick Tumamait
992 El Camino Corto Chumash
Ojai , CA 93023
(805) 216-1253 Cell

Coastal Band of the Chumash Nation
Mia Lopez
, Chumash
(805) 324-0135

Barbareno/Ventureno Band of Mission Indians
Eleanor Arrellanes
P.O. Box 5687 Chumash
Ventura , CA 93005
(805) 701-3246

Barbareno/Ventureno Band of Mission Indians
Raudel Joe Banuelos, Jr.
331 Mira Flores Court Chumash
Camarillo , CA 93012
(805) 427-0015

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the proposed Doris Avenue Patterson Road Education Facilities, Ventura County

OXNARD SCHOOL DISTRICT

1051 South "A" Street • Oxnard, California 93030 • 805/385-1501 • www.oxnardsd.org

May 2, 2017

Mr. Anthony Morales, Chief
San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA 91778
(626) 483-3564
GTTribalcouncil@aol.com

Subject: Formal Project Notification and Request for Tribal Consultation Pursuant to the California Environmental Quality Act, Public Resource Code § 210803.1 (d), and Assembly Bill No. 52 (as amended) for the Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.

Dear Mr. Morales,

Pursuant to the provisions of Assembly Bill No. 52, as amended, as the lead agency under the California Environmental Quality Act (CEQA), the Oxnard School District (District) hereby extends an invitation to initiate consultation on the CEQA review of the Doris Avenue/Patterson Road Educational Facilities Project (Project) in order to contribute your knowledge to the environmental review process and to help identify and address potential Project adverse impacts to tribal cultural resources (as defined by Public Resource Code § 21074 (a)). The District is proposing to conduct the Doris Avenue/Patterson Road Educational Facilities Project in the geographic area traditionally and culturally affiliated with the San Gabriel Band of Mission Indians. The Project location and description are provided below.

Project Location

The Project site is located near the corner of Doris Avenue and Patterson Road, on a portion of APN: 183-0-070-090, in the City of Oxnard, unincorporated Ventura County, California, as illustrated on the attached Project Location and Vicinity Map. The Project is also within the Ventura County Save Open-Space and Agricultural Resources boundary, and within the City of Oxnard's Sphere of Influence and City Urban Restriction Boundary. The Project area is relatively flat and currently used for agriculture (row crops). The project site consists of approximately 25 acres. It is surrounded by adjacent agricultural uses to the south (further south is the Oxnard Airport), east and west. Located to the north of the project site is a residential neighborhood. Access to the project site is provided by North Patterson Road to the west and Doris Avenue to the north.

Project Description

OSD proposes to construct and operate a new elementary, middle school and district

administrative center. The new schools are needed to accommodate existing and anticipated future enrollment in the District. The project will include a proposed reorganization which will be comprised of an annexation into the City of Oxnard and the Calleguas Municipal Water District and a detachment from the Ventura County Fire Protection District, the Ventura County Resource Conservation District, and Ventura County Service Areas 32 and 33. The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. In total, the proposed project would comprise approximately 148,782 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 student's onsite. The project site will have a drought tolerant landscape that meets the 2009 Model Water Efficiency Landscape Ordinance (MWELO) regulations adopted by the Department of Water Resources (DWR).

The proposed project includes utility connections including water, sewer, gas, electric, data/telecommunications, and storm water collection. Water, wastewater, and recycled water need to be extended to the site. Power is located on the east side of Patterson Road. The nearby residential neighborhood to the north of the site has phone and cable/communication facilities that would need to be extended to the site.

Phased construction is anticipated to begin in 2019 and each school would take approximately 15 to 16 months to construct. Operation of the new K-5 elementary school is anticipated for the 2020-2021 school year followed by the 6-8 middle school for the 2022-2023 school year.

If you would like to initiate consultation with the District regarding the Doris Avenue/Patterson Road Educational Facilities Project, please provide a written reply within 30 days (pursuant to PRC § 21080.3.1(b)) to the District address below. Should the District not receive a response within the thirty (30) days, it will be presumed that you have declined consultation. We recognize the valuable contribution of the consultation process and look forward to your reply. Please do not hesitate to contact me with any additional questions or comments at:

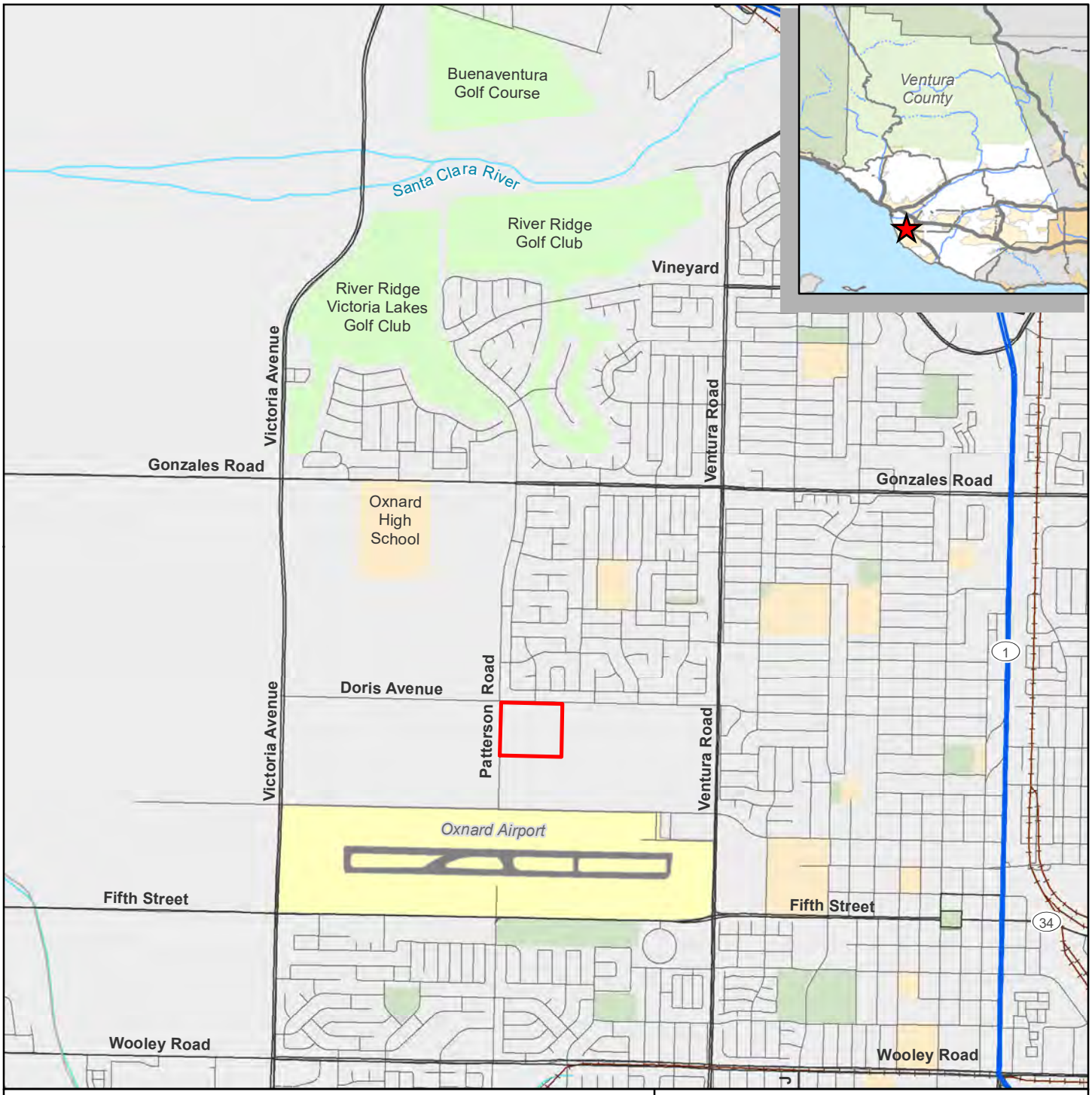
Lisa Cline
Oxnard School District
1051 South A Street
Oxnard, CA 93030
(805) 385-1501
lcline@oxnardsd.org

Sincerely,

Lisa Cline

LISA CLINE
Deputy Superintendent
Business & Fiscal Services

LC/lg
Attachment A: Maps



Legend

Project Boundary

N
W E
S

0 0.25 0.5 1 Miles

Background Map sources: ESRI, Ventura County GIS, Tetra Tech

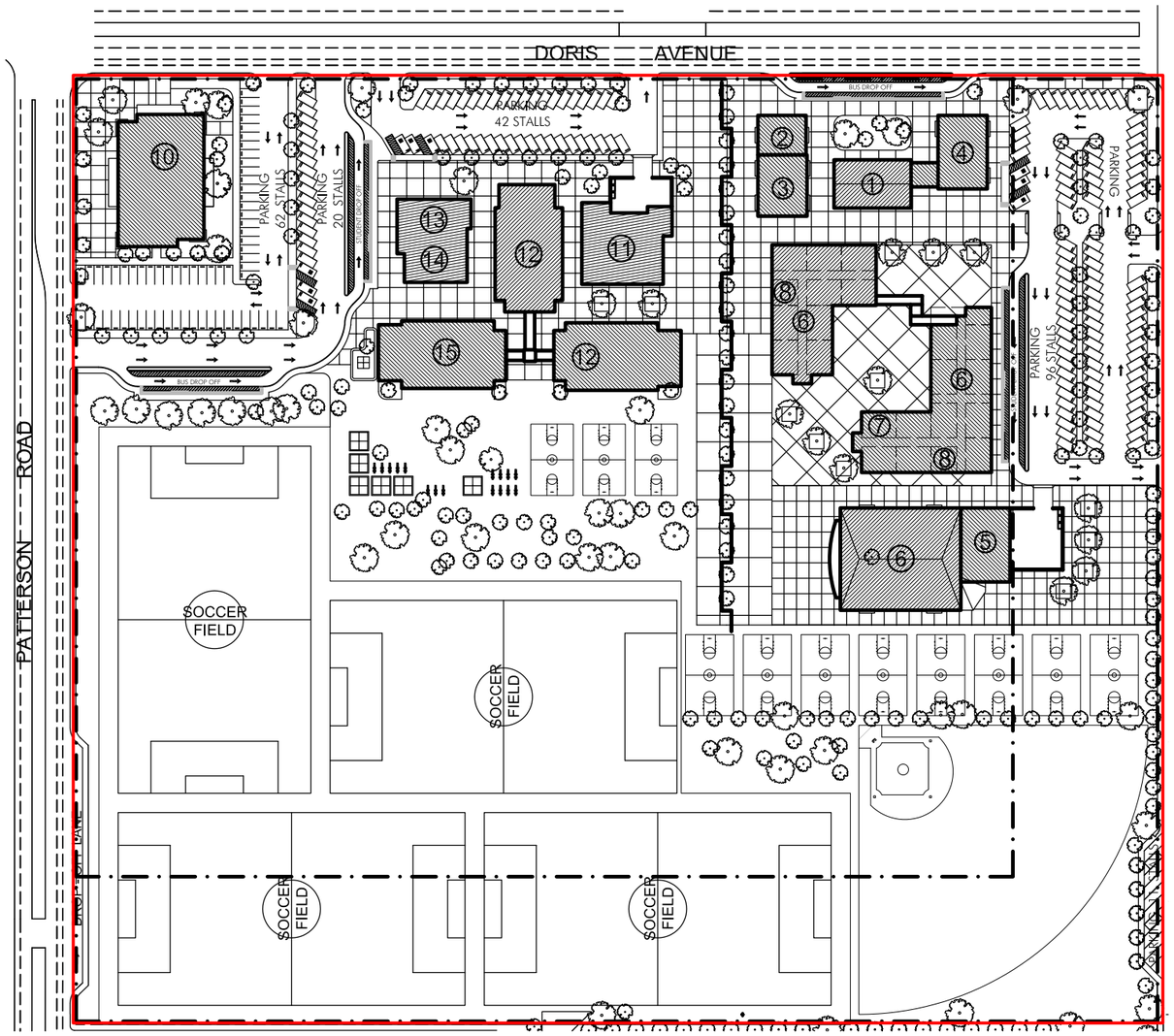
Oxnard School District

Project Location and Vicinity Map

Doris Patterson
Educational Facilities Project

TETRA TECH
5383 Hollister Avenue
Suite 130
Santa Barbara, CA 93111

TC NO.	DATE	DRAWN BY	MAP NO.	FIGURE
34007.05	4/27/2017	REYNOLDS	9885	1-1



LEGEND

SCHOOL SITE BOUNDARY

1.	ADMIN. BLDG.	3,005 S.F.
2.	MEDIA CENTER	2,000 S.F.
3.	VISUAL ARTS & MUSIC	3,200 S.F.
4.	STUDENT SUP. PARENT/ CONFERENCE CENTER	3,800 S.F.
5.	FOOD SERVICES	3,900 S.F.
6.	2 STORY / 41 C.R. BLDG	45,312 S.F.
7.	SCIENCE BLDG	2,600 S.F.
8.	RESTROOMS - TOTAL AREA:	3,000 S.F.
9.	GYMNASIUM	13,150 S.F.
10.	2 STORY DISTRICT OFFICE	23,665 S.F.
11.	MULTI-PURPOSE & FOOD SERV. BLDG	5,375 S.F 3,600 S.F.
12.	2 STORY / 23 C.R. BLDG	22,560 S.F.
13.	ADMIN.	3,005 S.F.
14.	MEDIA CENTER & STUDENT SUPPORT SERV.	2,700 S.F. 1,510 S.F.
15.	KINDERGARTEN	6,400 S.F.

N

0 80 160

APPROXIMATE SCALE
(feet)

Oxnard School District

Conceptual Site Map

Doris Patterson
Educational Facilities Project

TETRA TECH, INC.
Tetra Tech, Inc.
5383 Hollister Ave., Suite 130
Santa Barbara, CA 93111

TC NO.	DATE	DRAWN BY			FIGURE
36007.05	04/27/17	DODSON			1-2

Map source: Conceptual Doris/Patterson Site Preliminary Study, Job No. 2749 (Flewelling & Moody).

TETRA TECH

September 22, 2017

Barbareno/Ventureno Band of Mission Indians
Eleanor Arrellanes
P.O. Box 5687
Ventura, CA 93005
(805) 701-3246

Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.

Dear Eleanor Arrellanes,

Tetra Tech, Inc. is assisting the Oxnard School District (OSD or District) with a draft Environmental Impact Report (EIR) for the proposed Doris Avenue/Patterson Road Educational Facilities Project. The Native American Heritage Commission (NAHC) was contacted by email on January 13, 2016 to request a sacred lands file search. The NAHC responded on August 23, 2017 that no Native American cultural resources were identified by their search within the immediate Project area. The NAHC provided a list of Native American individuals and organizations that may have knowledge of tribal cultural resources or cultural resources in the Project area. Your name was included on the NAHC list and we are contacting you as part of our outreach efforts and data gathering to identify any known tribal cultural resources within the Project study area, or if you have any other questions or interest in the Project.

Project Location
The Project site is located at the corner of Doris Avenue and Patterson Road, on a portion of APN: 183-0-070-090, in unincorporated Ventura County, California. The project site is also within the City of Oxnard's Sphere of Influence (SOI) and City Urban Restriction Boundary (CURB). Please refer to the attached Project Location and Vicinity Map. The Project area is relatively flat and currently used for agriculture (row crops). The project site consists of approximately 25 acres. It is surrounded by adjacent agricultural uses to the south (further south is the Oxnard Airport), east and west. Located to the north of the project site is a residential neighborhood. Access to the project site is provided by North Patterson Road to the west and Doris Avenue to the north.

Project Description
The OSD proposes to construct and operate a new elementary, middle school and District administrative center. The new schools are needed to accommodate existing and anticipated future enrollment in the District. The proposed project would require annexation into the City of Oxnard (City). Annexation of the project area to the City would require Ventura Local Agency Formation Commission (LAFCo) approval of several changes of organization, collectively called reorganization.

The District will process a General Plan Amendment (GPA), Pre-Zone (RZ) and an Annexation through the City of Oxnard. The projects will be required to be reviewed and recommended for approval to the City Council by the Planning Commission at a noticed public hearing prior to the City Council's public hearing process and final action. If the project is approved by the City Council, the City will file a Resolution of Application with LAFCo. Upon

Tetra Tech, Inc.
2969 Prospect Park Drive, Suite 100, Rancho Cordova, CA 95670
Tel 916.852.8300 Fax 916.852.0307 www.tetratech.com

approval of the annexation by LAFCo, and a 30-day reconsideration period, the annexation will be recorded and the site will be annexed into the City of Oxnard and eligible for all public services.

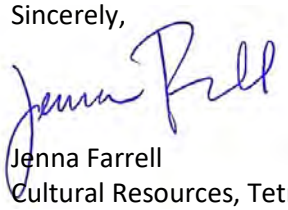
The proposed project includes joint-use facilities to support a district office, 700 elementary school students in grades K-5, and 1,200 middle school students in grades 6-8. The new school facilities are designed to meet the educational and recreational needs of K-8 students' onsite. In total, the proposed project would comprise approximately 178,678 square feet (sq. ft.) of building and structures and provide 220 parking spaces onsite. In addition, the proposed project includes a variety of play fields and recreational areas to accommodate the recreational needs of the K-8 student's onsite. These facilities include soccer fields, tennis courts, hard courts, and play fields that are located to the south of the school buildings.

The Project is subject to the requirements of the California Environmental Quality Act (CEQA), and OSD is the lead agency for CEQA. As part of the EIR, a cultural resources record and literature search was conducted on August 17, 2017, at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System at the California State University, Fullerton, California (IC File Number 17953.4033). The records search revealed that a total of 33 previous cultural resources investigation has been conducted within the Project study area (the Project Area of Potential Effect or APE and a 1-mile radius), and one linear previous investigation and no archaeological sites or historic resources are recorded within the Project's APE. An archeological survey of the APE has not been conducted at this time.

We understand that under AB 52, the lead State/public agency is responsible for formal government-to-government consultation with Native American tribes for this Project. This letter does not take the place of nor is it intended to serve as official government-to-government consultation.

I hope this information on the proposed Project has been helpful. Please contact me as soon as possible if you require any additional details regarding the Project and/or if you have any information about known tribal cultural resources within the Project study area that we should be aware of. Please reference "Doris-Patterson Educational Facilities Project" in your correspondence, and send any comments or questions to my attention at Tetra Tech, Inc., 2969 Prospect Park Dr. #100, Rancho Cordova, CA 95670, or call 916-853-4575, or email me at jenna.farrell@tetratech.com.

Sincerely,



Jenna Farrell
Cultural Resources, Tetra Tech

Cc: NAHC Native American Contact List

Attachment A: Maps

TETRA TECH

September 22, 2017

Barbareno/Ventureno Band of Mission Indians
Raudel Joe Banuelos, Jr.
331 Mira Flores Court
Camarillo, CA 93012
(805) 427-0015

Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.

Dear Raudel Joe Banuelos, Jr.,

Tetra Tech, Inc. is assisting the Oxnard School District (OSD or District) with a draft Environmental Impact Report (EIR) for the proposed Doris Avenue/Patterson Road Educational Facilities Project. The Native American Heritage Commission (NAHC) was contacted by email on January 13, 2016 to request a sacred lands file search. The NAHC responded on August 23, 2017 that no Native American cultural resources were identified by their search within the immediate Project area. The NAHC provided a list of Native American individuals and organizations that may have knowledge of tribal cultural resources or cultural resources in the Project area. Your name was included on the NAHC list and we are contacting you as part of our outreach efforts and data gathering to identify any known tribal cultural resources within the Project study area, or if you have any other questions or interest in the Project.

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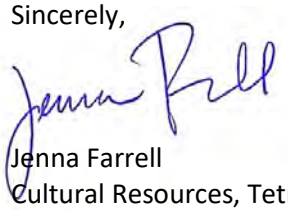

Jenna Farrell
Cultural Resources, Tetra Tech

Cc: NAHC Native American Contact List

Attachment A: Maps

TETRA TECH

September 22, 2017

Barbareno/Ventureno Band of Mission Indians
Julie Lynn Tumamait-Stenslie, Chair
365 North Poli Ave
Ojai, CA 93023
805-646-6214

Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.

Dear Julie Lynn Tumamait-Stenslie,

Tetra Tech, Inc. is assisting the Oxnard School District (OSD or District) with a draft Environmental Impact Report (EIR) for the proposed Doris Avenue/Patterson Road Educational Facilities Project. The Native American Heritage Commission (NAHC) was contacted by email on January 13, 2016 to request a sacred lands file search. The NAHC responded on August 23, 2017 that no Native American cultural resources were identified by their search within the immediate Project area. The NAHC provided a list of Native American individuals and organizations that may have knowledge of tribal cultural resources or cultural resources in the Project area. Your name was included on the NAHC list and we are contacting you as part of our outreach efforts and data gathering to identify any known tribal cultural resources within the Project study area, or if you have any other questions or interest in the Project.

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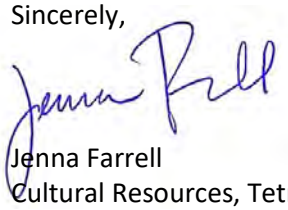

Jenna Farrell
Cultural Resources, Tetra Tech

Cc: NAHC Native American Contact List

Attachment A: Maps

TETRA TECH

September 22, 2017

Barbareno/Ventureno Band of Mission Indians
Patrick Tumamait
992 El Camino Corto
Ojai, CA 93023
(805) 216-1253

Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.

Dear Patrick Tumamait,

Tetra Tech, Inc. is assisting the Oxnard School District (OSD or District) with a draft Environmental Impact Report (EIR) for the proposed Doris Avenue/Patterson Road Educational Facilities Project. The Native American Heritage Commission (NAHC) was contacted by email on January 13, 2016 to request a sacred lands file search. The NAHC responded on August 23, 2017 that no Native American cultural resources were identified by their search within the immediate Project area. The NAHC provided a list of Native American individuals and organizations that may have knowledge of tribal cultural resources or cultural resources in the Project area. Your name was included on the NAHC list and we are contacting you as part of our outreach efforts and data gathering to identify any known tribal cultural resources within the Project study area, or if you have any other questions or interest in the Project.

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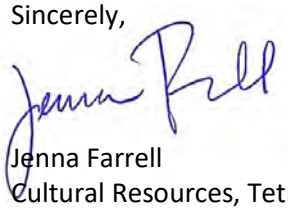

Jenna Farrell
Cultural Resources, Tetra Tech

Cc: NAHC Native American Contact List

Attachment A: Maps

Westhaus, Randy

From: Longman, Renee
Sent: Friday, September 22, 2017 11:01 AM
To: 'Kkahn@santaynezchumash.org'
Cc: Farrell, Jenna
Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.
Attachments: Attachment_Maps.pdf

Tracking:

Recipient	Delivery
'Kkahn@santaynezchumash.org'	
Farrell, Jenna	Delivered: 9/22/2017 11:01 AM

September 22, 2017

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517
Santa Ynez, CA 93460
(805) 688-7997
Kkahn@santaynezchumash.org
(805) 693-1768 Fax

Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.

Dear Kenneth Kahn:

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From: Longman, Renee
Sent: Friday, September 22, 2017 10:47 AM
To: 'cbcn.nahc.sb@gmail.com'
Cc: Farrell, Jenna
Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.
Attachments: Attachment_Maps.pdf

September 22, 2017

Mia Lopez, Chairperson
(805) 324-0135
cbcn.nahc.sb@gmail.com

Subject: The Doris Avenue/Patterson Road Educational Facilities Project, Ventura County, California.

Dear Mia Lopez:

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Cultural Resources, Tetra Tech

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E GEOTECHNICAL REPORTS

ENGINEERING GEOLOGY AND GEOTECHNICAL ENGINEERING REPORT FOR PROPOSED MIDDLE SCHOOL AT THE SOUTHEAST CORNER OF DORIS AVENUE AND PATTERSON ROAD, OXNARD, CALIFORNIA

PROJECT NO.: VT-24867-10

SEPTEMBER 29, 2017

PREPARED FOR

OXNARD SCHOOL DISTRICT

BY

EARTH SYSTEMS SOUTHERN CALIFORNIA
1731-A WALTER STREET
VENTURA, CALIFORNIA

Earth Systems
Southern California

1731-A Walter Street
Ventura, CA 93003
(805) 642-6727
Fax (805) 642-1325

September 29, 2017

Project No.: VT-24867-10
Report No.: 17-9-86

Oxnard School District
c/o Chris Yafuso at CFW
1901 S. Victoria Avenue, Suite 106
Oxnard, CA 93035
cyafuso@aimcsworld.com

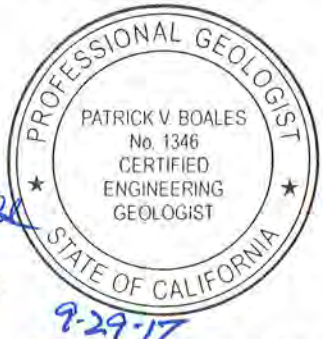
Project: Engineering Geology and Geotechnical Engineering Report for Proposed Middle School
Southeast Corner of Doris Avenue and Patterson Road
Oxnard, California

As authorized, we have performed a geotechnical study for a proposed middle school to be located southeast of the intersection of Doris Avenue and Patterson Road in the City of Oxnard, California. The accompanying Engineering Geology and Geotechnical Engineering Report presents the results of our subsurface exploration and laboratory testing programs, as well as our conclusions and recommendations pertaining to geotechnical aspects of project design. This report completes the scope of services described within our Proposal No. VP-17-140 dated May 26, 2017, and authorized by WAL 8 and Purchase Order P18-00223 dated June 28, 2017.

We have appreciated the opportunity to be of service to you on this project. Please call if you have any questions, or if we can be of further service.

Respectfully submitted,

EARTH SYSTEMS SOUTHERN CALIFORNIA



Patrick V. Boales
Engineering Geologist

9-29-17

Anthony P. Mazzei
Geotechnical Engineer

9/29/17

Copies: 2 - Oxnard School District c/o CFW (1 via US mail, 1 via email)
1 - Project File

TABLE OF CONTENTS

INTRODUCTION

This report presents results of an Engineering Geology and Geotechnical Engineering study performed for a proposed new school to be located on a 25-acre parcel southeast of the intersection of Doris Avenue and Patterson Road in the City of Oxnard, California (see Vicinity Map in Appendix A). The coordinates of the approximate center of the proposed building areas of the site are 34.2075° north latitude and 119.2055° west longitude.

Current plans by Flewelling and Moody indicate that the new campus for kindergarten through 8th grade will include approximately twelve buildings, three parking lots, numerous hardscaped areas, play courts, soccer fields, and a baseball or softball field. The proposed structures will include an Administration Building, a Media Center, a Visual Arts Building, a Conference Center, a Science Building, a Gymnasium, a Multi-Purpose Building, a District Office Building, a Kindergarten Building, and multiple two-story Classroom Buildings. It is understood that the elementary school will include 28 classrooms, and the middle school will include 48 classrooms.

The property is currently a farm used to grow row crops. The site is nearly level, but has a slight southward slope. There are no springs or seeps on the property.

Grading for the proposed project is expected to be limited to adjusting the grades to create level building pads, and preparing near-surface soils to support the new loads.

Structural considerations for column loads of up to 75 kips with maximum wall loads of 3.0 kips per lineal foot were used as a basis for the recommendations of this report. If actual loads vary significantly from these assumed loads, Earth Systems Southern California should be notified since reevaluation of the recommendations contained in this report may be required.

PURPOSE AND SCOPE OF WORK

The purpose of the geotechnical study that led to this report was to analyze the geology and soil conditions of the site with respect to the proposed improvements. These conditions include potential geohazards, surface and subsurface soil types, expansion potential, settlement potential, bearing capacity, and the presence or absence of subsurface water.

The scope of work included:

1. Reconnaissance and geological mapping of the site.
2. Reviewing and analyzing a stereographic pair of aerial photographs taken of the site and surrounding areas on October 25, 1945.
3. Reviewing pertinent geologic literature.
4. Drilling, sampling, and logging 16 borings to study geologic, soil, and groundwater conditions.
5. Advancing 12 cone penetrometer test (CPT) soundings to further study soil and groundwater conditions.
6. Laboratory testing of soil samples obtained from the subsurface exploration to determine their physical and engineering properties.
7. Consulting with owner representatives and design professionals.
8. Analyzing the geotechnical data obtained.
9. Preparing this report.

Contained in this report are:

1. Descriptions and results of field and laboratory tests that were performed.
2. Discussions pertaining to the local geologic, soil, and groundwater conditions.
3. Conclusions pertaining to geohazards that could affect the site.
4. Conclusions and recommendations pertaining to site grading and structural design.

GEOLOGY

A. Regional Geology

The site lies within the Ventura basin in the western portion of the Transverse Ranges geologic province. Numerous east-west trending folds and reverse faults indicative of ongoing north-south transpressional tectonics characterize the region. The school site is situated within the Oxnard Plain, where thicknesses of recent alluvium and shallow marine deposits that are at least 100 feet deep blanket the bedrock units.

The proposed K-8 school campus is not within any of the Fault Rupture Hazard Zones that have been delineated by the State of California. The Oak Ridge (Onshore) fault is the fault that is nearest to the site. It is a south dipping reverse fault that generally

parallels the south side of the Santa Clara River Valley. At its closest position to the school site (approximately 2.8 miles to the northwest of the campus), it is mapped as buried by alluvium. Portions of this fault are considered "active" by the State.

B. Stratigraphy

Bedrock was not encountered during the subsurface investigation, and it is anticipated that it is located more than one hundred feet below the existing ground surface. Natural earth materials underlying the subject site are alluvial deposits (Qal). Units encountered in the upper few feet within the test borings consisted of about sandy silts, which were generally underlain by interbeds of sandy silts and silty sands. Silty sands and clean sands were generally encountered below 20 feet.

C. Structure

Bedding attitudes were not measured within the alluvial deposits, but it is considered likely that bedding is oriented nearly parallel to the natural ground surface.

No faults or landslides were observed to be located on or trending into the subject property during the field study, during reviews of the referenced geologic literature, or during review of the aerial photographs taken of the site.

GEOLOGIC HAZARDS

Geologic hazards that may impact a site include seismic shaking, fault rupture, landsliding, liquefaction, seismic-induced settlement of dry sands, and flooding.

A. Seismic Shaking

1. Southern California is a seismically active region where the potential for significant ground shaking is universal. Earthquakes of a size large enough to cause structural damage are relatively common in the region. Per the State of California guidelines for these types of reports, when evaluating the seismicity potential of a specific site, it is general practice to look at the historical seismic record of the area and also review the site location with respect to mapped potentially active and active faults. By using this procedure, estimates of maximum ground accelerations are determined for consideration in structural design for buildings. The geotechnical community uses the method even though most are well aware of its shortcomings.

The most significant shortcomings relate to the presence of unknown seismogenic faults well below the surface, and the amount of uncertainty regarding the time intervals between earthquake events on many of the recognized faults. The 1983 Coalinga and 1994 Northridge Earthquakes are examples of relatively large events that occurred on previously unrecognized faults. Mankind has only been using instruments to monitor earthquakes since the 1930's, which is a relatively short time span considering that the intervals between large earthquakes on some of the regional faults are on the order of thousands of years. Considering the above, an evaluation of site acceleration potential will lead to a value that must be considered an approximation. The structural designers must be aware that there are inherent uncertainties in the determined value or range.

2. The Oxnard area has not experienced any local large earthquakes since records have been kept; however, regional earthquakes have led to significant ground shaking and structural damage. Notable regional earthquakes include the 1812 Santa Barbara Channel and 1857 Fort Tejon events. The epicenter of the 1812 earthquake is thought to have been in the western part of the Santa Barbara channel. Associated with this earthquake, a tsunami with a disputed run up height of up to 15 feet impacted the Ventura coastal area. On January 9, 1857, the Fort Tejon earthquake with an estimated Richter magnitude of 8.25 impacted the region. According to C.D.M.G. (1975), the earthquake caused the roof of the Mission San Buenaventura to fall in.

3. One measure of ground shaking is intensity. The Modified Mercalli Intensity Scale of ground shaking ranges from I to XII with XII indicating the maximum possible intensity of ground movement. Structural damage begins to occur when the intensity exceeds a value of VI. Southern Ventura County has been mapped by the California Division of Mines and Geology to delineate areas of varying predicted seismic response. The Alluvium that underlies the subject area is mapped as having a probable maximum intensity of earthquake response of approximately IX on the Modified Mercalli Scale. Historically, the highest estimated intensity in the Oxnard area has been VII (CDMG, 1975, 1994).

4. The school site, like any other site in the region, is subject to relatively severe ground shaking in the event of a maximum earthquake on a nearby fault. In

Appendix C is a regional fault location map that shows the site's relationship to the identified faults in the region. Also in Appendix C is a summary table listing well-identified faults within a 60-km radius of the school, the distance between each fault and the school, and mean earthquake magnitudes that could occur on each of the listed faults. A proprietary program utilizing the State of California's fault model (CGS and USGS, 2008) was used to prepare the list.

5. For school projects, the 2016 California Building Code (CBC) specifies that peak ground acceleration for design purposes can be determined from a site-specific study taking into account soil amplification effects. The United States Geological Survey (USGS, 2009) has undertaken a probabilistic earthquake analyses that covers the continental United States. A reasonable site-specific spectral response curve may be developed from USGS Unified Hazard Tool web page, which adjusts for site-specific ground factors. The interactive webpage appears to be a precise calculation based on site coordinates. The program incorporates the 2008 USGS/CGS working group consensus methodologies, and the output for base ground motion is a smooth curve based on seven spectral ordinates ranging from 0 to 2 seconds. The USGS interactive deaggregation spectral values are generally within about 5% of the precise site-specific values obtained from other programs such as OpenSHA or EZ-FRISK for the same model and attenuation relationships.

   The NGA (Next Generation Attenuation) relationships for spectral response have been used in the analyses. A principal advantage in the NGA relationships is that the estimated site-specific soil velocity (Vs30) is used directly for site specific analysis rather than the NEHRP site corrections. The analysis also includes amplification factors (Idriss, 1993) to model the maximum rotated component of the ground motion.

   For school projects, the seismic design values are referenced to the Maximum Considered Earthquake (MCE) and, by definition, the MCE has a 2% probability of occurrence in a 50-year period. This equates to a return rate of 2,475 years. Spectral acceleration parameters that are applicable to seismic design are presented in Appendix C. It should be noted that the school project carries a seismic importance factor I of 1.25 and that factor has been incorporated into the 2013 and 2016 California Building Code response spectrums. The subject site is

within Seismic Design Category E. Calculations indicate that the site class of on-site soils is Site Class E. The velocity (Vs30) was assumed to be 150 meters per second when adjusting for site class. For the" general procedure" (i.e. code value, or probabilistic) analysis, the Short Period Spectral Response (S_S) for the Maximum Considered Earthquake (MCE) was found to be 2.945 g, and the 1-Second Spectral Response (S_1) was found to be 0.917 g. Site Coefficients F_a and F_v were found to be 0.90 and 2.40, respectively. The spectral Response Parameter S_{MS} was found to be 2.246 g, and S_{M1} was found to be 2.201 g. The Short Period Spectral Response (S_{DS}) was found to be 1.497 g, and the 1 Second Spectral Response (S_{D1}) was found to be 1.467 g.

Because the S1 value is greater than 0.75 g, and the site is in Seismic Design Category E, a site-specific (deterministic) analysis is also required. For the Site-Specific Analysis, the Short Period Spectral Response (S_{DS}) was found to be 1.198 g, and the 1 Second Spectral Response (S_{D1}) was found to be 1.312 g. Both the "site specific" and “general procedure yielded peak ground accelerations of 0.873 g.

6. California has had several large earthquakes in this century, and studies on the structural effects of the ground shaking have led to changes in the building codes. After the 1933 Long Beach Earthquake, the State of California Field Act was written with the intention of making public schools more earthquake resistant. The intent of the act, as is the intent of the most modern codes, is as follows: "School buildings constructed pursuant to these regulations are expected to resist earthquake forces generated by major earthquakes in California without catastrophic collapse, but may experience some repairable architectural or structural damage". Following the 1971 San Fernando Earthquake, many changes were made to the public school building codes. After the 1994 Northridge Earthquake, a study of 127 public schools in the Los Angeles area by the State of California Division of the State Architect (1994a) revealed that the intent of the Field Act was being met even when buildings were subjected to horizontal accelerations approaching 0.9 g (much higher than expected) over a large area. None of the schools collapsed and most of the damage that would have caused injury to students, had school been in session, was from failures of non-structural items such as light fixtures, florescent bulbs, suspended ceilings, etc. Most of the schools that experienced these non-structural failures were built before the

changes to the building code that applied to these non-structural items. The study also resulted in recommended changes to building codes regarding steel framed school buildings, (State of Calif. Div. of State Architect, 1994b).

B. Fault Rupture

Surficial displacement along a fault trace is known as fault rupture. Fault rupture typically occurs along previously existing fault traces. As mentioned in the "Structure" section above, no existing fault traces were observed to be crossing the site. As a result, it is the opinion of this firm that the potential for fault rupture on this site is low.

It should be noted that the site is located within the Fault Displacement Hazard Zone for the Camarillo Fault, as originally mapped in the County of Ventura Seismic Safety Element (1974). The mapping shows the fault zone to be approximately one-mile wide near the site. None of the other referenced mappings include the subject site near a mapped fault zone, and the other mappings are nearly all significantly more recent than the mapping included in the Seismic Safety Element.

C. Landsliding and Rock Fall

As mentioned previously, the subject site is relatively flat. As a result, it appears that the hazards posed by landsliding and rock fall are considered nil.

D. Liquefaction, Cyclic Softening, and Lateral Spreading

Earthquake-induced cyclic loading can be the cause of several significant phenomena, including liquefaction in fine sands and silty sands. Liquefaction results in a loss of strength and can cause structures to settle or even overturn if it occurs in the bearing zone. Cyclic softening in clays during earthquakes has resulted in buildings experiencing foundation failure and ground surface deformation similar to that resultant from liquefaction. If liquefaction or cyclic softening occurs beneath sloping ground, a phenomenon known as lateral spreading can occur. Liquefaction and cyclic softening is typically limited to the upper 50 feet of the subsurface soils. There are a number of conditions that need to be satisfied for liquefaction or cyclic softening to occur. Of primary importance is that groundwater, perched or otherwise, usually must be within the upper 50 feet of soils.

The subject site is located within one of the Liquefaction Hazard Zones delineated by the State of California (CGS, 2002b).

Earthquake-induced vibrations can be the cause of several significant phenomena, including liquefaction in fine sands and silty sands. Liquefaction results in a loss of strength and can cause structures to settle or even overturn if it occurs in the bearing zone. Liquefaction is typically limited to the upper 50 feet of soils underlying a site.

Fine sands and silty sands that are poorly graded and lie below the groundwater table are the soils most susceptible to liquefaction. Soils that have I_c values greater than 2.6, soils with plasticity indices (PI) greater than 7, sufficiently dense soils, and/or soils located above the groundwater table are not generally susceptible to liquefaction.

An examination of the conditions existing at the site, in relation to the criteria listed above, indicates the following:

1. Groundwater was found under this site at depths ranging from 14 feet in Boring B-2 to 22.5 feet in Boring B-12. Groundwater was not encountered in several borings advanced to depths of 21.5 feet, and the water encountered in Boring B-2 appears to have been a localized perched water zone. A mapping of historic high groundwater levels in the subject area by the State shows the site to have a high groundwater level of about 6 feet below the surface (CGS, 2002a). (A copy of the map of historic high groundwater levels is provided in Appendix A.) Based on these data, we have assumed depths to high groundwater of 6 feet and 22.5 feet in our liquefaction analyses.
2. CPT readings yielded some I_c values greater than 2.6, which is generally considered the boundary between soils prone and not prone to liquefaction (see Appendix B). However, further correlations with laboratory test results discussed below indicated that a few of the layers with I_c values greater than 2.6 were potentially liquefiable. Thus, for the purposes of this study, it was assumed that only soils with I_c values greater than 2.75 were considered non-liquefiable.
3. Atterberg limit evaluations indicate that some of the finer grained soils have PI's in the range of 5 and 15, and classify as ML or CL. Those soils with PI's greater than 7 classify as CL, and are expected to exhibit clay-like behavior during earthquake cyclic loading.

4. Standard penetration tests conducted in the borings, and SPT blowcounts interpreted from CPT data, indicate that soils within the tested depth are in a variably dense state.

Based on the above, cyclic mobility analyses were undertaken to analyze the liquefaction potentials of the various soil layers. The analyses were performed in general accordance with the methods proposed by NCEER (1997). In each analysis, the design earthquake was considered to be a 7.2 moment magnitude event. The peak ground acceleration was assumed to be 0.873 g, as per the discussion in the "Seismicity and Seismic Design" section of this report.

Analyses were performed for each of the four deep CPT soundings (CPT-1, CPT-4, CPT-6, and CPT-10), and for each of the four deep mud rotary borings (B-12, B-13, B-15, and B-16). As noted above, each analysis was performed for two different depths to groundwater (6 feet and 22.5 feet).

A summary table of the findings, along with the findings of seismic-induced settlement of dry sands, is provided below.

Summary of Liquefaction and Seismic-Induced Settlement Analyses
with Groundwater at 6 feet

CPT/Boring ID	CPT-1	B-12	CPT-4	B-15	CPT-6	CPT-10	B-13	B-16
Combined Thickness of Potential Settlement Zones	15.3’	12.5’	15.7’	9.0’	6.9’	8.9’	5.0’	11.5’
Potential Settlement of Liquefiable Zones	3.4”	3.4”	2.9”	1.8”	1.2”	1.7”	1.2”	2.4”
Potential Settlement of Dry Sand Zones	0.0”	0.0”	0.0”	0.0”	0.0”	0.1”	0.0”	0.0”
Potential Total Settlement of Combined Zones	3.4”	3.4”	2.9”	1.8”	1.2”	1.8”	1.2”	2.4”
Potential Differential Settlements	1.7”	1.7”	1.5”	0.9”	0.6”	0.9”	0.6”	1.2”
Shallowest Liquefiable Zone	9’-11’	6’-16.5’	9’-13’	10’-12’	6.5’-7.5’	6’-9’	17.5’-22.5’	10’-21.5’
Ground Damage	Maybe	-	Maybe	-	Maybe	Maybe	-	-
Lateral Spreading	0.8’	-	1.9’	-	1.2’	0.5’	-	-

Summary of Liquefaction and Seismic-Induced Settlement Analyses
with Groundwater at 22.5 feet

CPT/Boring ID	CPT-1 B-12	CPT-4 B-15	CPT-6	CPT-10 B-13	B-16
Combined Thickness of Potential Settlement Zones	8.9' 13.5'	8.4' 12.5'	3.0'	3.4' 7.0'	16.5'
Potential Settlement of Liquefiable Zones	1.7" 0.3"	1.4" 0.0"	0.5"	0.6" 0.0"	0.0"
Potential Settlement of Dry Sand Zones	0.3" 0.8"	0.2" 0.3"	0.1"	0.2" 0.2"	0.4"
Potential Total Settlement of Combined Zones	2.0" 1.1"	1.6" 0.3"	0.6"	0.8" 0.2"	0.4"
Potential Differential Settlements	1.0" 0.6"	0.8" 0.2"	0.3"	0.4" 0.1"	0.2"
Shallowest Liquefiable Zone	25'-29' 25'-27'	23'-25' NA	23'-24'	44'-47.4' NA	NA

More detailed descriptions of the analyses are as follows:

Analysis for Area near CPT-1 and B-12 (Northwest Area of Campus)

The analysis for soils encountered in CPT-1 when groundwater was assumed to be at 6 feet indicated that approximately 15.3 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 9 and 11 feet (see Appendix D for calculations). The analysis for soils encountered in B-12, which is the boring nearest to CPT-1, when groundwater was assumed to be at 6 feet indicated that approximately 12.5 feet of the upper 52.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 6 and 16.5 feet. The volumetric strain for the potentially liquefiable zones in CPT-1 and B-12 were estimated using a chart derived by Tokimatsu and Seed (1987) after reducing the $N_1$60 values by the calculated "FC Delta" value, then making adjustments for fines content as per Seed (1987) and SCEC (1999). Using this methodology, the volumetric strain in both CPT-1 and B-12 was found to be approximately 3.4 inches.

The analysis for soils encountered in CPT-1 when groundwater was assumed to be at a depth of 22.5 feet indicated that approximately 8.9 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 25 and 29 feet. The analysis for soils encountered in B-12 when groundwater was

assumed to be at 22.5 feet indicated that approximately 14.5 feet of the upper 52.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 25 and 27 feet. The volumetric strain for the potentially liquefiable zones in CPT-1 and B-12 were estimated to be approximately 1.7 inches and 0.3 inches, respectively.

According to SCEC (1999), up to about half of the total settlement could be realized as differential settlement. Assuming the worst-case among the analyses described above for this area of the campus, differential settlement, when seismic-induced settlement of dry sands is factored in, could range up to about 1.7 inches at the ground surface.

Analysis for Area near CPT-4 and B-15 (South-Central Area of Campus Building Clusters)

The analysis for soils encountered in CPT-4 when groundwater was assumed to be at 6 feet indicated that approximately 15.7 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 9 and 13 feet. The analysis for soils encountered in B-15, which is the boring nearest to CPT-4, when groundwater was assumed to be at 6 feet indicated that approximately 9 feet of the upper 50 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 10 and 12 feet. The volumetric strain for the potentially liquefiable zones in CPT-4 and B-15 were estimated to be approximately 2.9 inches, and 1.8 inches, respectively.

The analysis for soils encountered in CPT-4 when groundwater was assumed to be at a depth of 22.5 feet indicated that approximately 8.4 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 23 and 25 feet. The analysis for soils encountered in B-15 when groundwater was assumed to be at 14 feet indicated that no horizons within the upper 50 feet of the soil profile were potentially liquefiable. The volumetric strain for the potentially liquefiable zones in CPT-4 were estimated to be approximately 1.4 inches.

Assuming the worst-case among the analyses described above for this area of the campus, differential settlement could range up to about 1.5 inches at the ground surface.

Analysis for Area near CPT-6 (North-Central Area of Campus Building Clusters)

The analysis for soils encountered in CPT-6 when groundwater was assumed to be at 6 feet, indicated that approximately 6.9 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 6.5 and 7.5 feet. The volumetric strain for the potentially liquefiable zones was estimated to be approximately 1.2 inches.

The analysis for soils encountered in CPT-6 when groundwater was assumed to be at 22.5 feet, indicated that approximately 3.0 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 23 and 24 feet. The volumetric strain for the potentially liquefiable zones was estimated to be approximately 0.5 inches.

Assuming the worst-case among the analyses described above for this area of the campus, differential settlement could range up to about 0.6 inches at the ground surface.

Analysis for Area near CPT-10 and B-13 (Southeastern Area of Campus Building Clusters)

The analysis for soils encountered in CPT-10 when groundwater was assumed to be at 6 feet, indicated that approximately 8.9 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 6 and 9 feet. The analysis for soils encountered in B-13, which is the boring nearest to CPT-10, when groundwater was assumed to be at 6 feet, indicated that approximately 5 feet of the upper 50 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 17.5 and 22.5 feet. The volumetric strain for the potentially liquefiable zones in CPT-10 and B-13 were estimated to be approximately 1.7 inches, and 1.2 inches, respectively.

The analysis for soils encountered in CPT-10 when groundwater was assumed to be at 22.5 feet indicated that approximately 3.4 feet of the upper 64.5 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 44 and 47.4 feet. The analysis for soils encountered in B-13 when groundwater was assumed to be at 22.5 feet, indicated no horizons within the upper 50 feet of the soil profile were potentially liquefiable. The volumetric strain for the potentially liquefiable zones in CPT-10 was estimated to be approximately 0.6 inches.

Assuming the worst-case among the analyses described above for this area of the campus, differential settlement could range up to about 0.9 inches at the ground surface.

Analysis for Area near B-16 (Northeastern Area of Campus Building Clusters)

The analysis for soils encountered in B-16, which is near the northeast corner of the site, when groundwater was assumed to be at 6 feet, indicated that approximately 11.5 feet of the upper 50 feet of the soil profile were potentially liquefiable, with the shallowest zone at depths between 10 and 21.5 feet. The volumetric strain for the potentially liquefiable zones was estimated to be approximately 2.4 inches.

The analysis for soils encountered in B-16 when groundwater was assumed to be at 22.5 feet, indicated that no horizons within the upper 50 feet of the soil profile were potentially liquefiable.

Assuming the worst-case among the analyses described above for this area of the campus, differential settlement could range up to about 1.2 inches at the ground surface.

Lateral Spreading

"Free face" lateral spreading does not appear to pose a potential hazard because there are no nearby sloped areas or canyons (Bartlett and Youd, 1995). However, "ground slope" lateral spreading, sometimes referred to as "ground oscillation", can occur when adjusted blow counts ($N_{1(60)}$) measured within potentially liquefiable zones are less than or equal to 15. Zones with these characteristics were identified through analysis of each of the four deep CPT soundings spread throughout the site. The cumulative thickness of these layers ranged from 3 feet in CPT-6 to 8 feet in CPT-1, or about 1 to 2.5 meters, respectively. Isolated layers of potentially liquefiable with a thickness of 6 inches or less were not included in the total thickness.

The potential ground oscillation was analyzed in accordance with procedures developed by Youd, Hansen and Bartlett (2002). In the analyses, it was assumed that the surface slope was 0.3%, which is equivalent to about 5 feet of fall in 1,500 feet, as measured from the Oxnard Quadrangle near the subject site. Fine contents used in the analyses

were based on conservative weighting of the interpreted fine contents listed within the CPT data, and on hydrometer testing performed on samples gathered during subsurface studies.

Based on a historical high groundwater level of about 6 feet below the surface, the cumulative displacements were calculated to range from approximately 0.5 feet in the vicinity of CPT-10 to 1.9 feet in the vicinity of CPT-4, if all zones were to liquefy simultaneously. (Calculations are included within Appendix D of this report.)

According to data generated by Ishihara (National Academy Press, 1985) and CDMG, despite the relatively thick zone of non-liquefiable soils above those relatively thin horizons with blowcounts less than 10, "ground" damage could occur related to lateral spreading/ground oscillation. (Examples of ground damage are sand boils and ground cracks.)

Clay Sensitivity

Based on the measured liquidity indices, the majority of the clay layers at the site do not appear to be sensitive. Hence, strength loss and post-liquefaction consolidation are not thought to be significant concerns. Furthermore, most of the clay lenses are only a few feet thick, and by themselves, cannot lead to much post-liquefaction consolidation. Therefore, cyclic softening of clays and post-liquefaction settlement from consolidation of clays disturbed by a design level earthquake do not appear to be significant at the subject site.

E. Seismic-Induced Settlement of Dry Sands

Sands tend to settle and densify when subjected to earthquake shaking. The amount of settlement is a function of relative density, cyclic shear strain magnitude, and the number of strain cycles. A procedure to evaluate this type of settlement was developed by Seed and Silver (1972) and later modified by Pyke, et al (1975). Tokimatsu and Seed (1987) presented a simplified procedure that has been reduced to a series of equations by Pradel (1998).

To analyze this phenomenon, the Tokimatsu and Seed procedure, as implemented by Pradel, was used. The site acceleration and earthquake magnitude used in the analysis were a modal magnitude of 7.2, and an acceleration of 0.58 g (based two-thirds of the

PGAm of 0.873 g). Seismic settlement was analyzed assuming groundwater depths of 6 feet and 22.5 feet, as was done for the liquefaction analyses discussed above. In the analyses, it was assumed that at least the upper 5 feet of the soil profile will be removed and recompacted during grading for the project, and this depth was assumed to not be susceptible to seismic induced settlement.

The calculations, which are summarized in the Summary tables in the Liquefaction section of this report, indicate that seismically-induced settlements could range up to about 0.8 inches near B-12 if groundwater remains at 22.5 feet, with all other calculations yielding estimates of 0.4 inches or less. About one-half of the total settlement, i.e. 0.4 inches of 0.8 inches, could be experienced as differential settlement.

F. Flooding

Earthquake-induced flooding types include tsunamis, seiches, and reservoir failure. Due to the inland location of the site, hazards from tsunamis and seiches are considered extremely unlikely, and the site is not within the tsunami hazard zone near the Pacific Ocean that has been delineated by California Emergency Management Agency (2009).

If a reservoir, such as Lake Piru or Lake Castaic, was to fail, it would drain into the Santa Clara River channel. A search for mapping of potential flooding related to dam failure was attempted, but no mapping could be located. However, it is assumed that a minor amount of flooding could occur, but would be expected to be relatively minor, and should not be considered a significant potential hazard given dam maintenance and safety measures that are in place.

The site is not within a stippled "Zone X" flood zone (FEMA, 2010), which is defined as "Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage area with less than 1 square mile; and areas protected by levees from 1% annual chance flood". From this, it appears that storm-induced flooding could inundate the site on rare occasions, but probably would not pose a hazard to the proposed project.

SOIL CONDITIONS

Near-surface soils with the anticipated bearing zones of the proposed building areas are generally alluvial silty sands and sandy silts. Soils encountered at approximate bearing depths are characterized by low blow counts and in-place densities, and moderate compressibilities. Testing indicates that anticipated bearing soils lie in the “very low” to "low" expansion ranges. [A locally adopted version of this classification of soil expansion is included in Appendix B of this report.] It appears that soils can be cut by normal grading equipment, although soils are at relatively high moisture contents at shallow depths, and may require drying prior to use as structural fill.

Groundwater was found under this site at depths ranging from 14 feet in Boring B-2 to 22.5 feet in Boring B-12. Groundwater was not encountered in several borings advanced to depths of 21.5 feet, and the water encountered in Boring B-2 appears to have been a localized perched water zone. A mapping of historic high groundwater levels in the subject area by the State shows the site to have a high groundwater level of about 6 feet below the surface (CGS, 2002a). (A copy of the map of historic high groundwater levels is provided in Appendix A.)

Samples of near-surface soils were tested for pH, resistivity, soluble sulfates, and soluble chlorides. The test results provided in Appendix B should be distributed to the design team for their interpretations pertaining to the corrosivity or reactivity of various construction materials (such as concrete and piping) with the soils. It should be noted that sulfate contents (ranging from 3,600 to 4,500 mg/Kg) are in the "S2" ("severe") exposure class of Table 19.3.1.1 of ACI 318-14; therefore, it appears that special concrete designs with Type V Portland cement, a maximum water to concrete ratio of 0.45, and a minimum 28-day compressive strength of 4,500 psi will be necessary for the measured sulfate contents.

Based on criteria established by the County of Los Angeles (2013), measurements of resistivity of near-surface soils (ranging from 390 to 450 ohms-cm) indicate that they are “severely corrosive" to ferrous metal (i.e. cast iron, etc.) pipes.

GEOTECHNICAL ENGINEERING
CONCLUSIONS AND RECOMMENDATIONS

The site is suitable for the proposed development from Engineering Geology and Geotechnical Engineering standpoints provided that the recommendations contained in this report are successfully implemented into the project. Mitigation of the potential effects of liquefaction, including potential differential settlements ranging up to about 2.0 inches, and potential lateral spreading up to about 1.3 feet, will be required. Recommendations that include the use of a geogrid-reinforced aggregate base section below structures. while also using a conventional foundation with some structural enhancements, are provided in the "Rough Grading/Areas of Development" and "Conventional Foundations" sections below. As an alternative to the grading/reinforced conventional foundation solution, recommendations for design of a structural mat slab are provided in the "Mat Foundations" section of this report.

The recommendations presented within do not address post-earthquake performance in regard to flatwork, pavements, etc. It is our opinion that it is not practically feasible to mitigate or reduce the potential for the occurrence of seismically-induced settlement across the whole site due to the susceptible nature of the site soils. The manifestation and effect of seismically-induced settlement may generally affect the flatwork, pavement, etc. through differential settlement of the affected soils after seismic shaking. These effects may cause localized distress to the portions of the site where seismically-induced settlement occurs. It is our opinion that it may not be economically feasible or cost effective to implement engineering measures to mitigate the potential effects of seismically-induced settlement. It is our opinion that the effects of seismically-induced settlement will most likely require repair to portions of the site flatwork/pavement after a major seismic event generally in the form of re-leveling. Selective design utilizing less sensitive fencing, deep foundations, etc. can also reduce the impact of seismically-induced settlement

A. Grading

1. Pre-Grading Considerations

   a. Plans and specifications should be provided to Earth Systems Southern California prior to grading. Plans should include the grading plans, foundation plans, and foundation details.

   b. Grading at a minimum should conform to the 2016 California Building Code.

c. Roof draining systems, if required by the appropriate jurisdictional agency, should be designed so that water is not discharged into bearing soils or near structures.
d. Final site grade should be designed so that all water is diverted away from the structures over paved surfaces, or over landscaped surfaces in accordance with current codes. Water should not be allowed to pond anywhere on the pad.
e. Shrinkage of soils affected by compaction is estimated to be about 12 percent.
f. Improvements below ground level, if any, should be waterproofed and drained in accordance with the Project Architect's recommendations.
g. It is recommended that Earth Systems Southern California be retained to provide Geotechnical Engineering services during site development and grading, and foundation construction phases of the work to observe compliance with the design concepts, specifications and recommendations, and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.
h. Compaction tests shall be made to determine the relative compaction of the fills in accordance with the following minimum guidelines: one test for each two-foot vertical lift; one test for each 1,000 cubic yards of material placed; and two tests at finished subgrade elevation in each building pad.

2. General Rough Grading Recommendations
   a. The existing ground surface should be initially prepared for grading by removing all vegetation, trees, large roots, debris, other organic material and non-complying fill. Organics and debris should be stockpiled away from areas to be graded, and ultimately removed from the site to prevent their inclusion in fills. Voids created by removal of such material should be properly backfilled and compacted. No compacted fill should be placed unless the underlying soil has been observed by the Geotechnical Engineer.
   b. Areas not within a building footprint, or the recommended 5-foot zone outside the building envelope, that will support exterior slabs-on-grade, sidewalks, and pavements should be excavated a minimum of 2.5 feet below finished subgrade to extend below the anticipated depths of plowing that have been developed during farming. The limits of the overexcavated zones should extend at least 2 feet beyond the outside edges of the proposed improvements. The resulting surface should then be scarified to a depth of

6 inches, uniformly moisture-conditioned to above optimum moisture content, and compacted to achieve a relative compaction of between 90 percent of the ASTM D 1557 maximum dry density. Compaction of the prepared subgrade should be verified by testing prior to the placement of engineered fill.

c. The bottom of all excavations should be observed by a representative of this firm prior to processing or placing fill.

d. On-site soils may be used for fill once they are cleaned of all organic material, rock, debris and irreducible material larger than 8 inches. However, soils may be at moisture contents above optimum, and may require drying prior to placing them as structural fill.

e. Fill and backfill placed at near optimum moisture in layers with loose thickness not greater than 8 inches should be compacted to a minimum of 90 percent of the maximum dry density obtainable by the ASTM D 1557 test method.

f. Import soils used to raise site grade should be equal to, or better than, on-site soils in strength, expansion, and compressibility characteristics. Import soil can be evaluated, but will not be prequalified by the Geotechnical Engineer. Final comments on the characteristics of the import will be given after the material is at the project site.

g. If pumping soils or otherwise unstable soils are encountered during the overexcavation, stabilization of the excavation bottom will be required prior to placing fill. This can be accomplished by various means. The first method would include drying the soils as much as possible through scarification, and working thin lifts of "6-inch minus" crushed angular rock into the excavation bottom with small equipment (such as a D-4) until stabilization is achieved. Use of a geotextile fabric such as Mirafi 500X, or Tensar TX-170, or the equivalent, is another possible means of stabilizing the bottom. If this material is used, it should be laid on the excavation bottom and covered with approximately 12 inches of "6-inch minus" crushed angular rock prior to placement of filter fabric (until the bottom is stabilized). The rock should then be covered with a geotextile filter fabric before placing fill above. It is possible that stabilization will be necessary due to the existing high moistures of the soils, and due to the potential for shallow groundwater if subsurface conditions change between the writing of this report and the start of construction. Unit prices should be obtained from the Contractor in advance for this work.

3. Rough Grading/Areas of Development Assuming Geogrid-Reinforcement Option

   a. To minimize the propagation of seismically-induced ground damage to the proposed buildings, and to minimize differential settlements, native soils throughout the proposed building footprints should be excavated a minimum of 6 feet below existing grade or 4 feet below the bottoms of foundations, whichever is deeper. ("Buildings" should be considered to include attached structural elements such as stairways, and also include masonry enclosures.) Overexcavation should be extended laterally to a distance of at least 5 feet laterally beyond the outside edge of the foundation footprint. (Foundations for elevator pits need not be considered when determining overexcavation depths, unless elevator pit foundations extend more than 2 feet deeper than the rest of the foundations. In that case, the overexcavation depth should be at least 2 feet below the depth of the elevator pit foundations.) The base of the overexcavation should be relatively level. Structural plans and details should be checked carefully during grading to establish the actual bottom of foundation elevations in the field. The bottoms of the remedial excavations should be scarified to a depth of 6 inches, uniformly moisture conditioned to above optimum moisture content, and compacted to achieve a relative compaction of between 90 percent of the ASTM D 1557 maximum dry density. Compaction of the prepared subgrade should be verified by testing prior to the placement of engineered fill.

   b. To further minimize the propagation of potential liquefaction-induced differential settlements and/or lateral spreading, the fill should be reinforced with two layers of "geogrids" to create a mat of reinforced soil beneath the proposed structures. (This will also create a reinforced mat of soil that should mitigate the potential movements posed by ground oscillation.) The reinforcing geogrids should consist of Tensar Tri-Axial TX160, or equivalent approved by the Geotechnical Engineer. We recommend that the first layer of geogrid be placed on the prepared subgrade at the bottom of the remedial excavations, extend across the entire area of overexcavation, and extend up the sidewalls of the remedial excavations. A 1-foot thick layer of "clean" aggregate base should be placed in thin, moisture conditions lifts, and compacted over the bottom layer of geogrid. ("Clean" aggregate base is defined as having no asphalt content, which would not pass DTSC

requirements for school projects.) The second layer of geogrid should be placed on the top of the aggregate base, and an additional one foot of "clean" aggregate base material should be placed and compacted. The second layer need not be extended up the sidewalls. Once the second lift of aggregate base material has been placed and compacted, the bottom layer of geogrid extending up the sidewall of the remedial excavation, should be folded back onto the compacted surface to create a 10-foot overlap. The aggregated base material should be uniformly moisture conditioned and compacted to achieve a minimum relative compaction of 95% of the ASTM D 1557 maximum dry density. The remedial excavation may then be brought up to finished grade using the excavated soil. The geogrid layers should be installed in accordance with the manufacturer's recommendations. Where adjacent geogrid rolls are to be placed, a minimum overlap of 18 inches should be used. Underground utilities should be installed above the geogrid where practical or to splice geogrid reinforcement over utility trenches if it is necessary to place utilities below the geogrid. Underground utilities may be run through the geogrids along the sidewalls of the remedial excavations, but care should be taken to minimize the width of the trench, and to cut the geogrid only where the trench projects through the sidewalls.

4. <u>Rough Grading/Areas of Development Assuming Structural Mat Slab Option</u>

   a. If a structural mat slab option is chosen to minimize the potential effects of liquefaction, native soils throughout the proposed building footprints should be excavated a minimum of 6 feet below existing grade or 4 feet below the bottoms of foundations, whichever is deeper. (Foundations for elevator pits need not be considered when determining overexcavation depths, unless elevator pit foundations extend more than 2 feet deeper than the rest of the foundations. In that case, the overexcavation depth should be at least 2 feet below the depth of the elevator pit foundations.) Overexcavation should be extended laterally to a distance of at least 5 feet laterally beyond the outside edge of the foundation footprint. The base of the overexcavation should be relatively level. Structural plans and details should be checked carefully during grading to establish the actual bottom of foundation elevations in the field. The bottoms of the remedial excavations should be scarified to a depth of 6 inches, uniformly moisture conditioned to near optimum moisture content,

and compacted to achieve a relative compaction of between 90 percent of the ASTM D 1557 maximum dry density. Compaction of the prepared subgrade should be verified by testing prior to the placement of engineered fill.

b. The overexcavated zone should then be backfilled with thin lifts of moisture conditioned on-site soils compacted to a minimum of 90% of maximum dry density.

5. Utility Trenches

a. Utility trench backfill should be governed by the provisions of this report relating to minimum compaction standards. In general, on-site service lines may be backfilled with native soils compacted to 90 percent of maximum density. Backfill of offsite service lines will be subject to the specifications of the jurisdictional agency or this report, whichever are greater.

b. Compacted native soils should be utilized for backfill below structures. Sand should not be used under structures because it provides a conduit for water to migrate under foundations.

c. Backfill operations should be observed and tested by the Geotechnical Engineer to monitor compliance with these recommendations.

d. Excavated soils below a depth of approximately 2 feet are expected to be at a high moisture content, and drying may be necessary before utilizing them as compacted backfill. In the unlikely event that water is present in trenches, the lower sections should be backfilled with gravel to at least 6 inches above the water.

B. Structural Design

1. Conventional Foundations with Geogrid-Reinforced Aggregate Base Section Below

a. Conventional continuous footings and/or pad footings may be used to support structures, assuming the grading with a geogrid-reinforced zone is also installed below the structure. Pad footings must be tied together by grade beams (each way), and grade beams should also extend from pads to adjacent perimeter footings. The intent of the grade beams is to provide additional stiffness to the foundation to help mitigate potential liquefaction-related effects. Perimeter footings for one-story buildings should have a minimum embedment depth of 15 inches, and interior pad footings should have a

minimum embedment depth of 12 inches. For two-story buildings, perimeter and interior footings should have a minimum embedment depth of 18 inches.

b. Footings should bear into firm recompacted soils, as recommended elsewhere in this report. Foundation excavations should be observed by a representative of this firm after excavation, but prior to placing of reinforcing steel or concrete, to verify bearing conditions.

c. Conventional continuous footings may be designed based on an allowable bearing value of 2,000 psf. This value is based on a factor of safety of at least 3.

d. Isolated pad footings may be designed based on an allowable bearing value of 2,200 psf. This value is based on a factor of safety of 3.

e. Allowable bearing values are net (weight of footing and soil surcharge may be neglected) and are applicable for dead plus reasonable live loads.

f. Bearing values may be increased by one-third when transient loads such as wind and/or seismicity are included.

g. Lateral loads may be resisted by soil friction on floor slabs and foundations and by passive resistance of the soils acting on foundation stem walls. Lateral capacity is based on the assumption that any required backfill adjacent to foundations and grade beams is properly compacted.

h. Continuous footings bottomed in soils in the "low" expansion range should be reinforced, at a minimum, with one No. 4 bar along the bottom and one No. 4 bar along the top. In addition, bent No. 3 bars on 24-inch centers should extend from within the footings to a minimum of 3 feet into adjacent slabs to further aid in stiffening the foundation.

j. Bearing soils in the "low" expansion range should be premoistened to 120 percent of optimum moisture content to a depth of 21 inches below lowest adjacent grade. Premoistening should be confirmed by testing.

2. <u>Conventional Slabs-on-Grade</u>

a. Concrete slabs should be supported by compacted structural fill as recommended elsewhere in this report.

b. It is recommended that perimeter slabs (walks, patios, etc.) be designed relatively independent of footing stems (i.e. free floating) so foundation adjustment will be less likely to cause cracking.

c. The information that follows regarding design criteria for slabs is generally the same as that given in Table 18-I-D for the "low" expansion range. Actual slab designs should be provided by the Structural Engineer, but the reinforcement and thicknesses of sand he recommends should not be less than the criteria set forth in Table 18-I-D for the appropriate expansion range.

d. Slabs bottomed on soils in the "low" expansion range should be underlaid with a minimum of 4 inches of sand. Areas where floor wetness would be undesirable should be underlaid with a vapor retarder (i.e. visqueen or other material recommended by the Project Engineer or Architect) to reduce moisture transmission from the subgrade soils to the slab. The retarder should be placed as specified by the structural designer.

e. Slabs should, at a minimum, be reinforced at mid-slab with No. 3 bars on 24-inch centers, each way. No. 3 bars acting as dowels should also extend out of the perimeter footings, and should be bent so that they extend a minimum of 3 feet into adjacent slabs. (Please note that these recommendations exceed the minimum requirements of Table 18-I-D.)

f. Soils underlying slabs that are in the "low" expansion range should be premoistened to 120 percent of optimum moisture content to a depth of 21 inches below lowest adjacent grade. Premoistening of slab areas should be observed and tested by this firm for compliance with these recommendations prior to placing of sand, reinforcing steel, or concrete.

3. Mat Foundations

As an alternative to the geogrid-reinforced subgrade/conventional foundation system, a structural mat slab may be used to minimize the propagation of liquefaction-induced effects to the proposed buildings and to minimize differential settlements.

a. The mat foundation may be a conventionally reinforced slab system designed for the anticipated differential settlements.

b. The mat foundation for the proposed buildings should be supported by a minimum 4-foot thickness of compacted reinforced soil prepared as recommended in Section A of this report.

c. To limit the maximum total settlement under static conditions to about 1 inch, an allowable “net” bearing capacity of 400 pounds per square foot (psf), for loads distributed over the full footprint of the mat foundations, may be utilized for dead and sustained live loads for design of the mat foundation. An

allowable "net" bearing capacity of 2,000 psf may be used for thickened edges or other concentrated load areas. These values include a safety factor of at least 3.0 may be increased by one-third when considering transient loads such as earthquake or wind forces.

d. For preliminary mat foundation analysis, an average modulus of subgrade reaction ("k_p" value) of 70 pounds per cubic inch (pci) may be used for static conditions provided the foundation subgrade is prepared as recommended in Section A of this report. The final modulus value should be based on stress settlement calculations and iterations between the Project Structural Engineer and Geotechnical Engineer.

e. The actual depth, width, and reinforcement requirements for the mat foundation should be specified by the Project Structural Engineer.

f. The structural engineer should account for the estimated static and seismically-induced settlements (total and differential) in the mat foundation design.

4. Frictional and Lateral Coefficients

a. Resistance to lateral loading may be provided by friction acting on the base of foundations. For foundations supported in compacted engineered fill, a coefficient of friction of 0.62 may be applied to dead load forces. This value does not include a factor of safety.

b. For foundations supported in compacted engineered fill, passive resistance acting on the sides of foundation stems equal to 350 pcf of equivalent fluid weight may be included for resistance to lateral load. This value does not include a factor of safety.

c. A minimum factor of safety of 1.5 should be used when designing for sliding or overturning.

d. For the foundations, passive resistance may be combined with frictional resistance provided that a one-third reduction in the coefficient of friction is used.

5. Settlement Considerations

a. In the event of a strong seismic event, the soils underlying the site could undergo a combination of liquefaction and dry sand settlements depending upon the depth to the groundwater table. Because both are the result of earthquake-induced vibrations, the settlements from both phenomena are

additive. The worst-case scenario for these issues has been determined to be situated near the northwestern area of the campus, and for 3.4 inches of total settlement and 1.7 inches of differential settlement. The other areas of the campus are estimated to potentially be subject to between 0.6 and 1.5 inches of total settlement, and 0.3 to 0.8 inches of differential settlement.

b. Maximum total static settlements of about an inch are anticipated for foundations and floor slabs designed as recommended. Differential settlement between adjacent load bearing members should be less than one-half the total settlement.

c. The use of the recommended geogrid reinforced pad and stiffened conventional foundation system, or the structural mat slab solution, beneath the proposed structures will help to reduce the differential settlements, but it will not eliminate or completely mitigate them.

6. Drilled Pier Foundations

Drilled piers may be used for axial and lateral support of flagpoles, parking lot light poles, building canopies, and partition walls. Piers may consist of drilled, reinforced cast-in-place concrete caissons (cast-in-drilled-hole "CIDH" piles). Piers may be drilled or hand-dug. Steel reinforcing may consist of "rebar cages" or structural steel sections. The drilled pier recommendations provided below do not apply to foundations for typical chain-linked fence posts.

a. As a minimum, the new piers should be at least eighteen inches (18") in diameter and embedded a minimum of 10 feet into native soils. The geotechnical engineer should be consulted during pier installation to determine compliance with the geotechnical recommendations.

b. For vertical capacity, the piers may be proportioned using an allowable skin friction (adhesion) value of 100 pounds per square foot (psf) in firm, native soil. For any portion of the pier in compacted engineered fill, an allowable skin friction (adhesion) value of 125 psf may be used.

c. The load capacities given above should be based upon skin friction with no end bearing. These allowable capacities include a safety factor of 2.0 and may be increased by one-third when considering transient loads such as wind or seismic forces.

d. Due to disturbance in the upper 2 to 3 feet by farming activities at the site, the allowable skin friction for any drilled pier located outside the limits of the

recommended remedial excavations should start at a depth of 3 feet below the top of the pier.

d. Reduction in axial capacity due to group effects should be considered for piers spaced at 3 diameters on-center or closer.

e. This allowable skin friction value is based upon available subsurface field data and on Earth Systems' experience on similar projects. The compressive and tensile strength of new pier designs should be checked to verify the structural capacity of the piers. Reinforcement of piers should be specified by the structural engineer. The specific method of pier installation will affect the performance of the piers. Earth Systems recommends a meeting with the design team and contractor to verify that the specific method of pier installation can provide the anticipated load supporting capacity.

f. Lateral (horizontal) loads may be resisted by passive resistance of soil against the piers. An equivalent fluid weight (EFW) of 200 psf per foot of penetration in firm, native soil may be used for lateral load design. For any portion of pier in compacted engineered fill, an equivalent fluid weight (EFW) of 350 psf per foot of penetration may be used. These resisting pressures are ultimate values. The maximum passive pressure used for design should not exceed 2,500 psf.

g. For piers spaced at least three diameters apart, an effective width of three times the actual pier diameter may be used for passive pressure calculations.

h. Assuming 18-inch diameter piers of reinforced concrete that are fixed against rotation at the head, the "point of fixity" was estimated to be located at least 7.5 feet below the final ground elevation based on commonly accepted engineering procedures (Lee, 1968).

i. It is the structural engineer's responsibility to design the reinforcement for the piers to sustain the imposed axial and lateral loading.

7. <u>Preliminary Asphalt Paving Sections</u>

a. Based on an assumed load of ten 3-axle buses per day (i.e. five in the morning and five at the end of the school day) running through the bus drop-off area, a Traffic Index of 6.1 has been determined for a 20-year design life. For the areas subjected to bus traffic, and using a measured R-Value of 15, paving sections should have a minimum gravel equivalent of 1.65 feet. This can be achieved by using 4 inches of asphaltic concrete on 10 inches of Class II Base or

Processed Miscellaneous Base (PMB) compacted to a minimum of 95 percent of maximum dry density on subgrade soils compacted to a minimum of 95 percent of maximum dry density.

b. Assuming a Traffic Index of 5 for areas within the parking lot that will only be subjected to automobile traffic, and will not be subjected to bus traffic, and using the measured R-Value of 15, paving sections should have a minimum gravel equivalent of 1.36 feet. This can be achieved by using 3 inches of asphaltic concrete on 8 inches of Class II Base or PMB compacted to a minimum of 95 percent of maximum dry density on subgrade soils compacted to a minimum of 95 percent of maximum dry density.

c. The preliminary paving sections provided above have been designed for the type of traffic indicated. If there are other loads that could increase the Traffic Indices above those assumed above, re-evaluation of these sections should be performed.

8. Preliminary Concrete Paving Sections

a. For those areas that will be within the bus drop-off loop, and will be paved with concrete, we have assumed a daily traffic over the surface of ten 3-axle buses per day (five in the morning and five at the end of the school day), and a design life of 20 years. We also have used the lower of the two measured R-Values (15), which is approximately equivalent to a coefficient of subgrade reaction of k=120 pounds per cubic inch. Based on these values and design methods described by the American Concrete Institute (ACI 330R-87), the following minimum unreinforced paving section was determined:

1.	Concrete thickness =	6.0 inches
2.	PMB thickness under concrete =	4.0 inches
3.	Compressive strength of concrete, fc =	4,000 psi at 28 days
4.	Modulus of flexural strength of 3,500 psi concrete =	580 psi
5.	Maximum spacing of contraction joints, each way =	15 feet

b. For those areas that will not be subjected to bus traffic, and will be paved with concrete, we have assumed car traffic only, a design life of 20 years, and an measured R-Value of 15. Based on these values, the following minimum unreinforced paving section was determined:

1.	Concrete thickness =	4.5 inches
2.	PMB thickness under concrete =	4.0 inches
3.	Compressive strength of concrete, fc =	3500 psi at 28 days
4.	Modulus of flexural strength of 3500 psi concrete =	530 psi
5.	Maximum spacing of contraction joints, each way =	11 feet

c. If additional resistance to cracking is desired beyond that provided by the contraction joints, steel reinforcement can be added to the pavement section at approximately two inches below the top of concrete; however, reinforcement is not required.

d. The preliminary paving sections discussed above have been designed for the type of traffic indicated. If the pavement is placed before construction on the project is complete, construction loads should be taken into account. If bus traffic is expected to exceed two per day, these sections should be re-evaluated. Traffic should not be allowed on the pavement until 28 days after concrete placement, or until the 28-day design compressive strength is achieved.

ADDITIONAL SERVICES

This report is based on the assumption that an adequate program of monitoring and testing will be performed by Earth Systems Southern California during construction to check compliance with the recommendations given in this report. The recommended tests and observations include, but are not necessarily limited to the following:

1. Review of the building and grading plans during the design phase of the project.
2. Observation and testing during site preparation, grading, placing of engineered fill, and foundation construction.
3. Consultation as required during construction.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

The analysis and recommendations submitted in this report are based in part upon the data obtained from the borings and cone penetration test soundings advanced on the site. The

nature and extent of variations between and beyond the borings and CPTs may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

The scope of services did not include any environmental assessment or investigation for the presence or absence of wetlands, hazardous or toxic materials in the soil, surface water, groundwater or air, on, below, or around this site. Any statements in this report or on the soil boring logs regarding odors noted, unusual or suspicious items or conditions observed, are strictly for the information of the client.

Findings of this report are valid as of this date; however, changes in conditions of a property can occur with passage of time whether they be due to natural processes or works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur whether they result from legislation or broadening of knowledge. Accordingly, findings of this report may be invalidated wholly or partially by changes outside the control of this firm. Therefore, this report is subject to review and should not be relied upon after a period of one year.

In the event that any changes in the nature, design, or location of the improvements are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

This report is issued with the understanding that it is the responsibility of the Owner, or of his representative to ensure that the information and recommendations contained herein are called to the attention of the Architect and Engineers for the project and incorporated into the plan and that the necessary steps are taken to see that the Contractor and Subcontractors carry out such recommendations in the field.

As the Geotechnical Engineers for this project, Earth Systems Southern California has striven to provide services in accordance with generally accepted geotechnical engineering practices in this community at this time. No warranty or guarantee is expressed or implied. This report was prepared for the exclusive use of the Client for the purposes stated in this document for the referenced project only. No third party may use or rely on this report without express written authorization from Earth Systems Southern California for such use or reliance.

It is recommended that Earth Systems Southern California be provided the opportunity for a general review of final design and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications. If Earth Systems Southern California is not accorded the privilege of making this recommended review, it can assume no responsibility for misinterpretation of the recommendations.

AERIAL PHOTOGRAPHS REVIEWED

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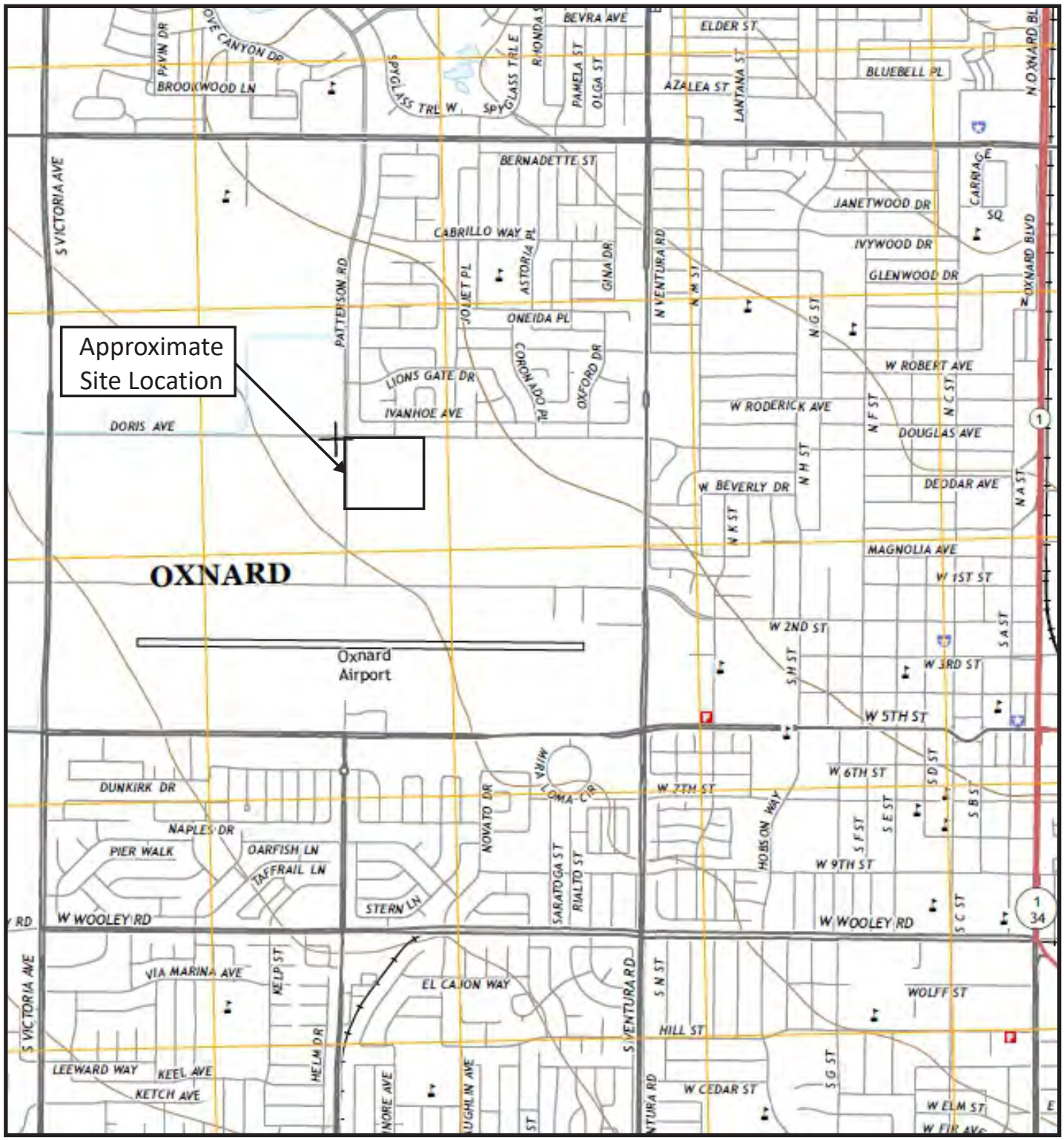
APPENDIX A

Vicinity Map
Regional Fault Map
Regional Geologic Map
Seismic Hazard Zones Map
FEMA Flood Insurance Rate Map
Historical High Groundwater Map
Field Study
Site Geologic Map
Geologic Cross-Section A-A’
Geologic Cross-Section B-B’
Logs and Interpretations of CPT Sounding
Logs of Koury Borings
Logs of Earth Systems Borings
Boring Log Symbols
Unified Soil Classification System



*Taken from USGS Topo Map, Oxnard Quadrangle, 2015.

Approximate Scale: 1" = 2,000'

0 2,000' 4,000'

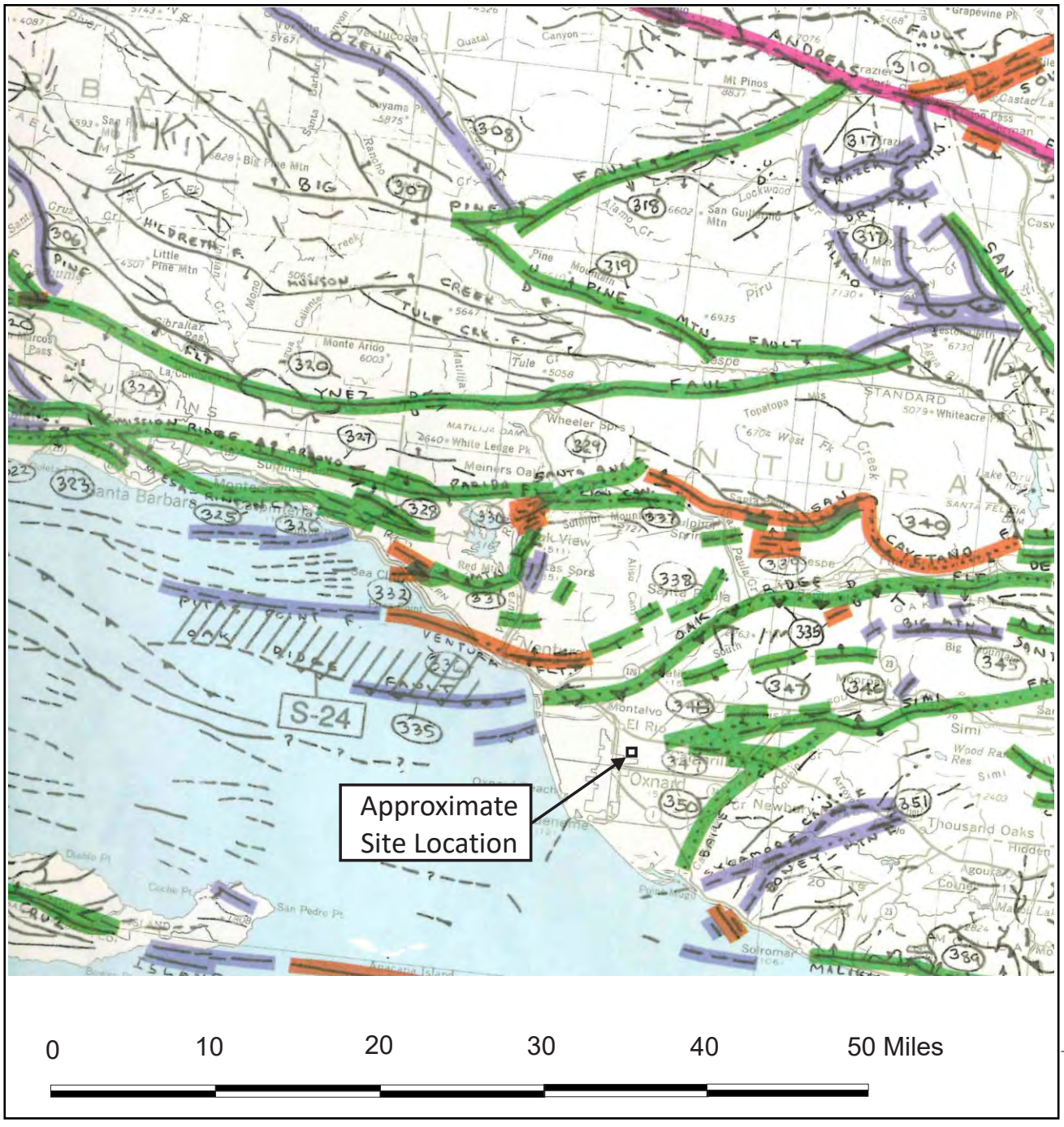
N

VICINITY MAP

Doris and Patterson Middle School
Oxnard, California

Earth Systems
Southern California

September 2017	VT-24867-10



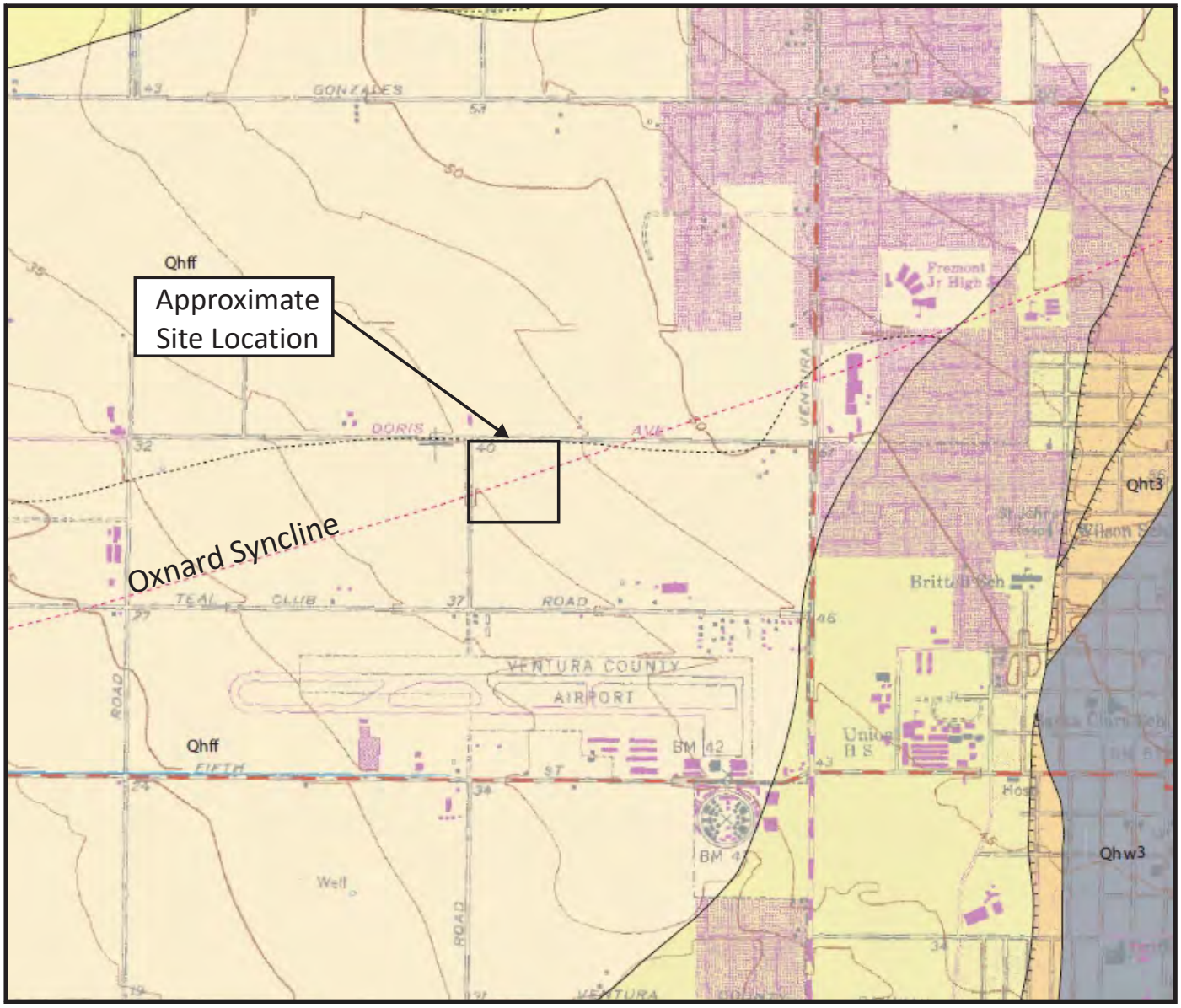
*Taken from DMG OFR 92-03, Fault Activity Map of California, 1992

REGIONAL FAULT MAP

Doris and Patterson Middle School
Oxnard, California

Earth Systems
Southern California

September 2017	VT-24867-10



*Taken from USGS, SCAMP Geologic Map of the Oxnard 7.5' Quadrangle, California, 2004.

Qoa — Alluvial deposits (early to middle Pleistocene) - Moderately to deeply dissected, undifferentiated alluvial deposits where topography often consists of gently rolling hills with little or none of the original planar surface preserved, or tilted surfaces along active range fronts, composed of moderately to poorly sorted and bedded gravel, sand, silt, and clay.

Qhf — Alluvial fan deposits (Holocene) - Deposited by streams emanating from mountain canyons onto alluvial valley floors, deposits originate as debris flows, hyperconcentrated mudflows, or braided stream flows; composed of moderately to poorly sorted, and moderately to poorly bedded, sandy clay with some gravel.

Qhff — Holocene alluvial fan deposits, fine facies; fine-grained alluvial fan and flood plain overbank deposits on very gently sloping portions fo the valley floor; composed of predominantly clay with interbedded lenses of coarser alluvium (sand and occasional gravel).

Approximate Scale: 1" = 2,000'

0 2,000' 4,000'

N

Contact between map units - Solid where accurately located, dotted where concealed.

Contact between similar map units of different relative age - Generally approximately located.

Fault - Approximately located or inferred, dotted where concealed, queried where location is uncertain.

Axis of anticline - Solid where accurately located, dashed where approximately located, dotted where concealed, queried where location is uncertain; arrow indicates direction of plunge.

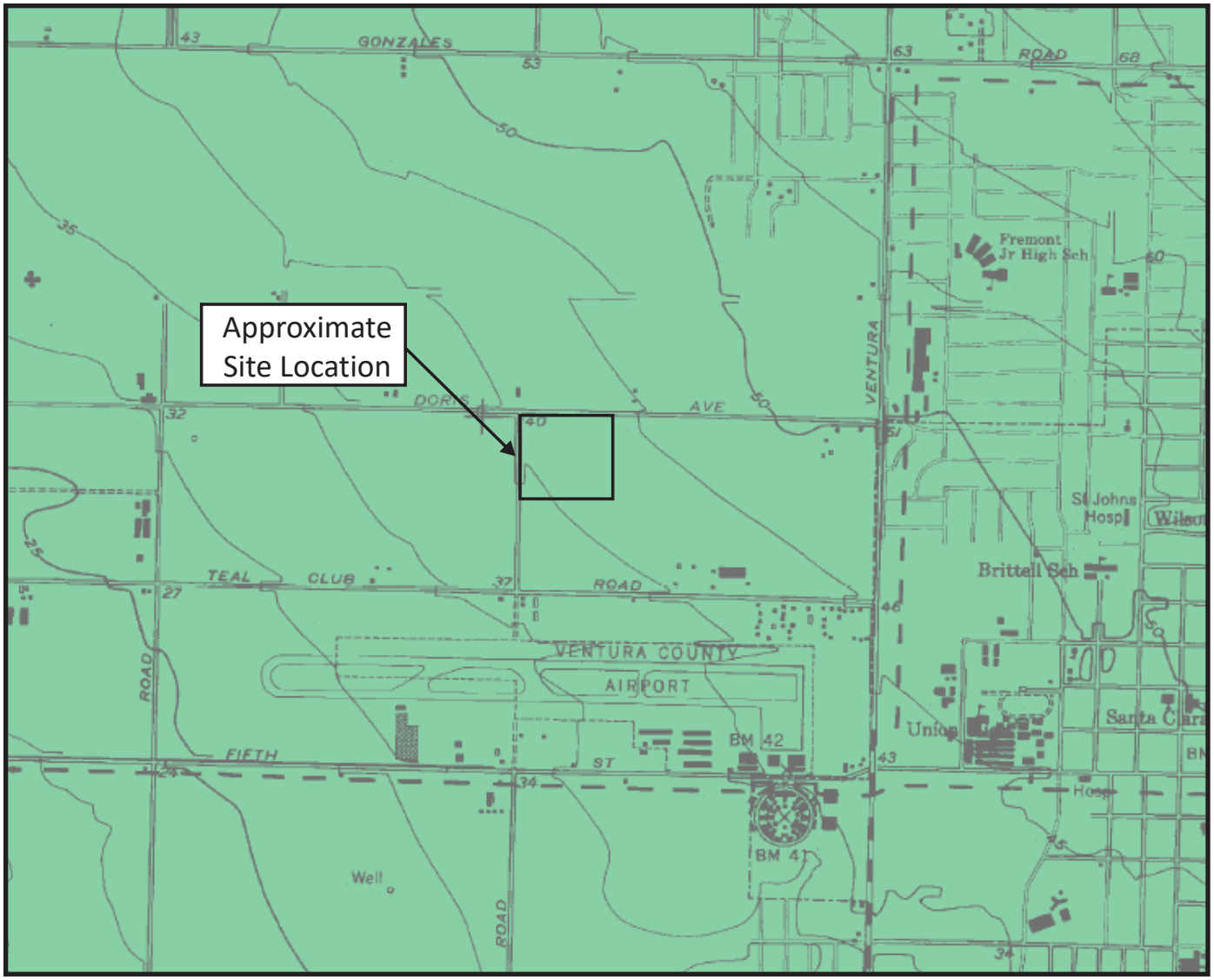
Axis of syncline - Solid where accurately located, dotted where concealed, queried where location is uncertain; arrow indicates direction of plunge.

REGIONAL GEOLOGIC MAP

Doris and Patterson Middle School
Oxnard, California

Earth Systems
Southern California

September 2017	VT-24687-10



STATE OF CALIFORNIA

SEISMIC HAZARD ZONES

Delineated in compliance with
Chapter 7.8, Division 2 of the California Public Resources Code
(Seismic Hazards Mapping Act)

OXNARD QUADRANGLE

REVISED OFFICIAL MAP
Released: December 20, 2002

STATE GEOLOGIST

Approximate Scale: 1" = 2,000'

0 2,000' 4,000'

N

Liquefaction

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground-water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslides

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

SEISMIC HAZARD ZONES MAP

Doris and Patterson Middle School
Oxnard, California

Earth Systems
Southern California

September 2017	VT-24867-10

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0905E

FIRM

FLOOD INSURANCE RATE MAP

VENTURA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 905 OF 1275
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OXNARD, CITY OF	060417	0905	E
SAN BUENAVENTURA, CITY OF	060419	0905	E
VENTURA COUNTY	060413	0905	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06111C0905E

EFFECTIVE DATE
JANUARY 20, 2010

Federal Emergency Management Agency

DIVISION OF MINES AND GEOLOGY
JAMES F. DAVIS, STATE GEOLOGIST

STATE OF CALIFORNIA--GRAY DAVIS, GOVERNOR
THE RESOURCES AGENCY--MARY D. NICHOLS, SECRETARY
DEPARTMENT OF CONSERVATION--DARRYL YOUNG, DIRECTOR

Oxnard Quadrangle Plate 1.2
SEISMIC HAZARD ZONE REPORT 052

Plate 1.2 Depth to historically highest groundwater and borehole locations, Oxnard 7.5-minute quadrangle, California

HISTORICAL HIGH GROUNDWATER MAP	
Doris and Patterson Middle School Oxnard, California	
Earth Systems **Southern California**	
September 2017	VT-24867-10

A. On August 28, 2017, twelve Cone Penetrometer Test (CPT) soundings were advanced to depths ranging from 15 to 65 feet to obtain information pertaining to the soil profile. The CPT soundings were performed by equipment owned and operated by Kehoe Testing and Engineering. During advancement of the cone penetrometer, readings of sleeve friction (in tons per square foot), tip resistance (also in tons per square foot), and friction ratio (in percent) were recorded at 0.15-meter intervals as per ASTM D 5778 and ASTM D 3441.

B. Between August 15 and 28, 2017, sixteen borings were drilled to depths ranging from 6.5 to 66.5 feet below the existing ground surface to observe the soil profile and to obtain samples for laboratory analysis. The borings with depths less than 25 feet were drilled using a hollow stem 6-inch diameter continuous flight auger. The deeper borings were drilled using a 4-inch diameter mud rotary system. Both types of borings were drilled using a Mobile Drill B-61 truck mounted drilling rig.

C. Samples were obtained within the test borings with a Modified California (M.C.) ring sampler (ASTM D 3550 with shoe similar to ASTM D 1586), and with a Standard Penetration Test (SPT) sampler (ASTM D 1586). The M.C. sampler has a 3-inch outside diameter, and a 2.42-inch inside diameter when used with brass ring liners (as it was during this study). The SPT sampler has a 2.00-inch outside diameter and a 1.37-inch inside diameter, but when used without liners, as was done for this project, the inside diameter is 1.63 inches. The samples were obtained from the borings by driving the sampler with a 140-pound automatic trip hammer dropping 30 inches in accordance with ASTM D 1586.

D. Bulk samples of the soils encountered were gathered from the cuttings.

E. The final logs of the borings represent interpretations of the contents of the field logs and the results of laboratory testing performed on the samples obtained during the subsurface study. The final logs, as well as the logs and interpretations of the CPT soundings, are included in this Appendix. The approximate locations of the borings and the CPT soundings were determined in the field by pacing and sighting, and are shown on the Site Plan in this Appendix.

DORIS AVENUE

PATTERSON ROAD

DROP-OFF LANE

A

A'

B

B'

CPT-1

CPT-2

CPT-3

CPT-4

CPT-5

CPT-6

CPT-7

CPT-8

CPT-9

CPT-10

CPT-11

CPT-12

B-1

B-2

B-3

B-4

B-5

B-6

B-7

B-8

B-9

B-10

B-11

B-12

B-13

B-14

B-15

B-16

C-1

C-2

C-3

P-1

P-2

P-3

P-4

Qal

PARKING 42 STALLS

PARKING 62 STALLS

PARKING 20 STALLS

PARKING 96 STALLS

PARKING 17 STALLS

BUS DROP OFF

SOCCER FIELD

Legend

: ESSC Borings

: ESSC CPT Soundings

: Koury Borings

: Koury CPT Soundings

: Koury Percolation Tests

Qal: Alluvium

B — B' :Lines of Cross-Sections

APPROXIMATE SCALE
1 inch = 100 feet
(1:1200)

20 0 20 40 80 100

N

SITE GEOLOGIC MAP

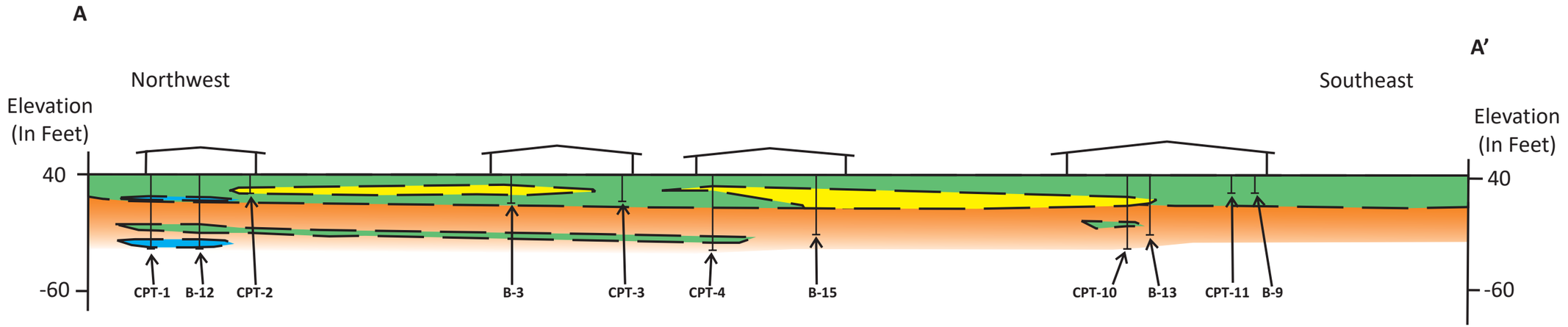
Doris & Patterson School
Oxnard, California

Earth Systems
Southern California

September 2017

VT-24867-10

Geologic Cross-section Along A-A’



Legend

- Predominantly Silt (ML)
- Silty Sand and Sandy Silts (SM/ML)
- Clay Horizons (CL)
- Sands (SM + SP)

Proposed Building

B-12/ CPT-11 Location of CPT/Boring

SCALE
1 in = 100 ft

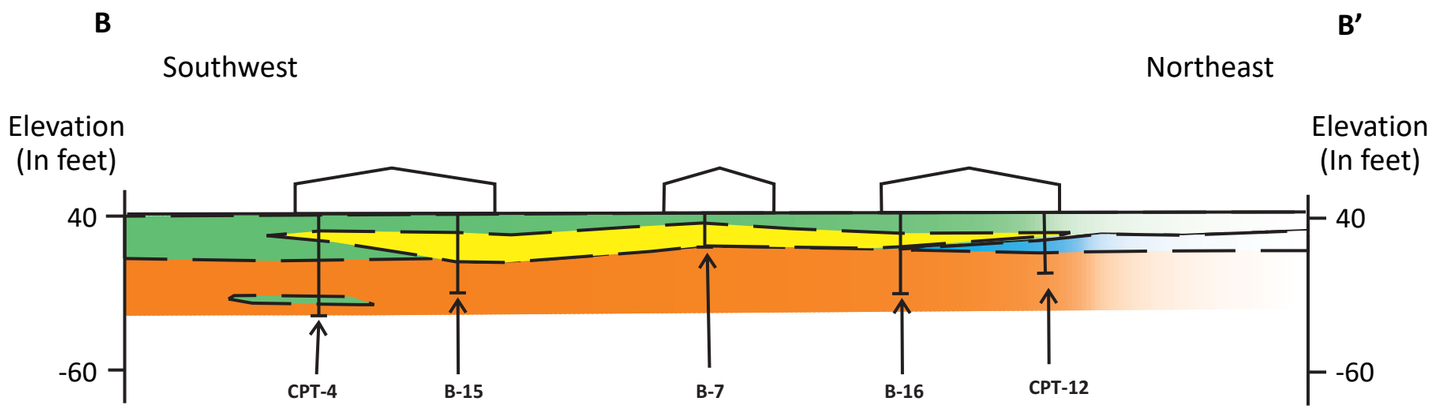
GEOLOGIC CROSS-SECTION A-A’

Doris & Patterson
Oxnard California

Earth Systems
Southern California

September 2017 | VT-24867-10

Geologic Cross-section Along B-B’



Legend

- Predominantly Silt (ML)
- Silty Sand and Sandy Silts (SM/ML)
- Clay Horizons (CL)
- Sands (SM + SP)

Proposed Building

B-12/ CPT-11 Location of CPT/Boring

SCALE
1 in = 100 ft

GEOLOGIC CROSS-SECTION B-B’

Doris & Patterson
Oxnard, California

Earth Systems
Southern California

September 2017 | VT-24867-10

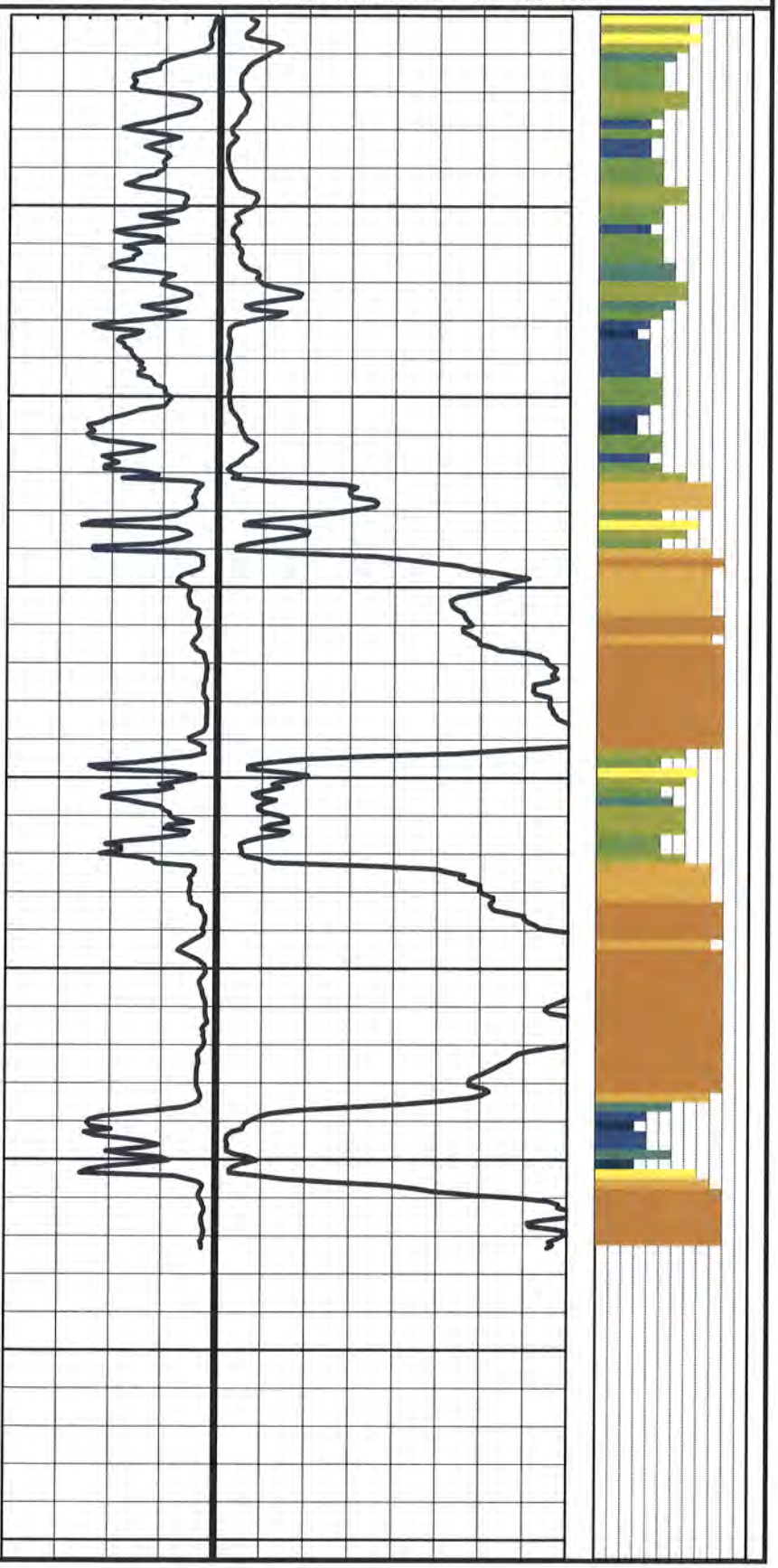
Earth Systems
Southern California

CPT No : CPT-1
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

Cone Penetrometer: **Kehoe Testing and Engineerin**
Truck Mounted Electric Cone
with 23-ton reaction weight
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Silty Sand to Sandy Silt	medium dense
	Sand to Silty Sand	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Clayey Silt to Silty Clay	loose
5	Silty Sand to Sandy Silt	medium dense
	Clayey Silt to Silty Clay	stiff
	Clayey Silt to Silty Clay	stiff
	Clayey Silt to Silty Clay	firm
	Clayey Silt to Silty Clay	very stiff
10	Silty Sand to Sandy Silt	medium dense
	Clayey Silt to Silty Clay	loose
	Clayey Silt to Silty Clay	stiff
	Clayey Silt to Silty Clay	very stiff
	Sandy Silt to Clayey Silt	medium dense
15	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Silty Clay to Clay	stiff
	Silty Clay to Clay	firm
	Silty Clay to Clay	stiff
20	Clayey Silt to Silty Clay	stiff
	Clayey Silt to Silty Clay	stiff
	Clay	very stiff
	Clayey Silt to Silty Clay	hard
	Silty Clay to Clay	stiff
25	Sand to Silty Sand	medium dense
	Sand	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Sand	dense
30	Sand	very dense
	Sand	dense
	Gravelly Sand to Sand	dense
	Sand	dense
	Gravelly Sand to Sand	dense
35	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	very dense
	Sand	dense
40	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Clayey Silt to Silty Clay	very stiff
45	Sand to Silty Sand	medium dense
	Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Sand	very dense
50	Gravelly Sand to Sand	very dense
	Gravelly Sand to Sand	very dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
55	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Clayey Silt to Silty Clay	hard
	Silty Clay to Clay	stiff
60	Clayey Silt to Silty Clay	very stiff
	Sandy Silt to Clayey Silt	hard
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
65		
70		
75		
80		

End of Sounding @ 64.8 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-1 Plot: 1 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Nk: 17

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens Dr (%)	Phi (deg.)	Su (tsf)	OCR
0.15	0.5	38.17	0.17	Sand to Silty Sand	SP/SM	medium dense	100	5.6	7	0.013	0.013	0.17	0.53	1.70	61.3	1.74	61.3	12	12	57	31		
0.30	1.0	28.50	0.29	Silty Sand to Sandy Silt	SM/ML	loose	110	5.2	5	0.039	0.039	0.29	0.59	1.70	45.8	1.94	45.8	9	9	44	30		
0.46	1.5	56.80	0.29	Sand to Silty Sand	SP/SM	medium dense	100	5.7	10	0.065	0.065	0.29	0.51	1.70	91.3	1.66	91.3	17	18	73	32		
0.61	2.0	55.97	0.95	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	11	0.091	0.091	0.96	0.59	1.70	89.9	1.93	109.9	18	22	72	33		
0.76	2.5	36.83	2.07	Sandy Silt to Clayey Silt	ML	medium dense	110	4.5	8	0.119	0.119	2.08	0.70	1.70	59.2	2.29	113.5	14	23	55	31		
0.91	3.0	26.07	2.76	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.1	6	0.146	0.146	2.78	0.75	1.70	41.9	2.49	113.1	11	23	41	30		
1.07	3.5	21.73	3.24	Clayey Silt to Silty Clay	ML/CL	loose	110	3.9	6	0.174	0.174	3.26	0.79	1.70	34.9	2.59	114.5	9	23	33	30		
1.22	4.0	22.90	2.81	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	6	0.201	0.201	2.83	0.77	1.70	36.8	2.53	108.4	10	22	35	30		
1.37	4.5	29.37	0.87	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	6	0.229	0.229	0.88	0.65	1.70	47.2	2.14	72.3	10	14	46	30		
1.52	5.0	27.70	0.89	Silty Sand to Sandy Silt	SM/ML	loose	110	4.8	6	0.256	0.256	0.90	0.66	1.70	44.5	2.17	70.8	10	14	43	30		
1.68	5.5	19.05	2.35	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	5	0.284	0.284	2.38	0.77	1.70	30.6	2.55	92.4	8	18	28	29		
1.83	6.0	11.90	2.94	Silty Clay to Clay	CL	stiff	110	3.6	3	0.311	0.311	3.02	0.84	1.70	19.1	2.77		3				0.68	11.2
1.98	6.5	14.53	1.93	Clayey Silt to Silty Clay	ML/CL	loose	110	3.9	4	0.339	0.339	1.97	0.79	1.70	23.4	2.59	76.4	6	15	16	29		
2.13	7.0	7.60	2.39	Silty Clay to Clay	CL	firm	110	3.4	2	0.366	0.366	2.52	0.88	1.70	12.2	2.88		2				0.43	5.9
2.29	7.5	7.27	1.97	Silty Clay to Clay	CL	firm	110	3.4	2	0.394	0.394	2.08	0.87	1.70	11.7	2.85		2				0.40	5.2
2.44	8.0	9.57	2.12	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.6	3	0.421	0.421	2.22	0.84	1.70	15.4	2.77		3				0.54	6.5
2.59	8.5	13.37	2.86	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.7	4	0.449	0.449	2.96	0.83	1.70	21.5	2.73		4				0.76	8.6
2.74	9.0	22.07	2.83	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	6	0.476	0.476	2.89	0.78	1.70	35.5	2.55	108.0	8	22	34	29		
2.90	9.5	40.20	1.22	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	8	0.504	0.504	1.24	0.65	1.62	61.5	2.13	93.3	12	19	57	31		
3.05	10.0	34.20	1.26	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.7	7	0.531	0.531	1.28	0.67	1.59	51.3	2.20	86.1	10	17	49	30		
3.20	10.5	19.00	2.33	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	5	0.559	0.559	2.40	0.78	1.64	29.5	2.56	91.4	6	18	26	29		
3.35	11.0	17.27	2.32	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.9	4	0.588	0.588	2.40	0.79	1.59	26.0	2.60		4				0.96	8.5
3.51	11.5	14.20	3.24	Silty Clay to Clay	CL	stiff	120	3.6	4	0.618	0.618	3.39	0.84	1.57	21.1	2.77		4				0.80	6.6
3.66	12.0	18.97	2.92	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	5	0.648	0.648	3.02	0.81	1.49	26.7	2.66		5				1.08	8.5
3.81	12.5	22.93	3.10	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.9	6	0.678	0.678	3.19	0.80	1.43	30.9	2.63		6				1.31	9.9
3.96	13.0	23.90	3.76	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	6	0.708	0.708	3.88	0.81	1.39	31.3	2.68		6				1.36	9.8
4.11	13.5	38.17	2.62	Sandy Silt to Clayey Silt	ML	medium dense	120	4.2	9	0.738	0.738	2.67	0.74	1.31	47.1	2.44	116.4	11	23	46	30		
4.27	14.0	44.43	2.05	Sandy Silt to Clayey Silt	ML	medium dense	120	4.4	10	0.768	0.768	2.09	0.71	1.26	52.7	2.33	107.9	11	22	50	30		
4.42	14.5	78.67	1.33	Silty Sand to Sandy Silt	SM/ML	medium dense	120	5.0	16	0.798	0.782	1.34	0.62	1.21	89.6	2.03	120.2	18	24	72	33		
4.57	15.0	64.47	1.44	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.8	13	0.828	0.796	1.46	0.65	1.20	73.2	2.12	109.2	15	22	64	32		
4.72	15.5	45.83	2.15	Sandy Silt to Clayey Silt	ML	medium dense	120	4.4	10	0.858	0.811	2.19	0.71	1.21	52.4	2.35	110.2	12	22	50	31		
4.88	16.0	38.95	3.14	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	10	0.888	0.825	3.21	0.76	1.21	44.5	2.51	125.4	10	25	43	30		
5.03	16.5	9.53	3.44	Silty Clay to Clay	CL	stiff	120	3.1	3	0.918	0.840	3.80	0.92	1.24	11.2	3.02		3				0.51	3.1
5.18	17.0	10.67	3.72	Clay	CL/CH	stiff	120	3.1	3	0.948	0.854	4.08	0.92	1.22	12.3	3.00		3				0.58	3.4
5.33	17.5	9.70	3.40	Silty Clay to Clay	CL	stiff	120	3.1	3	0.978	0.868	3.78	0.92	1.20	11.0	3.02		3				0.52	3.0
5.49	18.0	8.93	3.07	Silty Clay to Clay	CL	firm	120	3.1	3	1.008	0.883	3.46	0.93	1.18	10.0	3.03		3				0.47	2.7
5.64	18.5	10.57	2.94	Silty Clay to Clay	CL	stiff	120	3.2	3	1.038	0.897	3.26	0.91	1.16	11.6	2.96		3				0.57	3.2
5.79	19.0	10.17	2.67	Silty Clay to Clay	CL	stiff	120	3.2	3	1.068	0.912	2.98	0.91	1.14	11.0	2.96		3				0.54	3.0
5.94	19.5	10.83	2.12	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.3	3	1.098	0.926	2.36	0.88	1.13	11.5	2.89		3				0.58	3.2
6.10	20.0	10.27	1.82	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.4	3	1.128	0.940	2.05	0.88	1.11	10.8	2.88		3				0.55	2.9
6.25	20.5	11.60	2.28	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.3	3	1.158	0.955	2.53	0.88	1.10	12.0	2.89		3				0.63	3.3
6.40	21.0	17.60	3.70	Silty Clay to Clay	CL	stiff	120	3.4	5	1.188	0.969	3.97	0.87	1.08	18.0	2.87		5				0.98	5.1
6.55	21.5	22.87	4.75	Clay	CL/CH	very stiff	120	3.4	7	1.218	0.984	5.02	0.87	1.07	23.0	2.85		7				1.29	6.6
6.71	22.0	26.87	4.86	Clay	CL/CH	very stiff	120	3.5	8	1.248	0.998	5.10	0.85	1.05	26.7	2.81		8				1.52	7.7
6.86	22.5	37.90	3.32	Clayey Silt to Silty Clay	ML/CL	loose	120	3.9	10	1.278	1.012	3.43	0.79	1.04	37.1	2.59	120.6	10	24	36	30		
7.01	23.0	33.33	3.56	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	9	1.308	1.027	3.71	0.81	1.02	32.3	2.65		9				1.90	9.4
7.16	23.5	18.90	4.05	Silty Clay to Clay	CL	very stiff	120	3.3	6	1.338	1.041	4.36	0.88	1.01	18.1	2.89		6				1.05	5.1
7.32	24.0	14.47	3.10	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.3	4	1.368	1.056	3.42	0.89	1.00	13.7	2.92		4				0.79	3.7
7.47	24.5	72.37	1.70	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.7	15	1.398	1.070	1.74	0.67	0.99	67.9	2.19	112.2	15	22	61	32		
7.62	25.0	150.70	0.73	Sand	SP	medium dense	120	5.6	27	1.428	1.084	0.74	0.52	0.99	140.6	1.71	147.1	26	29	91	35		
7.77	25.5	168.67	0.82	Sand	SP	medium dense	120	5.7	30	1.458	1.099	0.83	0.52	0.98	156.3	1.71	163.2	28	33	95	36		
7.92	26.0	156.30	1.02	Sand	SP	medium dense	120	5.5	29	1.488	1.113	1.03	0.55	0.97	143.7	1.80	159.0	27	32	92	35		
8.08	26.5	58.38	3.50	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	14	1.518	1.128	3.59	0.76	0.95	52.6	2.49	143.5	13	29	50	31		
8.23	27.0	94.10	1.19	Sand to Silty Sand	SP/SM	medium dense	120	5.0	19	1.548	1.142	1.21	0.61	0.95	84.9	2.02	112.4	17	22	70	32		
8.38	27.5	55.40	1.80	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.5	12	1.578	1.156	1.85	0.71	0.94	49.2	2.32	98.8	12	20	47	31		
8.53	28.0	40.90	3.43	Clayey Silt to Silty Clay	ML/CL	hard	120	3.9	11	1.608	1.171	3.57	0.79	0.92	35.7	2.61		11				2.34	10.1
8.69	28.5	210.63	0.51	Sand	SP	dense	120	6.0	35	1.638	1.185	0.51	0.50	0.94	188.1	1.52	188.1	32	38	100	37		
8.84	29.0	291.17	0.68	Gravelly Sand to Sand	SW	dense	120	6.1	48	1.668	1.200	0.68	0.50	0.94	258.5	1.49	258.5	44	52	100	39		
8.99	29.5	341.30	1.39	Sand	SP	very dense	120	5.7	60	1.698	1.214	1.39	0.51	0.93	300.6	1.69	309.3	54	62	100	41		
9.14	30.0	320.00	1.08	Sand	SP	dense	120	5.8	55	1.728	1.228	1.08	0.50	0.93	280.7	1.62	280.7	50	56	100	40		
9.30	30.5	276.60	1.02	Sand	SP	dense	120	5.8	48	1.758	1.243	1.02	0.50	0.92	241.2	1.64	240.5	43	48	100	39		
9.45	31.0	267.83	0.84	Sand	SP	dense	120	5.9	46	1.788	1.257	0.84	0.50	0.92	232.2	1.59	232.2	41	46	100	39		
9.60	31.5	280.70	0.64	Sand	SP	dense	120	6.1	46	1.818	1.272	0.64	0.50	0.91	242.0	1.50	242.0	41	48	100	39		
9.75	32.0	284.57	0.66	Gravelly Sand to Sand	SW	dense	120	6.1	47	1.848	1.286	0.67	0.50	0.91	244.0	1.50	244.0	41	49	100	39		
9.91	32.5	285.77	0.65	Gravelly Sand to Sand	SW	dense	120	6.1	47	1.878	1.300	0.65	0.50	0.90	243.6	1.50	243.6	41	49	100	39		
10.06	33.0	302.27	0.83	Sand	SP	dense	120	5.9	51	1.908	1.315	0.84	0.50	0.90	256.3	1.56	256.3	44	51	100	39		
10.21	33.5	346.77	0.52	Gravelly Sand to Sand	SW	dense	120	6.3	55	1.938	1.329	0.53	0.50	0.89	292.4	1.38	292.4	48	58	100	40		
10.36	34.0	375.97	0.35	Gravelly Sand to Sand	SW	dense	120	6.6	57	1.968	1.344	0.35	0.50	0.89	315.3	1.24	315.3	49	63	100	40		
10.52	34.5	383.00	0.33	Gravelly Sand to Sand	SW	dense	120	6.6	58	1.998	1.358	0.33	0.50	0.88	319.5	1.22	319.5	50	64	100	41		
10.67	35.0	374.33	0.39	Gravelly Sand to Sand	SW	dense	120	6.5	57	2.028	1.372	0.39	0.50	0.88	310.7	1.27	310.7	49	62	100	40		
10.82	35.5	360.00	0.44	Gravelly Sand to Sand	SW	dense	120	6.4	56	2.058	1.387	0.44	0.50	0.87	297.2	1.32	297.2	48	59	100	40		
10.97	36.0	377.97	0.34	Gravelly Sand to Sand	SW	dense	120	6.6	57	2.088	1.401	0.34	0.50	0.87	310.4	1.24	310.4	49	62	100	40		
11.13	36.5	381.28	0.32	Gravelly Sand to Sand	SW	dense	120	6.6	58	2.118	1.416	0.32	0.50	0.86	311.6	1.22	311.6	48	62	100	40		
11.28	37.0	395.87	0.33	Gravelly Sand to Sand	SW	very dense	120	6.6	60	2.148	1.430	0.33	0.50	0.86	321.8	1.22	321.8	50	64	100	41		
11.43	37.5	445.60	0.51	Gravelly Sand to Sand	SW	very dense	120	6.4	69	2.178	1.444	0.51	0.50	0.86	360.5	1.30	360.5	58	72	100	42		
11.58	38.0	443.80	0.85	Gravelly Sand to Sand	SW	very dense	120	6.1	73	2.208	1.459	0.85	0.50	0.85	357.2	1.47	357.2	60	71	100	42		

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-1 Plot: 1 Density 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

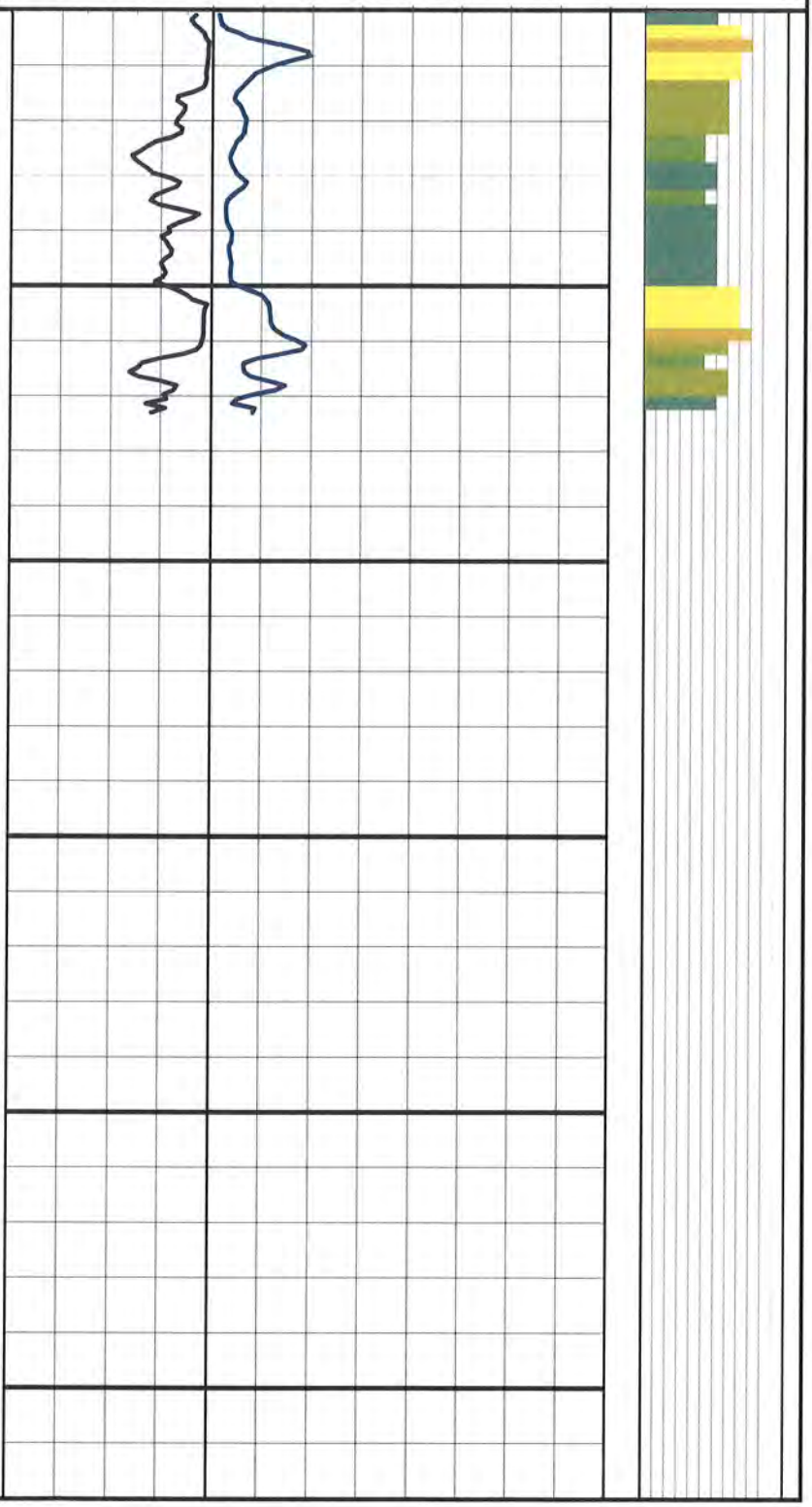
Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
11.73	38.5	326.97	0.43	Gravelly Sand to Sand	SW	dense	120	6.3	52	2.238	1.473	0.43	0.50	0.85	261.9	1.35	261.9	42	52	100	39		
11.89	39.0	104.87	2.04	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.7	22	2.268	1.488	2.08	0.67	0.80	78.9	2.20	131.6	18	26	67	33		
12.04	39.5	45.73	3.62	Clayey Silt to Silty Clay	ML/CL	hard	120	3.8	12	2.298	1.502	3.82	0.81	0.75	32.6	2.66		12				2.60	8.7
12.19	40.0	87.97	0.97	Sand to Silty Sand	SP/SM	medium dense	120	5.0	18	2.328	1.516	1.00	0.63	0.80	66.4	2.05	91.0	14	18	60	31		
12.34	40.5	62.37	1.96	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.4	14	2.358	1.531	2.03	0.72	0.77	45.1	2.37	99.6	12	20	44	31		
12.50	41.0	49.37	3.87	Clayey Silt to Silty Clay	ML/CL	hard	120	3.8	13	2.388	1.545	4.07	0.81	0.74	34.3	2.66		13				2.81	9.1
12.65	41.5	47.77	2.27	Sandy Silt to Clayey Silt	ML	loose	120	4.1	12	2.418	1.560	2.39	0.77	0.74	33.5	2.52	95.8	9	19	31	30		
12.80	42.0	67.77	1.64	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.5	15	2.448	1.574	1.71	0.70	0.76	48.5	2.30	94.6	12	19	47	31		
12.95	42.5	61.90	1.52	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.5	14	2.478	1.588	1.58	0.71	0.75	43.9	2.31	87.5	11	17	43	30		
13.11	43.0	67.13	1.38	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	15	2.508	1.603	1.43	0.69	0.75	47.7	2.26	87.0	12	17	46	31		
13.26	43.5	27.70	3.74	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.4	8	2.538	1.617	4.12	0.88	0.69	18.0	2.88		8				1.53	4.7
13.41	44.0	28.13	3.74	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.4	8	2.568	1.632	4.12	0.88	0.68	18.2	2.87		8				1.56	4.7
13.56	44.5	95.10	1.86	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	21	2.598	1.646	1.91	0.68	0.74	66.6	2.23	115.8	16	23	60	32		
13.72	45.0	264.37	0.79	Sand	SP	dense	120	5.8	45	2.628	1.660	0.79	0.50	0.80	199.5	1.62	199.5	35	40	100	37		
13.87	45.5	287.23	0.92	Sand	SP	dense	120	5.8	50	2.658	1.675	0.93	0.50	0.79	215.5	1.64	215.4	38	43	100	38		
14.02	46.0	300.63	0.95	Sand	SP	dense	120	5.8	52	2.688	1.689	0.96	0.50	0.79	224.7	1.64	224.0	40	45	100	38		
14.17	46.5	313.13	0.89	Sand	SP	dense	120	5.8	54	2.718	1.704	0.90	0.50	0.79	233.2	1.61	233.2	41	47	100	39		
14.33	47.0	326.83	0.44	Gravelly Sand to Sand	SW	dense	120	6.3	52	2.748	1.718	0.45	0.50	0.78	242.4	1.39	242.4	40	48	100	38		
14.48	47.5	355.77	0.37	Gravelly Sand to Sand	SW	dense	120	6.4	55	2.778	1.732	0.37	0.50	0.78	262.8	1.31	262.8	42	53	100	39		
14.63	48.0	395.37	0.43	Gravelly Sand to Sand	SW	dense	120	6.4	62	2.808	1.747	0.43	0.50	0.78	290.8	1.32	290.8	47	58	100	40		
14.78	48.5	417.77	0.85	Gravelly Sand to Sand	SW	very dense	120	6.0	69	2.838	1.761	0.86	0.50	0.78	306.1	1.52	306.1	52	61	100	41		
14.94	49.0	491.97	1.25	Sand	SP	very dense	120	5.9	84	2.868	1.776	1.26	0.50	0.77	358.9	1.61	358.9	63	72	100	43		
15.09	49.5	474.23	0.64	Gravelly Sand to Sand	SW	very dense	120	6.3	76	2.898	1.790	0.64	0.50	0.77	344.6	1.39	344.6	56	69	100	42		
15.24	50.0	458.57	0.34	Gravelly Sand to Sand	SW	very dense	120	6.6	69	2.928	1.804	0.34	0.50	0.77	331.9	1.21	331.9	52	66	100	41		
15.39	50.5	471.73	0.49	Gravelly Sand to Sand	SW	very dense	120	6.4	73	2.958	1.819	0.49	0.50	0.76	340.1	1.31	340.1	54	68	100	41		
15.54	51.0	419.03	0.49	Gravelly Sand to Sand	SW	dense	120	6.4	66	2.987	1.833	0.49	0.50	0.76	300.9	1.35	300.9	49	60	100	40		
15.70	51.5	407.20	0.39	Gravelly Sand to Sand	SW	dense	120	6.5	63	3.017	1.847	0.40	0.50	0.76	291.3	1.30	291.3	46	58	100	40		
15.85	52.0	378.67	0.33	Gravelly Sand to Sand	SW	dense	120	6.5	58	3.047	1.862	0.33	0.50	0.75	269.8	1.28	269.8	43	54	100	39		
16.00	52.5	398.60	0.31	Gravelly Sand to Sand	SW	dense	120	6.6	61	3.077	1.876	0.31	0.50	0.75	282.9	1.24	282.9	44	57	100	39		
16.15	53.0	441.37	0.36	Gravelly Sand to Sand	SW	dense	120	6.6	67	3.107	1.891	0.36	0.50	0.75	312.1	1.25	312.1	49	62	100	40		
16.31	53.5	433.47	0.40	Gravelly Sand to Sand	SW	dense	120	6.5	67	3.137	1.905	0.40	0.50	0.75	305.3	1.29	305.3	48	61	100	40		
16.46	54.0	402.17	0.39	Gravelly Sand to Sand	SW	dense	120	6.4	62	3.167	1.919	0.39	0.50	0.74	282.2	1.30	282.2	45	56	100	40		
16.61	54.5	345.97	0.59	Gravelly Sand to Sand	SW	dense	120	6.1	57	3.197	1.934	0.59	0.50	0.74	241.9	1.47	241.9	41	48	100	39		
16.76	55.0	327.13	0.60	Gravelly Sand to Sand	SW	dense	120	6.1	54	3.227	1.948	0.60	0.50	0.74	227.9	1.50	227.9	39	46	100	38		
16.92	55.5	305.63	0.65	Gravelly Sand to Sand	SW	dense	120	6.0	51	3.257	1.963	0.66	0.50	0.73	212.1	1.54	212.1	37	42	100	38		
17.07	56.0	288.20	0.65	Gravelly Sand to Sand	SW	dense	120	5.9	49	3.287	1.977	0.66	0.50	0.73	199.3	1.56	199.3	35	40	100	37		
17.22	56.5	306.03	0.56	Gravelly Sand to Sand	SW	dense	120	6.1	51	3.317	1.991	0.56	0.50	0.73	210.8	1.50	210.8	36	42	100	37		
17.37	57.0	253.13	0.61	Sand	SP	dense	120	5.9	43	3.347	2.006	0.61	0.50	0.73	173.8	1.59	173.8	30	35	100	36		
17.53	57.5	89.30	2.71	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	21	3.377	2.020	2.81	0.74	0.62	52.4	2.42	125.3	15	25	50	32		
17.68	58.0	34.50	4.80	Silty Clay to Clay	CL	very stiff	120	3.2	11	3.407	2.035	5.33	0.90	0.56	18.1	2.95		11				1.91	4.6
17.83	58.5	19.07	4.51	Clay	CL/CH	very stiff	120	2.8	7	3.437	2.049	5.51	0.97	0.53	9.5	3.17		7				1.00	2.3
17.98	59.0	11.00	2.73	Silty Clay to Clay	CL	stiff	120	2.6	4	3.467	2.063	3.98	1.00	0.51	5.3	3.29		4				0.53	1.1
18.14	59.5	14.17	3.42	Silty Clay to Clay	CL	stiff	120	2.7	5	3.497	2.078	4.54	1.00	0.51	6.8	3.24		5				0.71	1.5
18.29	60.0	36.80	2.20	Sandy Silt to Clayey Silt	ML	hard	120	3.7	10	3.527	2.092	2.43	0.83	0.57	19.8	2.70		10				2.04	4.8
18.44	60.5	15.73	4.75	Clay	CL/CH	stiff	120	2.6	6	3.557	2.107	6.14	1.00	0.50	7.5	3.28		6				0.80	1.7
18.59	61.0	85.07	0.97	Sand to Silty Sand	SP/SM	medium dense	120	4.8	18	3.587	2.121	1.01	0.66	0.63	50.9	2.15	78.8	12	16	49	31		
18.75	61.5	223.50	0.46	Sand	SP	medium dense	120	5.9	38	3.617	2.135	0.46	0.50	0.70	148.7	1.57	148.7	26	30	93	35		
18.90	62.0	339.00	0.51	Gravelly Sand to Sand	SW	dense	120	6.1	55	3.647	2.150	0.52	0.50	0.70	224.8	1.46	224.8	36	45	100	38		
19.05	62.5	393.53	0.37	Gravelly Sand to Sand	SW	dense	120	6.4	61	3.677	2.164	0.38	0.50	0.70	260.1	1.32	260.1	42	52	100	39		
19.20	63.0	399.57	0.44	Gravelly Sand to Sand	SW	dense	120	6.3	63	3.707	2.179	0.44	0.50	0.70	263.2	1.36	263.2	43	53	100	39		
19.35	63.5	365.87	0.40	Gravelly Sand to Sand	SW	dense	120	6.3	58	3.737	2.193	0.40	0.50	0.69	240.2	1.37	240.2	39	48	100	38		
19.51	64.0	395.70	0.39	Gravelly Sand to Sand	SW	dense	120	6.4	62	3.767	2.207	0.39	0.50	0.69	258.9	1.34	258.9	42	52	100	39		
19.66	64.5	379.53	0.46	Gravelly Sand to Sand	SW	dense	120	6.3	61	3.797	2.222	0.47	0.50	0.69	247.5	1.40	247.5	41	50	100	39		

Earth Systems
Southern California

CPT No: CPT-2
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: **Kehoe Testing and Engineering**
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Silty Sand to Sandy Silt	loose
	Sand	medium dense
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
5	Clayey Silt to Silty Clay	loose
	Sandy Silt to Clayey Silt	loose
	Sandy Silt to Clayey Silt	loose
	Sandy Silt to Clayey Silt	loose
	Sandy Silt to Clayey Silt	loose
10	Sand to Silty Sand	medium dense
	Sand to Silty Sand	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
15		
20		
25		
30		
35		
40		
45		
50		



End of Sounding @ 14.8 feet

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION (based on Robertson & Campanella, 1989)

Project: Doris and Patterson Project No: VT-24867-10 Date: 08/28/17

CPT SOUNDING: CPT-2 Plot: 2 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel Dens Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	9.57	0.70	Sandy Silt to Clayey Silt	ML	very loose	110	4.1	2	0.014	0.014	0.70	0.76	1.70	15.4	2.52	44.2	4	9	-1	28		
0.30	1.0	39.33	0.26	Sand to Silty Sand	SP/SM	medium dense	100	5.5	7	0.040	0.040	0.26	0.54	1.70	63.2	1.78	63.2	12	13	58	31		
0.46	1.5	90.03	0.17	Sand	SP	medium dense	100	6.3	14	0.065	0.065	0.17	0.50	1.70	144.7	1.39	144.7	24	29	92	35		
0.61	2.0	63.87	0.22	Sand to Silty Sand	SP/SM	medium dense	100	5.9	11	0.090	0.090	0.22	0.50	1.70	102.6	1.57	102.6	18	21	78	33		
0.76	2.5	37.67	0.26	Sand to Silty Sand	SP/SM	medium dense	100	5.5	7	0.115	0.115	0.26	0.55	1.70	60.5	1.80	60.5	12	12	56	31		
0.91	3.0	25.10	0.83	Silty Sand to Sandy Silt	SM/ML	loose	110	4.7	5	0.141	0.141	0.83	0.66	1.70	40.3	2.19	65.9	9	13	39	30		
1.07	3.5	26.23	1.20	Silty Sand to Sandy Silt	SM/ML	loose	110	4.6	6	0.169	0.169	1.21	0.69	1.70	42.2	2.26	76.7	10	15	41	30		
1.22	4.0	32.50	1.35	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.7	7	0.196	0.196	1.36	0.67	1.70	52.2	2.21	88.9	12	18	50	31		
1.37	4.5	30.67	1.35	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.6	7	0.224	0.224	1.36	0.68	1.70	49.3	2.23	86.4	11	17	47	30		
1.52	5.0	21.90	2.56	Clayey Silt to Silty Clay	ML/CL	loose	110	4.1	5	0.251	0.251	2.59	0.77	1.70	35.2	2.52	101.7	9	20	33	30		
1.68	5.5	18.88	2.91	Clayey Silt to Silty Clay	ML/CL	very stiff	110	3.9	5	0.279	0.279	2.95	0.79	1.70	30.3	2.61		5				1.09	20.0
1.83	6.0	29.00	1.77	Sandy Silt to Clayey Silt	ML	medium dense	110	4.4	7	0.306	0.306	1.79	0.71	1.70	46.6	2.33	94.9	11	19	45	30		
1.98	6.5	25.00	1.86	Sandy Silt to Clayey Silt	ML	loose	110	4.3	6	0.334	0.334	1.88	0.73	1.70	40.2	2.39	91.4	10	18	39	30		
2.13	7.0	13.73	1.95	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.9	4	0.361	0.361	2.00	0.80	1.70	22.1	2.61		4				0.79	11.1
2.29	7.5	13.80	0.88	Sandy Silt to Clayey Silt	ML	loose	110	4.2	3	0.389	0.389	0.91	0.74	1.70	22.2	2.43	54.0	5	11	14	28		
2.44	8.0	18.33	1.80	Sandy Silt to Clayey Silt	ML	loose	110	4.1	4	0.416	0.416	1.84	0.76	1.70	29.5	2.49	80.3	7	16	26	29		
2.59	8.5	17.23	1.72	Sandy Silt to Clayey Silt	ML	loose	110	4.1	4	0.444	0.444	1.76	0.76	1.70	27.7	2.50	77.0	6	15	24	29		
2.74	9.0	16.00	1.85	Sandy Silt to Clayey Silt	ML	loose	110	4.1	4	0.471	0.471	1.90	0.76	1.70	28.9	2.51	80.9	6	16	25	29		
2.90	9.5	18.07	1.90	Sandy Silt to Clayey Silt	ML	loose	110	4.1	4	0.499	0.499	1.95	0.76	1.70	29.0	2.51	82.2	6	16	26	29		
3.05	10.0	26.03	1.79	Sandy Silt to Clayey Silt	ML	loose	110	4.4	6	0.526	0.526	1.82	0.72	1.65	43.7	2.35	93.2	9	19	42	30		
3.20	10.5	53.47	0.63	Sand to Silty Sand	SP/SM	medium dense	100	5.3	10	0.553	0.553	0.64	0.58	1.46	73.7	1.90	87.7	14	18	64	31		
3.35	11.0	58.03	0.28	Sand to Silty Sand	SP/SM	medium dense	120	5.6	10	0.580	0.580	0.28	0.53	1.38	75.4	1.73	75.4	14	15	65	31		
3.51	11.5	61.40	0.30	Sand to Silty Sand	SP/SM	medium dense	120	5.6	11	0.610	0.610	0.31	0.53	1.34	77.7	1.73	77.7	14	16	66	31		
3.66	12.0	83.93	0.38	Sand	SP	medium dense	120	5.7	15	0.640	0.640	0.38	0.51	1.29	102.4	1.66	102.4	18	20	78	33		
3.81	12.5	68.13	1.26	Silty Sand to Sandy Silt	SM/ML	medium dense	120	5.0	14	0.670	0.670	1.27	0.62	1.33	85.4	2.03	114.5	17	23	70	32		
3.96	13.0	32.07	2.98	Clayey Silt to Silty Clay	ML/CL	loose	120	4.1	8	0.700	0.700	3.05	0.77	1.37	41.6	2.52	118.5	9	24	40	30		
4.11	13.5	56.50	2.10	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	12	0.730	0.730	2.13	0.68	1.29	68.8	2.25	123.7	14	25	61	31		
4.27	14.0	43.70	1.72	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.5	10	0.760	0.760	1.75	0.70	1.26	52.0	2.28	98.8	11	20	50	30		
4.42	14.5	34.93	2.27	Sandy Silt to Clayey Silt	ML	loose	120	4.2	8	0.790	0.774	2.32	0.74	1.26	41.6	2.44	102.8	9	21	40	30		

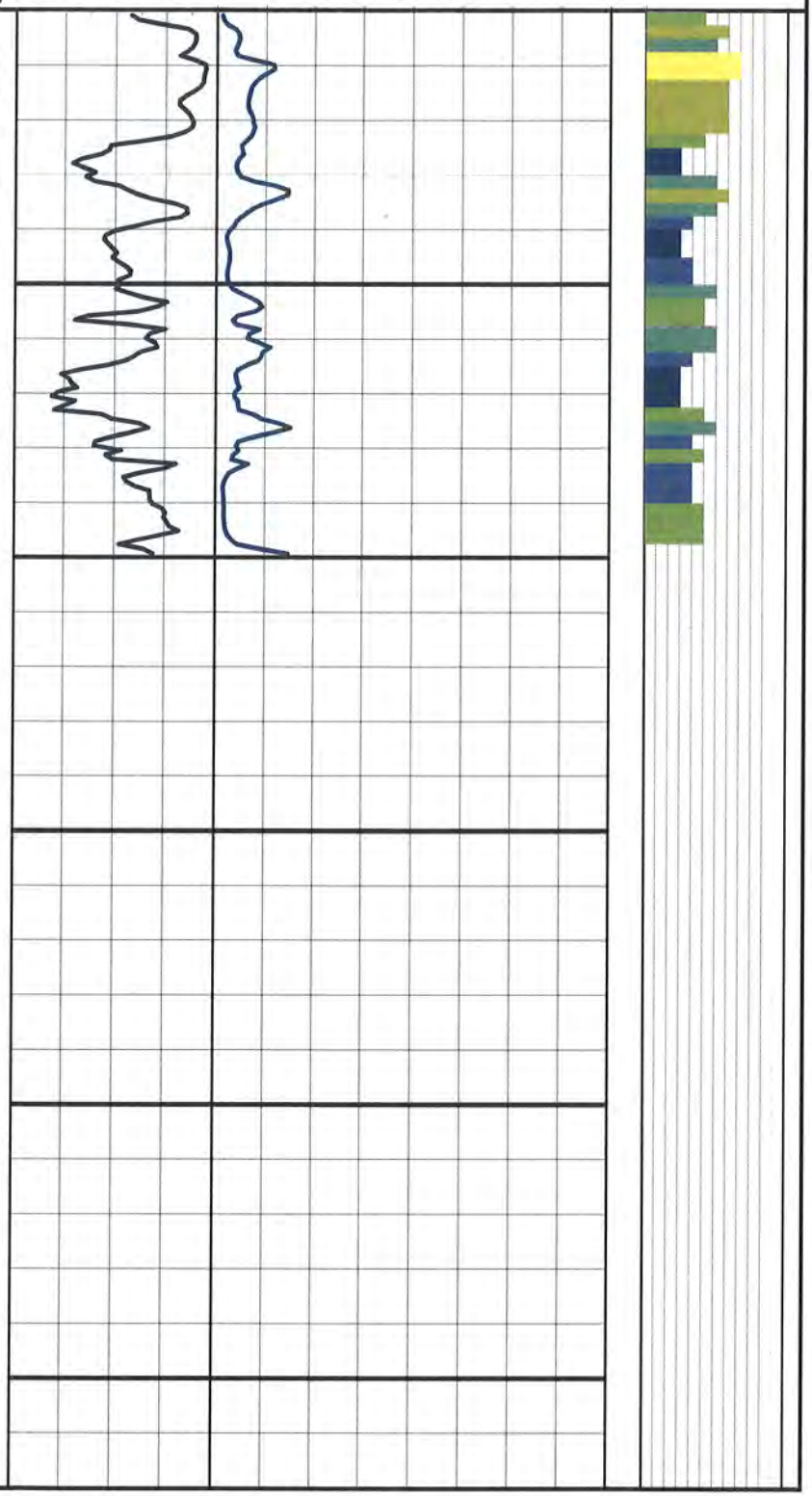
Earth Systems
Southern California

CPT No: CPT-3
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: **Kehoe Testing and Engineering**
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Sandy Silt to Clayey Silt	loose
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
5	Sandy Silt to Clayey Silt	medium dense
	Clay	very stiff
	Sandy Silt to Clayey Silt	medium dense
	Clayey Silt to Silty Clay	loose
	Clay	stiff
10	Silty Clay to Clay	stiff
	Clayey Silt to Silty Clay	medium dense
	Clayey Silt to Silty Clay	loose
	Clayey Silt to Silty Clay	medium dense
	Clay	very stiff
15	Silty Clay to Clay	hard
	Clayey Silt to Silty Clay	medium dense
	Clayey Silt to Silty Clay	stiff
	Silty Clay to Clay	firm
	Clayey Silt to Silty Clay	stiff
20		
25		
30		
35		
40		
45		
50		

End of Sounding @ 20.0 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-3 Plot: 3 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

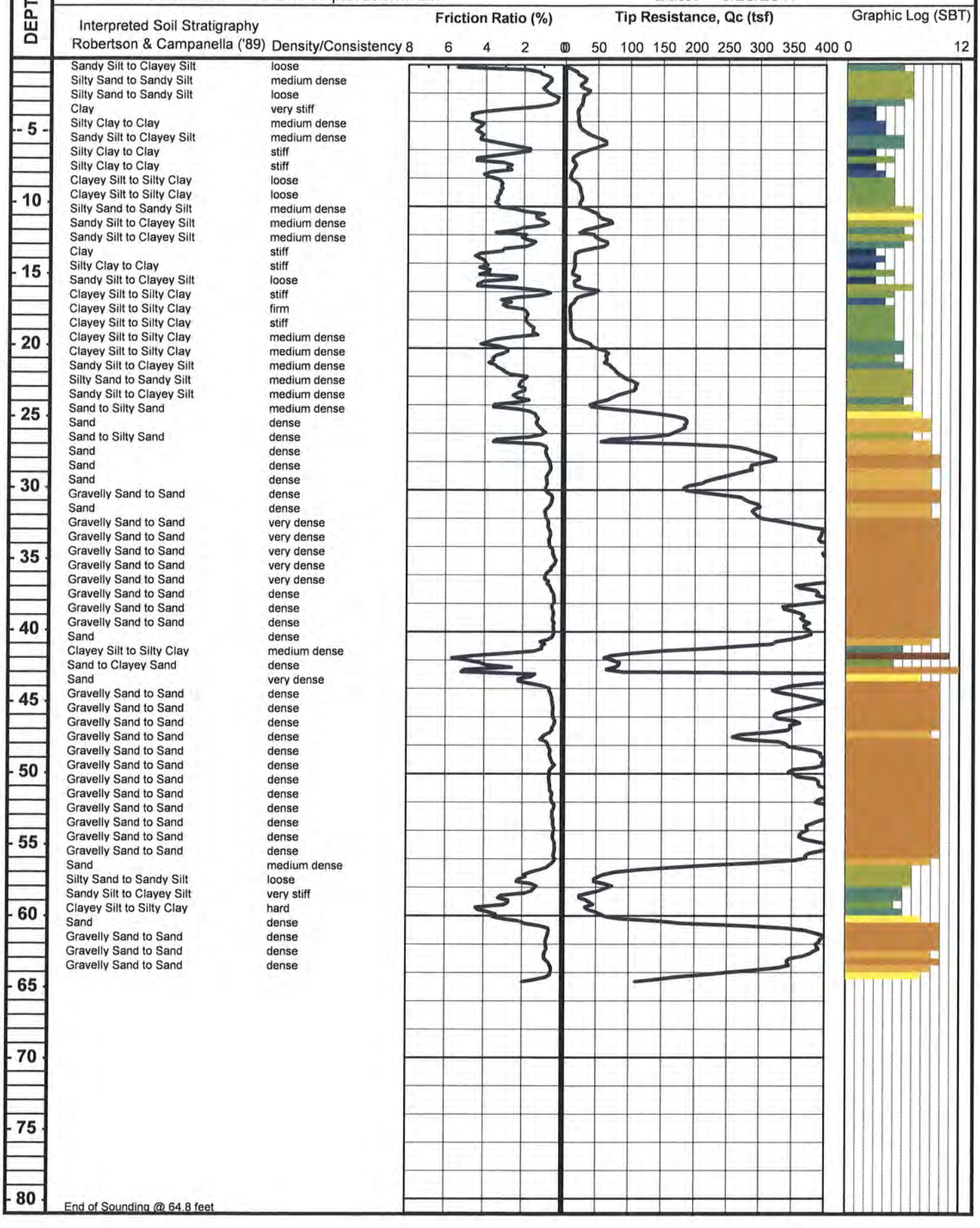
Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	11.37	2.15	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.7	3	0.014	0.014	2.15	0.82	1.70	18.3	2.70		3				0.67	####
0.30	1.0	22.03	0.86	Silty Sand to Sandy Silt	SM/ML	loose	110	4.6	5	0.041	0.041	0.86	0.68	1.70	35.4	2.24	62.9	8	13	34	29		
0.46	1.5	19.53	1.19	Sandy Silt to Clayey Silt	ML	loose	110	4.4	4	0.069	0.069	1.19	0.72	1.70	31.4	2.36	67.9	8	14	29	29		
0.61	2.0	50.97	0.59	Sand to Silty Sand	SP/SM	medium dense	100	5.4	9	0.095	0.095	0.59	0.56	1.70	81.9	1.85	93.5	16	19	69	32		
0.76	2.5	43.57	0.51	Sand to Silty Sand	SP/SM	medium dense	100	5.3	8	0.120	0.120	0.52	0.57	1.70	70.0	1.87	81.5	14	16	62	31		
0.91	3.0	33.60	0.94	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	7	0.146	0.146	0.94	0.64	1.70	54.0	2.11	79.4	12	16	51	31		
1.07	3.5	31.43	1.41	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.6	7	0.174	0.174	1.42	0.68	1.70	50.5	2.24	89.0	12	18	48	31		
1.22	4.0	35.77	1.01	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	7	0.201	0.201	1.01	0.64	1.70	57.5	2.10	84.1	12	17	54	31		
1.37	4.5	35.90	1.34	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.7	8	0.229	0.229	1.35	0.66	1.70	57.7	2.18	93.2	13	19	54	31		
1.52	5.0	26.53	3.79	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.0	7	0.256	0.256	3.83	0.78	1.70	42.6	2.58	135.8	11	27	41	30		
1.68	5.5	22.30	5.22	Clay	CL/CH	very stiff	110	3.7	6	0.284	0.284	5.29	0.83	1.70	35.8	2.73		6				1.30	23.3
1.83	6.0	27.30	4.94	Clay	CL/CH	very stiff	110	3.8	7	0.311	0.311	5.00	0.80	1.70	43.9	2.65		7				1.59	26.0
1.98	6.5	68.07	3.50	Sandy Silt to Clayey Silt	ML	medium dense	110	4.5	15	0.339	0.339	3.52	0.69	1.70	109.4	2.27	204.1	25	41	81	35		
2.13	7.0	48.93	1.79	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	10	0.366	0.366	1.81	0.66	1.70	78.6	2.16	123.6	17	25	67	32		
2.29	7.5	25.00	1.67	Sandy Silt to Clayey Silt	ML	loose	110	4.4	6	0.394	0.394	1.70	0.72	1.70	40.2	2.36	87.1	9	17	39	30		
2.44	8.0	13.57	3.87	Silty Clay to Clay	CL	stiff	110	3.5	4	0.421	0.421	3.99	0.85	1.70	21.8	2.80		4				0.77	9.4
2.59	8.5	11.67	4.27	Clay	CL/CH	stiff	110	3.4	3	0.449	0.449	4.44	0.88	1.70	18.7	2.88		3				0.66	7.5
2.74	9.0	13.23	3.98	Clay	CL/CH	stiff	110	3.5	4	0.476	0.476	4.13	0.86	1.70	21.3	2.82		4				0.75	8.0
2.90	9.5	11.23	3.47	Silty Clay to Clay	CL	stiff	110	3.4	3	0.504	0.504	3.63	0.86	1.70	18.0	2.84		3				0.63	6.4
3.05	10.0	13.87	3.89	Silty Clay to Clay	CL	stiff	110	3.5	4	0.531	0.531	4.04	0.85	1.70	22.3	2.80		4				0.78	7.5
3.20	10.5	34.33	2.73	Sandy Silt to Clayey Silt	ML	medium dense	110	4.3	8	0.559	0.559	2.78	0.74	1.60	51.9	2.42	123.9	11	25	50	30		
3.35	11.0	35.83	3.48	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	9	0.588	0.588	3.54	0.76	1.56	52.8	2.49	142.7	11	29	50	30		
3.51	11.5	26.93	3.68	Clayey Silt to Silty Clay	ML/CL	loose	120	3.9	7	0.618	0.618	3.76	0.79	1.53	39.0	2.60	129.4	9	26	38	30		
3.66	12.0	36.37	2.60	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	9	0.648	0.648	2.64	0.74	1.44	49.3	2.42	118.1	11	24	48	30		
3.81	12.5	49.10	2.85	Sandy Silt to Clayey Silt	ML	medium dense	120	4.4	11	0.678	0.678	2.89	0.72	1.38	63.9	2.37	139.1	14	28	58	31		
3.96	13.0	31.77	4.41	Silty Clay to Clay	CL	very stiff	120	3.8	8	0.708	0.708	4.51	0.80	1.38	41.4	2.64		8				1.83	13.2
4.11	13.5	20.73	5.89	Clay	CL/CH	very stiff	120	3.4	6	0.738	0.738	6.11	0.87	1.37	26.8	2.86		6				1.18	8.1
4.27	14.0	20.53	6.09	Clay	CL/CH	very stiff	120	3.4	6	0.768	0.768	6.32	0.88	1.33	25.7	2.89		6				1.16	7.7
4.42	14.5	22.63	5.99	Clay	CL/CH	very stiff	120	3.4	7	0.798	0.782	6.21	0.87	1.30	27.8	2.86		7				1.29	8.4
4.57	15.0	49.40	3.87	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	12	0.828	0.796	3.94	0.76	1.24	57.9	2.49	158.0	13	32	54	31		
4.72	15.5	58.13	3.34	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	14	0.858	0.811	3.39	0.73	1.21	66.7	2.40	155.0	15	31	60	32		
4.88	16.0	21.05	4.41	Silty Clay to Clay	CL	very stiff	120	3.5	6	0.888	0.825	4.61	0.85	1.24	24.6	2.81		6				1.19	7.3
5.03	16.5	23.77	2.54	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.9	6	0.918	0.840	2.65	0.80	1.20	27.0	2.62		6				1.35	8.2
5.18	17.0	10.90	3.38	Silty Clay to Clay	CL	stiff	120	3.2	3	0.948	0.854	3.70	0.91	1.21	12.5	2.97		3				0.59	3.5
5.33	17.5	7.40	2.80	Silty Clay to Clay	CL	firm	120	3.0	2	0.978	0.868	3.22	0.94	1.21	8.4	3.08		2				0.38	2.2
5.49	18.0	8.27	2.38	Silty Clay to Clay	CL	firm	120	3.1	3	1.008	0.883	2.72	0.92	1.18	9.2	3.00		3				0.43	2.5
5.64	18.5	8.60	1.98	Clayey Silt to Silty Clay	ML/CL	firm	120	3.2	3	1.038	0.897	2.25	0.90	1.16	9.4	2.95		3				0.45	2.5
5.79	19.0	10.63	1.83	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.4	3	1.068	0.912	2.03	0.87	1.14	11.4	2.85		3				0.57	3.1
5.94	19.5	27.73	3.24	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	7	1.098	0.926	3.37	0.81	1.11	29.2	2.66		7				1.58	8.6

Earth Systems
Southern California

CPT No : CPT-4
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

Cone Penetrometer: **Kehoe Testing and Engineerin**
Truck Mounted Electric Cone
with 23-ton reaction weight
Date: 8/28/2017



End of Sounding @ 64.8 feet

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-4 Plot: 4 Density: 1 SPT N

Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	15.67	1.40	Sandy Silt to Clayey Silt	ML	loose	110	4.1	4	0.014	0.014	1.41	0.75	1.70	25.2	2.48	67.2	6	13	20	29	
0.30	1.0	29.37	0.65	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	6	0.041	0.041	0.65	0.63	1.70	47.2	2.07	66.4	10	13	46	30	
0.46	1.5	25.13	0.90	Silty Sand to Sandy Silt	SM/ML	loose	110	4.7	5	0.069	0.069	0.90	0.67	1.70	40.4	2.20	67.5	9	14	39	30	
0.61	2.0	33.30	0.71	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.0	7	0.096	0.096	0.71	0.62	1.70	53.5	2.05	73.0	11	15	51	30	
0.76	2.5	26.17	0.27	Silty Sand to Sandy Silt	SM/ML	loose	110	5.2	5	0.124	0.124	0.27	0.60	1.70	42.0	1.96	42.0	9	8	41	29	
0.91	3.0	22.17	1.58	Sandy Silt to Clayey Silt	ML	loose	110	4.3	5	0.151	0.151	1.59	0.73	1.70	35.6	2.39	80.6	9	16	34	30	
1.07	3.5	18.77	4.51	Clay	CL/CH	very stiff	110	3.6	5	0.179	0.179	4.55	0.83	1.70	30.2	2.74		5				1.09	31.2
1.22	4.0	19.67	4.50	Clay	CL/CH	very stiff	110	3.7	5	0.206	0.206	4.54	0.83	1.70	31.6	2.72		5				1.14	28.3
1.37	4.5	23.10	4.38	Silty Clay to Clay	CL	very stiff	110	3.8	6	0.234	0.234	4.42	0.81	1.70	37.1	2.66		6				1.35	29.3
1.52	5.0	38.50	4.24	Silty Clay to Clay	CL	medium dense	110	4.1	9	0.261	0.261	4.27	0.76	1.70	61.9	2.50	170.6	16	34	57	32		
1.68	5.5	58.23	3.34	Sandy Silt to Clayey Silt	ML	medium dense	110	4.5	13	0.289	0.289	3.36	0.70	1.70	93.6	2.30	182.7	22	37	74	34		
1.83	6.0	31.10	1.98	Sandy Silt to Clayey Silt	ML	medium dense	110	4.4	7	0.316	0.316	2.00	0.71	1.70	50.0	2.33	103.2	12	21	48	31		
1.98	6.5	12.23	4.15	Clay	CL/CH	stiff	110	3.4	4	0.344	0.344	4.27	0.87	1.70	19.7	2.86		4				0.70	10.4
2.13	7.0	14.60	2.86	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.7	4	0.371	0.371	2.94	0.82	1.70	23.5	2.69		4				0.84	11.5
2.29	7.5	9.70	3.51	Clay	CL/CH	stiff	110	3.3	3	0.399	0.399	3.66	0.88	1.70	15.6	2.89		3				0.55	7.0
2.44	8.0	10.40	3.49	Silty Clay to Clay	CL	stiff	110	3.4	3	0.426	0.426	3.64	0.87	1.70	16.7	2.87		3				0.59	7.0
2.59	8.5	20.80	3.16	Clayey Silt to Silty Clay	ML/CL	very stiff	110	3.9	5	0.454	0.454	3.23	0.79	1.70	33.4	2.60		5				1.20	13.5
2.74	9.0	23.60	3.28	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	6	0.481	0.481	3.34	0.78	1.70	37.9	2.57	120.0	9	24	37	29		
2.90	9.5	24.17	3.42	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	6	0.509	0.509	3.50	0.78	1.70	38.8	2.56	124.1	9	25	38	29		
3.05	10.0	26.33	3.02	Clayey Silt to Silty Clay	ML/CL	loose	110	4.1	6	0.536	0.536	3.08	0.77	1.68	41.9	2.52	119.6	9	24	41	30		
3.20	10.5	47.17	1.44	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	10	0.564	0.564	1.46	0.65	1.51	67.3	2.15	104.1	13	21	60	31		
3.35	11.0	65.77	1.02	Sand to Silty Sand	SP/SM	medium dense	120	5.2	13	0.593	0.593	1.03	0.60	1.41	88.0	1.96	110.2	17	22	71	32		
3.51	11.5	43.60	1.84	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	10	0.623	0.623	1.87	0.69	1.44	59.4	2.26	108.2	12	22	55	31		
3.68	12.0	37.57	2.49	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	9	0.653	0.653	2.54	0.73	1.42	50.5	2.40	116.8	11	23	49	30		
3.81	12.5	60.10	1.63	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.8	13	0.683	0.683	1.65	0.65	1.33	75.6	2.14	116.6	15	23	65	32		
3.96	13.0	40.20	2.68	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	9	0.713	0.713	2.73	0.74	1.34	50.8	2.42	121.7	11	24	49	30		
4.11	13.5	14.63	4.38	Clay	CL/CH	stiff	120	3.3	4	0.743	0.743	4.61	0.88	1.37	18.9	2.89		4				0.82	5.6
4.27	14.0	14.37	3.99	Silty Clay to Clay	CL	stiff	120	3.4	4	0.773	0.773	4.22	0.88	1.32	17.9	2.88		4				0.80	5.3
4.42	14.5	12.43	3.98	Clay	CL/CH	stiff	120	3.2	4	0.803	0.787	4.25	0.90	1.30	15.3	2.94		4				0.69	4.4
4.57	15.0	17.77	3.05	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.6	5	0.833	0.801	3.20	0.84	1.26	21.2	2.75		5				1.00	6.3
4.72	15.5	14.23	4.31	Clay	CL/CH	stiff	120	3.3	4	0.863	0.816	4.58	0.89	1.26	17.0	2.93		4				0.79	4.9
4.88	16.0	38.23	1.29	Silty Sand to Sandy Silt	SM/ML	loose	120	4.5	8	0.893	0.830	1.32	0.69	1.18	42.7	2.28	80.0	9	16	42	30		
5.03	16.5	15.53	2.74	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.5	4	0.923	0.845	2.92	0.85	1.21	17.8	2.79		4				0.86	5.2
5.18	17.0	8.03	2.67	Silty Clay to Clay	CL	firm	120	3.1	3	0.953	0.859	3.02	0.93	1.21	9.2	3.03		3				0.42	2.5
5.33	17.5	7.80	1.84	Clayey Silt to Silty Clay	ML/CL	firm	120	3.2	2	0.983	0.873	2.10	0.91	1.19	8.8	2.96		2				0.41	2.3
5.49	18.0	8.37	1.67	Clayey Silt to Silty Clay	ML/CL	firm	120	3.2	3	1.013	0.888	2.13	0.90	1.17	9.3	2.94		3				0.44	2.5
5.64	18.5	8.57	1.56	Clayey Silt to Silty Clay	ML/CL	firm	120	3.3	3	1.043	0.902	1.77	0.89	1.15	9.3	2.90		3				0.45	2.5
5.79	19.0	11.17	1.78	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.5	3	1.073	0.917	1.97	0.87	1.13	12.0	2.83		3				0.60	3.3
5.94	19.5	29.33	3.88	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.7	8	1.103	0.931	4.03	0.82	1.11	30.8	2.69		8				1.67	9.1
6.10	20.0	50.70	2.99	Sandy Silt to Clayey Silt	ML	medium dense	120	4.2	12	1.133	0.945	3.06	0.74	1.09	52.1	2.45	130.8	12	26	50	31		
6.25	20.5	64.17	3.37	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	15	1.163	0.960	3.43	0.73	1.07	65.1	2.41	154.3	15	31	59	32		
6.40	21.0	64.43	3.63	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.2	15	1.193	0.974	3.70	0.74	1.06	64.7	2.44	160.4	15	32	59	32		
6.55	21.5	75.37	3.13	Sandy Silt to Clayey Silt	ML	medium dense	120	4.4	17	1.223	0.989	3.19	0.71	1.05	74.8	2.35	158.2	17	32	65	32		
6.71	22.0	88.13	2.17	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.7	19	1.253	1.003	2.20	0.67	1.04	86.3	2.19	141.6	19	28	71	33		
6.86	22.5	107.47	2.19	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.8	22	1.283	1.017	2.22	0.65	1.03	104.2	2.14	158.7	22	32	79	34		
7.01	23.0	102.37	2.07	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.8	21	1.313	1.032	2.09	0.65	1.02	98.3	2.13	149.6	21	30	76	34		
7.16	23.5	73.13	2.21	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	16	1.343	1.046	2.25	0.69	1.01	69.7	2.26	127.8	16	26	62	32		
7.32	24.0	42.93	3.10	Sandy Silt to Clayey Silt	ML	medium dense	120	4.0	11	1.373	1.061	3.20	0.77	1.00	40.5	2.54	120.3	10	24	39	30		
7.47	24.5	110.23	1.77	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.9	22	1.403	1.075	1.79	0.63	0.99	103.2	2.07	145.1	22	29	78	34		
7.62	25.0	178.03	1.30	Sand to Silty Sand	SP/SM	dense	120	5.4	33	1.433	1.089	1.31	0.56	0.98	165.6	1.83	187.1	32	37	98	36		
7.77	25.5	184.20	1.24	Sand	SP	dense	120	5.5	34	1.463	1.104	1.25	0.55	0.98	170.1	1.81	189.1	32	38	99	37		
7.92	26.0	167.40	0.98	Sand	SP	medium dense	120	5.5	30	1.493	1.118	0.99	0.54	0.97	153.6	1.77	166.6	29	33	95	36		
8.08	26.5	107.90	2.47	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.7	23	1.523	1.133	2.51	0.67	0.96	97.5	2.19	161.2	22	32	76	34		
8.23	27.0	273.93	0.82	Sand	SP	dense	120	5.9	46	1.553	1.147	0.83	0.50	0.96	248.7	1.56	248.7	43	50	100	39		
8.38	27.5	312.40	0.78	Sand	SP	dense	120	6.0	52	1.583	1.161	0.78	0.50	0.95	281.8	1.51	281.8	48	56	100	40		
8.53	28.0	305.27	0.62	Gravelly Sand to Sand	SW	dense	120	6.2	50	1.613	1.176	0.63	0.50	0.95	273.7	1.45	273.7	46	55	100	40		
8.69	28.5	281.57	0.60	Gravelly Sand to Sand	SW	dense	120	6.1	46	1.643	1.190	0.60	0.50	0.94	250.9	1.46	250.9	42	50	100	39		
8.84	29.0	243.77	0.78	Sand	SP	dense	120	5.9	41	1.673	1.205	0.79	0.50	0.94	215.9	1.59	215.9	38	43	100	38		
8.99	29.5	205.03	0.78	Sand	SP	dense	120	5.8	36	1.703	1.219	0.79	0.50	0.93	180.5	1.65	181.0	32	36	100	37		
9.14	30.0	193.37	0.80	Sand	SP	dense	120	5.7	34	1.733	1.233	0.81	0.51	0.92	169.0	1.68	172.7	30	35	99	36		
9.30	30.5	263.80	0.50	Gravelly Sand to Sand	SW	dense	120	6.2	43	1.763	1.248	0.51	0.50	0.92	229.6	1.44	229.6	38	46	100	38		
9.45	31.0	293.50	0.59	Gravelly Sand to Sand	SW	dense	120	6.1	48	1.793	1.262	0.60	0.50	0.92	254.0	1.46	254.0	43	51	100	39		
9.60	31.5	290.43	0.84	Sand	SP	dense	120	5.9	49	1.823	1.277	0.85	0.50	0.91	249.9	1.57	249.9	43	50	100	39		
9.75	32.0	308.03	0.77	Sand	SP	dense	120	6.0	51	1.853	1.291	0.78	0.50	0.91	263.6	1.53	263.6	45	53	100	40		
9.91	32.5	362.30	0.70	Gravelly Sand to Sand	SW	very dense	120	6.2	59	1.883	1.305	0.70	0.50	0.90	308.3	1.45	308.3	51	62	100	41		
10.06	33.0	399.43	0.59	Gravelly Sand to Sand	SW	very dense	120	6.3	63	1.913	1.320	0.60	0.50	0.90	338.0	1.37	338.0	55	68	100	42		
10.21	33.5	391.73	0.63	Gravelly Sand to Sand	SW	very dense	120	6.3	63	1.943	1.334	0.64	0.50	0.89	329.7	1.40	329.7	54	66	100	41		
10.36	34.0	414.00	0.58	Gravelly Sand to Sand	SW	very dense	120	6.3	65	1.973	1.349	0.58	0.50	0.89	346.6	1.36	346.6	56	69	100	42		
10.52	34.5	400.87	0.44	Gravelly Sand to Sand	SW	very dense	120	6.5	62	2.003	1.363	0.44	0.50	0.88	333.8	1.28	333.8	53	67	100	41		
10.67	35.0	415.60	0.33	Gravelly Sand to Sand	SW	very dense	120	6.7	62	2.033	1.377	0.33	0.50	0.88	344.3	1.19	344.3	53	69	100	41		
10.82	35.5	407.50	0.50	Gravelly Sand to Sand	SW	very dense	120	6.4	63	2.063	1.392	0.50	0.50	0.87	335.8	1.32	335.8	54	67	100	41		
10.97	36.0	509.20	0.79	Gravelly Sand to Sand	SW	very dense	120	6.2	82	2.093	1.406	0.80	0.50	0.87	417.5	1.41	417.5	69	83	100	44		
11.13	36.5	415.98	0.73	Gravelly Sand to Sand	SW	very dense	120	6.2	67	2.123	1.421	0.73	0.50	0.86	339.3	1.44	339.3	56	68	100	42		
11.28	37.0	379.30	0.51	Gravelly Sand to Sand	SW	dense	120	6.4	60	2.153	1.435	0.51	0.50	0.86	307.8	1.35	307.8	50	62	100	41		
11.43	37.5	397.77	0.39	Gravelly Sand to Sand	SW	very dense	120	6.5	61	2.183	1.449	0.39	0.50	0.85	321.2	1.26	321.2	51	64	100	41		
11.58	38.0	364.07	0.45	Gravelly Sand to Sand	SW	dense	120	6.4	57	2.213	1.464	0.45	0.50	0.85	292.6	1.33	292.6	47	59	100	40		

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-4 Plot: 4 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Nk: 17

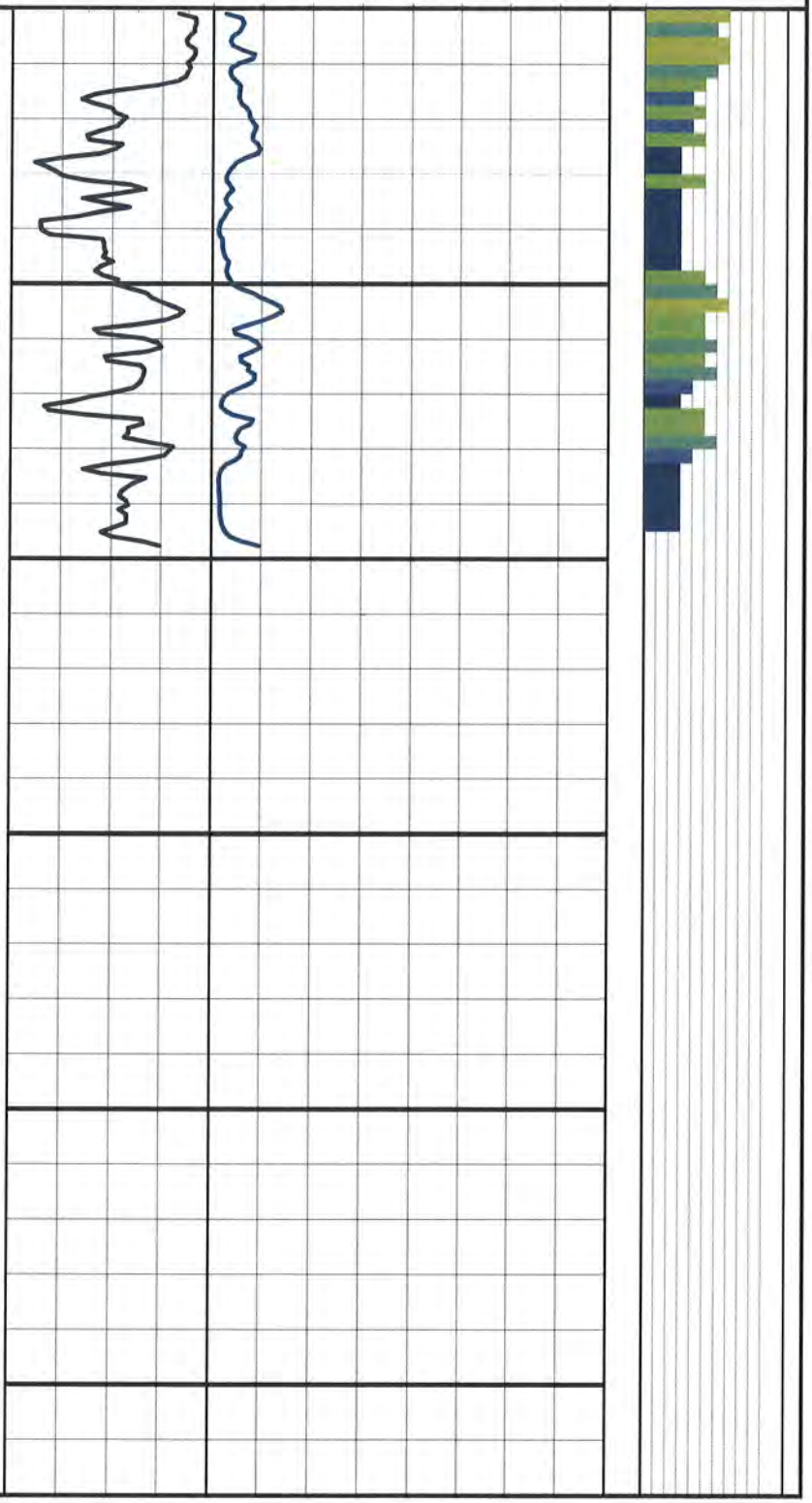
Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm Qc1n	Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens Dr (%)	Phi (deg.)	Su (tsf)	OCR
11.73	38.5	351.10	0.43	Gravelly Sand to Sand	SW	dense	120	6.4	55	2.243	1.478	0.43	0.50	0.85	280.8	1.33	280.8	45	56	100	40		
11.89	39.0	366.03	0.45	Gravelly Sand to Sand	SW	dense	120	6.4	57	2.273	1.493	0.45	0.50	0.84	291.3	1.33	291.3	47	58	100	40		
12.04	39.5	370.77	0.41	Gravelly Sand to Sand	SW	dense	120	6.4	58	2.303	1.507	0.41	0.50	0.84	293.6	1.31	293.6	47	59	100	40		
12.19	40.0	377.10	0.40	Gravelly Sand to Sand	SW	dense	120	6.5	58	2.333	1.521	0.41	0.50	0.83	297.2	1.30	297.2	47	59	100	40		
12.34	40.5	345.87	0.74	Gravelly Sand to Sand	SW	dense	120	6.0	57	2.363	1.536	0.75	0.50	0.83	271.3	1.51	271.3	46	54	100	40		
12.50	41.0	269.87	0.97	Sand	SP	dense	120	5.7	47	2.393	1.550	0.98	0.51	0.82	209.9	1.67	213.4	38	43	100	38		
12.65	41.5	108.50	2.91	Sandy Silt to Clayey Silt	ML	medium dense	120	4.5	24	2.423	1.565	2.97	0.70	0.76	77.9	2.32	155.6	19	31	66	33		
12.80	42.0	73.63	4.92	Overconsolidated Soil	??	hard	120	3.9	19	2.453	1.579	5.09	0.79	0.73	50.6	2.61		19				4.24	13.5
12.95	42.5	75.67	3.85	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	19	2.483	1.593	3.98	0.77	0.73	52.2	2.53	151.7	15	30	50	32		
13.11	43.0	463.77	2.72	Sand to Clayey Sand	SP/SC	very dense	120	5.3	88	2.513	1.608	2.74	0.58	0.78	344.0	1.90	409.6	69	82	100	44		
13.26	43.5	470.50	2.02	Sand to Silty Sand	SP/SM	very dense	120	5.5	85	2.543	1.622	2.03	0.54	0.79	352.4	1.78	386.2	67	77	100	44		
13.41	44.0	334.00	0.73	Gravelly Sand to Sand	SW	dense	120	6.0	55	2.573	1.637	0.73	0.50	0.80	253.8	1.52	253.8	43	51	100	39		
13.56	44.5	351.13	0.53	Gravelly Sand to Sand	SW	dense	120	6.2	56	2.603	1.651	0.54	0.50	0.80	265.7	1.41	265.7	44	53	100	39		
13.72	45.0	392.83	0.46	Gravelly Sand to Sand	SW	dense	120	6.4	62	2.633	1.665	0.46	0.50	0.80	296.0	1.33	296.0	48	59	100	40		
13.87	45.5	354.77	0.42	Gravelly Sand to Sand	SW	dense	120	6.4	56	2.663	1.680	0.43	0.50	0.79	266.1	1.35	266.1	43	53	100	39		
14.02	46.0	325.57	0.42	Gravelly Sand to Sand	SW	dense	120	6.3	52	2.693	1.694	0.42	0.50	0.79	243.2	1.38	243.2	40	49	100	38		
14.17	46.5	353.83	0.35	Gravelly Sand to Sand	SW	dense	120	6.4	55	2.723	1.709	0.36	0.50	0.79	263.2	1.30	263.2	42	53	100	39		
14.33	47.0	318.50	0.59	Gravelly Sand to Sand	SW	dense	120	6.1	52	2.753	1.723	0.60	0.50	0.78	235.9	1.48	235.9	40	47	100	38		
14.48	47.5	287.70	0.94	Sand	SP	dense	120	5.8	50	2.783	1.737	0.95	0.51	0.78	211.5	1.66	213.2	38	43	100	38		
14.63	48.0	349.23	0.65	Gravelly Sand to Sand	SW	dense	120	6.1	57	2.813	1.752	0.65	0.50	0.78	256.5	1.48	256.5	43	51	100	39		
14.78	48.5	390.13	0.58	Gravelly Sand to Sand	SW	dense	120	6.2	63	2.843	1.766	0.59	0.50	0.77	285.4	1.42	285.4	47	57	100	40		
14.94	49.0	397.93	0.50	Gravelly Sand to Sand	SW	dense	120	6.3	63	2.873	1.781	0.51	0.50	0.77	289.9	1.37	289.9	47	58	100	40		
15.09	49.5	379.33	0.45	Gravelly Sand to Sand	SW	dense	120	6.3	60	2.903	1.795	0.45	0.50	0.77	275.3	1.35	275.3	45	55	100	39		
15.24	50.0	352.40	0.61	Gravelly Sand to Sand	SW	dense	120	6.1	57	2.933	1.809	0.61	0.50	0.76	254.7	1.46	254.7	43	51	100	39		
15.39	50.5	388.50	0.61	Gravelly Sand to Sand	SW	dense	120	6.2	63	2.963	1.824	0.62	0.50	0.76	279.7	1.44	279.7	47	56	100	40		
15.54	51.0	400.60	0.57	Gravelly Sand to Sand	SW	dense	120	6.2	64	2.992	1.838	0.57	0.50	0.76	287.3	1.41	287.3	47	57	100	40		
15.70	51.5	409.93	0.48	Gravelly Sand to Sand	SW	dense	120	6.3	65	3.022	1.852	0.49	0.50	0.76	292.8	1.35	292.8	47	59	100	40		
15.85	52.0	393.37	0.43	Gravelly Sand to Sand	SW	dense	120	6.4	62	3.052	1.867	0.44	0.50	0.75	279.9	1.34	279.9	45	56	100	40		
16.00	52.5	432.07	0.40	Gravelly Sand to Sand	SW	dense	120	6.5	67	3.082	1.881	0.40	0.50	0.75	306.3	1.28	306.3	49	61	100	40		
16.15	53.0	414.17	0.44	Gravelly Sand to Sand	SW	dense	120	6.4	65	3.112	1.896	0.44	0.50	0.75	292.4	1.33	292.4	47	58	100	40		
16.31	53.5	381.77	0.41	Gravelly Sand to Sand	SW	dense	120	6.4	60	3.142	1.910	0.42	0.50	0.74	268.6	1.34	268.6	43	54	100	39		
16.46	54.0	370.97	0.37	Gravelly Sand to Sand	SW	dense	120	6.4	58	3.172	1.924	0.38	0.50	0.74	260.0	1.32	260.0	42	52	100	39		
16.61	54.5	364.13	0.42	Gravelly Sand to Sand	SW	dense	120	6.3	57	3.202	1.939	0.42	0.50	0.74	254.2	1.36	254.2	41	51	100	39		
16.76	55.0	407.23	0.33	Gravelly Sand to Sand	SW	dense	120	6.5	62	3.232	1.953	0.33	0.50	0.74	283.3	1.26	283.3	45	57	100	39		
16.92	55.5	392.60	0.34	Gravelly Sand to Sand	SW	dense	120	6.5	60	3.262	1.968	0.34	0.50	0.73	272.1	1.28	272.1	43	54	100	39		
17.07	56.0	364.57	0.35	Gravelly Sand to Sand	SW	dense	120	6.4	57	3.292	1.982	0.35	0.50	0.73	251.8	1.32	251.8	40	50	100	39		
17.22	56.5	228.67	0.59	Sand	SP	medium dense	120	5.8	39	3.322	1.996	0.60	0.50	0.73	157.3	1.62	157.3	28	31	96	35		
17.37	57.0	84.67	1.53	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	19	3.352	2.011	1.59	0.69	0.64	51.4	2.26	94.2	13	19	49	31		
17.53	57.5	52.55	1.96	Silty Sand to Sandy Silt	SM/ML	loose	120	4.1	13	3.382	2.025	2.10	0.77	0.61	30.2	2.52	86.3	9	17	27	30		
17.68	58.0	64.10	1.39	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.4	15	3.412	2.040	1.47	0.72	0.62	37.9	2.35	79.7	10	16	37	30		
17.83	58.5	29.53	2.73	Sandy Silt to Clayey Silt	ML	very stiff	120	3.4	9	3.442	2.054	3.09	0.87	0.56	15.7	2.85		9				1.62	3.8
17.98	59.0	40.23	2.81	Sandy Silt to Clayey Silt	ML	hard	120	3.7	11	3.472	2.068	3.07	0.83	0.57	21.7	2.73		11				2.24	5.3
18.14	59.5	39.73	4.15	Clayey Silt to Silty Clay	ML/CL	hard	120	3.4	12	3.502	2.083	4.56	0.87	0.55	20.8	2.86		12				2.21	5.2
18.29	60.0	68.47	3.30	Sandy Silt to Clayey Silt	ML	medium dense	120	3.9	17	3.532	2.097	3.48	0.79	0.58	37.8	2.59	122.4	12	24	36	31		
18.44	60.5	199.27	1.69	Sand to Silty Sand	SP/SM	medium dense	120	5.1	39	3.562	2.112	1.72	0.61	0.66	123.4	2.01	161.2	27	32	86	35		
18.59	61.0	364.07	0.64	Gravelly Sand to Sand	SW	dense	120	6.1	60	3.592	2.126	0.65	0.50	0.71	242.7	1.50	242.7	41	49	100	39		
18.75	61.5	396.27	0.72	Gravelly Sand to Sand	SW	dense	120	6.0	66	3.622	2.140	0.73	0.50	0.70	263.3	1.51	263.3	45	53	100	40		
18.90	62.0	389.03	0.77	Gravelly Sand to Sand	SW	dense	120	6.0	65	3.652	2.155	0.77	0.50	0.70	257.7	1.53	257.7	44	52	100	39		
19.05	62.5	383.97	0.79	Gravelly Sand to Sand	SW	dense	120	6.0	64	3.682	2.169	0.80	0.50	0.70	253.4	1.55	253.4	44	51	100	39		
19.20	63.0	352.50	0.81	Sand	SP	dense	120	5.9	60	3.712	2.184	0.82	0.50	0.70	231.9	1.58	231.9	40	46	100	39		
19.35	63.5	339.03	0.55	Gravelly Sand to Sand	SW	dense	120	6.1	56	3.742	2.198	0.56	0.50	0.69	222.3	1.48	222.3	38	44	100	38		
19.51	64.0	254.67	0.53	Sand	SP	medium dense	120	5.9	43	3.772	2.212	0.53	0.50	0.69	166.5	1.57	166.5	29	33	98	36		
19.66	64.5	142.20	1.34	Sand to Silty Sand	SP/SM	medium dense	120	5.0	29	3.802	2.227	1.38	0.63	0.63	84.2	2.06	116.5	19	23	70	33		

Earth Systems
Southern California

CPT No: CPT-5
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: **Kehoe Testing and Engineering**
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Silty Sand to Sandy Silt	loose
	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	loose
	Silty Clay to Clay	medium dense
	Silty Clay to Clay	medium dense
5	Clay	very stiff
	Silty Clay to Clay	stiff
	Clay	firm
	Clay	stiff
	Silty Clay to Clay	very stiff
10	Silty Sand to Sandy Silt	medium dense
	Clayey Silt to Silty Clay	medium dense
	Clayey Silt to Silty Clay	medium dense
	Clayey Silt to Silty Clay	loose
	Clay	very stiff
15	Sandy Silt to Clayey Silt	loose
	Clay	stiff
	Clay	firm
	Silty Clay to Clay	stiff
20		
25		
30		
35		
40		
45		
50		



End of Sounding @ 19.7 feet

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-5 Plot: 5 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Nk: 17

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Su (tsf)	OCR
0.15	0.5	28.77	0.72	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	6	0.014	0.014	0.72	0.64	1.70	46.2	2.10	67.4	10	13	45	30		
0.30	1.0	20.20	0.93	Sandy Silt to Clayey Silt	ML	loose	110	4.5	4	0.041	0.041	0.93	0.70	1.70	32.5	2.29	62.4	8	12	30	29		
0.46	1.5	29.23	0.82	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	6	0.069	0.069	0.82	0.65	1.70	47.0	2.13	70.7	10	14	45	30		
0.61	2.0	27.20	0.93	Silty Sand to Sandy Silt	SM/ML	loose	110	4.7	6	0.096	0.096	0.94	0.66	1.70	43.7	2.18	71.1	10	14	42	30		
0.76	2.5	19.07	1.18	Sandy Silt to Clayey Silt	ML	loose	110	4.4	4	0.124	0.124	1.19	0.72	1.70	30.6	2.37	67.2	7	13	28	29		
0.91	3.0	26.33	3.58	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.0	7	0.151	0.151	3.60	0.78	1.70	42.3	2.56	130.8	11	26	41	30		
1.07	3.5	29.30	4.69	Silty Clay to Clay	CL	very stiff	110	3.9	8	0.179	0.179	4.72	0.79	1.70	47.1	2.61		8				1.71	48.9
1.22	4.0	37.40	3.70	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	9	0.206	0.206	3.72	0.75	1.70	60.1	2.46	155.6	15	31	56	32		
1.37	4.5	41.37	4.46	Silty Clay to Clay	CL	medium dense	110	4.1	10	0.234	0.234	4.48	0.76	1.70	66.5	2.49	181.7	17	36	60	32		
1.52	5.0	43.97	4.16	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	10	0.261	0.261	4.19	0.74	1.70	70.6	2.45	179.7	18	36	62	33		
1.68	5.5	29.65	6.06	Clay	CL/CH	very stiff	110	3.7	8	0.289	0.289	6.12	0.82	1.70	47.6	2.69		8				1.73	30.5
1.83	6.0	14.07	5.79	Clay	CL/CH	stiff	110	3.3	4	0.316	0.316	5.93	0.88	1.70	22.6	2.91		4				0.81	13.0
1.98	6.5	17.40	3.28	Clayey Silt to Silty Clay	ML/CL	very stiff	110	3.8	5	0.344	0.344	3.35	0.81	1.70	28.0	2.67		5				1.00	14.9
2.13	7.0	14.37	4.29	Clay	CL/CH	stiff	110	3.5	4	0.371	0.371	4.40	0.85	1.70	23.1	2.81		4				0.82	11.3
2.29	7.5	10.80	5.57	Clay	CL/CH	stiff	110	3.2	3	0.399	0.399	5.78	0.91	1.70	17.4	2.98		3				0.61	7.8
2.44	8.0	6.13	6.74	Clay	CL/CH	firm	110	2.7	2	0.426	0.426	7.25	0.99	1.70	9.9	3.23		2				0.34	4.0
2.59	8.5	9.70	4.37	Clay	CL/CH	stiff	110	3.2	3	0.454	0.454	4.58	0.90	1.70	15.6	2.95		3				0.54	6.1
2.74	9.0	12.97	4.21	Clay	CL/CH	stiff	110	3.4	4	0.481	0.481	4.37	0.87	1.70	20.8	2.84		4				0.73	7.8
2.90	9.5	14.17	4.52	Clay	CL/CH	stiff	110	3.4	4	0.509	0.509	4.69	0.86	1.70	22.8	2.84		4				0.80	8.1
3.05	10.0	21.97	3.66	Clayey Silt to Silty Clay	ML/CL	very stiff	110	3.9	6	0.536	0.536	3.75	0.80	1.70	35.3	2.63		6				1.26	12.0
3.20	10.5	49.70	2.37	Sandy Silt to Clayey Silt	ML	medium dense	110	4.6	11	0.564	0.564	2.40	0.69	1.54	72.5	2.27	134.5	15	27	64	32		
3.35	11.0	66.73	1.36	Silty Sand to Sandy Silt	SM/ML	medium dense	120	5.0	13	0.593	0.593	1.37	0.62	1.43	90.3	2.03	121.5	17	24	73	32		
3.51	11.5	36.07	3.20	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.2	9	0.623	0.623	3.26	0.75	1.49	50.8	2.47	133.9	11	27	49	30		
3.66	12.0	35.53	3.14	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	9	0.653	0.653	3.20	0.76	1.44	48.4	2.48	129.8	11	26	47	30		
3.81	12.5	38.37	2.99	Sandy Silt to Clayey Silt	ML	medium dense	120	4.2	9	0.683	0.683	3.04	0.75	1.39	50.3	2.46	128.4	11	26	48	30		
3.96	13.0	33.90	3.24	Clayey Silt to Silty Clay	ML/CL	loose	120	4.1	8	0.713	0.713	3.31	0.77	1.36	43.4	2.53	126.3	10	25	42	30		
4.11	13.5	40.93	2.81	Sandy Silt to Clayey Silt	ML	medium dense	120	4.2	10	0.743	0.743	2.87	0.74	1.30	50.3	2.44	124.3	11	25	48	30		
4.27	14.0	18.53	3.96	Silty Clay to Clay	CL	very stiff	120	3.5	5	0.773	0.773	4.14	0.85	1.31	22.9	2.80		5				1.04	6.9
4.42	14.5	10.30	6.26	Clay	CL/CH	stiff	120	2.9	4	0.803	0.787	6.79	0.95	1.33	12.9	3.13		4				0.56	3.6
4.57	15.0	33.40	3.55	Clayey Silt to Silty Clay	ML/CL	loose	120	3.9	8	0.833	0.801	3.64	0.79	1.24	39.3	2.59	127.5	9	25	38	30		
4.72	15.5	25.67	3.39	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	7	0.863	0.816	3.51	0.81	1.23	30.0	2.66		7				1.46	9.1
4.88	16.0	29.05	1.94	Sandy Silt to Clayey Silt	ML	loose	120	4.2	7	0.893	0.830	2.00	0.75	1.20	33.0	2.47	87.1	8	17	31	29		
5.03	16.5	15.53	4.08	Silty Clay to Clay	CL	stiff	120	3.3	5	0.923	0.845	4.34	0.88	1.22	17.9	2.89		5				0.86	5.2
5.18	17.0	7.03	3.38	Clay	CL/CH	firm	120	2.9	2	0.953	0.859	3.91	0.96	1.22	8.1	3.14		2				0.36	2.1
5.33	17.5	7.20	3.56	Clay	CL/CH	firm	120	2.8	3	0.983	0.873	4.13	0.97	1.20	8.2	3.15		3				0.37	2.1
5.49	18.0	7.93	3.49	Clay	CL/CH	firm	120	2.9	3	1.013	0.888	4.00	0.95	1.18	8.9	3.11		3				0.41	2.3
5.64	18.5	8.97	3.42	Clay	CL/CH	firm	120	3.0	3	1.043	0.902	3.87	0.94	1.16	9.8	3.07		3				0.47	2.6
5.79	19.0	14.53	4.11	Clay	CL/CH	stiff	120	3.2	4	1.073	0.917	4.44	0.90	1.14	15.6	2.94		4				0.80	4.4

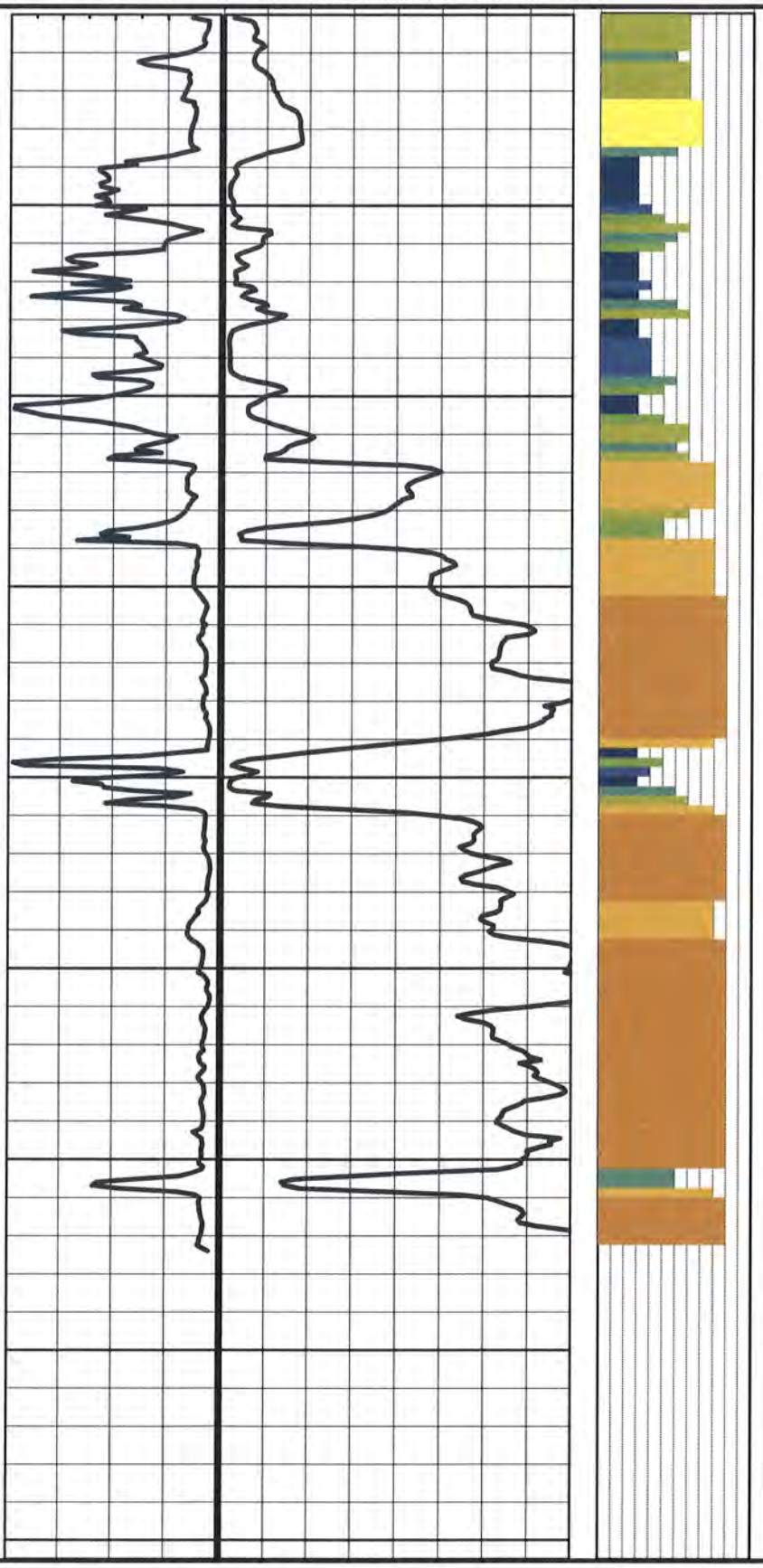
Earth Systems
Southern California

CPT No : CPT-6
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

Cone Penetrometer: **Kehoe Testing and Engineerin**
Truck Mounted Electric Cone
with 23-ton reaction weight
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Sand to Silty Sand	medium dense
5	Sand to Silty Sand	medium dense
	Sand to Silty Sand	medium dense
	Clayey Silt to Silty Clay	loose
	Clay	stiff
10	Clay	stiff
	Clayey Silt to Silty Clay	stiff
	Silty Sand to Sandy Silt	medium dense
	Silty Clay to Clay	very stiff
	Clay	stiff
15	Silty Clay to Clay	very stiff
	Sandy Silt to Clayey Silt	medium dense
	Clay	stiff
	Silty Clay to Clay	firm
	Silty Clay to Clay	stiff
20	Clayey Silt to Silty Clay	medium dense
	Clay	very stiff
	Sandy Silt to Clayey Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Sand to Silty Sand	dense
25	Sand	dense
	Sand	dense
	Sandy Silt to Clayey Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Sand	dense
30	Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
35	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	very dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Sandy Silt to Clayey Silt	medium dense
40	Silty Clay to Clay	very stiff
	Clayey Silt to Silty Clay	very stiff
	Sand to Silty Sand	medium dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
45	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Sand	dense
	Gravelly Sand to Sand	dense
50	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	very dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
55	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
60	Gravelly Sand to Sand	dense
	Sand to Silty Sand	medium dense
	Sand to Silty Sand	medium dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
65		
70		
75		
80		

End of Sounding @ 65.0 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-6 Plot: 6 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	33.57	0.47	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	6	0.014	0.014	0.47	0.59	1.70	53.9	1.95	53.9	11	11	51	30		
0.30	1.0	36.13	0.57	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	7	0.041	0.041	0.57	0.60	1.70	58.1	1.97	73.1	12	15	54	31		
0.46	1.5	41.07	0.64	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	8	0.069	0.069	0.64	0.59	1.70	66.0	1.94	81.4	13	16	60	31		
0.61	2.0	38.00	1.29	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	8	0.096	0.096	1.29	0.65	1.70	61.1	2.15	94.4	13	19	56	31		
0.76	2.5	34.50	2.86	Sandy Silt to Clayey Silt	ML	medium dense	110	4.3	8	0.124	0.124	2.87	0.73	1.70	55.4	2.41	129.9	14	26	52	31		
0.91	3.0	44.80	1.46	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	9	0.151	0.151	1.46	0.65	1.70	72.0	2.13	108.3	16	22	63	32		
1.07	3.5	54.47	1.20	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	11	0.179	0.179	1.20	0.61	1.70	87.5	2.01	114.5	18	23	71	33		
1.22	4.0	58.10	1.31	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	11	0.206	0.206	1.31	0.61	1.70	93.4	2.01	122.6	20	25	74	33		
1.37	4.5	63.60	1.30	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	12	0.234	0.234	1.31	0.60	1.70	102.2	1.98	130.2	21	26	78	34		
1.52	5.0	76.57	0.97	Sand to Silty Sand	SP/SM	medium dense	100	5.4	14	0.260	0.260	0.97	0.56	1.70	123.0	1.83	139.3	24	28	85	34		
1.68	5.5	87.50	1.00	Sand to Silty Sand	SP/SM	medium dense	100	5.5	16	0.285	0.285	1.00	0.55	1.70	140.6	1.80	155.6	27	31	91	35		
1.83	6.0	88.73	1.12	Sand to Silty Sand	SP/SM	medium dense	100	5.4	16	0.310	0.310	1.13	0.56	1.70	142.6	1.83	161.0	28	32	92	35		
1.98	6.5	90.10	1.16	Sand to Silty Sand	SP/SM	medium dense	100	5.4	17	0.335	0.335	1.17	0.56	1.70	144.8	1.84	164.1	28	33	92	36		
2.13	7.0	68.07	1.12	Sand to Silty Sand	SP/SM	medium dense	100	5.2	13	0.360	0.360	1.13	0.58	1.70	109.4	1.92	131.6	22	26	81	34		
2.29	7.5	31.50	2.68	Sandy Silt to Clayey Silt	ML	medium dense	110	4.3	7	0.386	0.386	2.71	0.73	1.70	50.6	2.42	120.9	12	24	49	31		
2.44	8.0	13.73	4.12	Clay	CL/CH	stiff	110	3.5	4	0.414	0.414	4.25	0.86	1.70	22.1	2.82		4				0.78	9.7
2.59	8.5	12.93	4.27	Clay	CL/CH	stiff	110	3.4	4	0.441	0.441	4.42	0.87	1.70	20.8	2.85		4				0.73	8.5
2.74	9.0	7.47	4.32	Clay	CL/CH	firm	110	3.0	2	0.469	0.469	4.61	0.93	1.70	12.0	3.04		2				0.41	4.5
2.90	9.5	7.90	4.40	Clay	CL/CH	firm	110	3.1	3	0.496	0.496	4.69	0.92	1.70	12.7	3.03		3				0.44	4.5
3.05	10.0	10.17	3.93	Clay	CL/CH	stiff	110	3.3	3	0.524	0.524	4.14	0.89	1.70	16.3	2.91		3				0.57	5.5
3.20	10.5	14.47	3.78	Silty Clay to Clay	CL	stiff	110	3.6	4	0.551	0.551	3.93	0.85	1.70	23.2	2.78		4				0.82	7.6
3.35	11.0	14.00	1.89	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.9	4	0.580	0.580	1.97	0.80	1.62	21.4	2.62		4				0.79	6.9
3.51	11.5	51.33	1.16	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.9	10	0.610	0.610	1.17	0.63	1.42	68.8	2.08	97.7	13	20	61	31		
3.66	12.0	44.07	2.09	Sandy Silt to Clayey Silt	ML	medium dense	120	4.5	10	0.640	0.640	2.12	0.70	1.42	59.2	2.30	114.7	12	23	55	31		
3.81	12.5	22.57	3.59	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	6	0.670	0.670	3.70	0.81	1.45	30.9	2.67		6				1.29	9.8
3.96	13.0	20.80	5.38	Clay	CL/CH	very stiff	120	3.5	6	0.700	0.700	5.57	0.86	1.43	28.0	2.82		6				1.18	8.6
4.11	13.5	16.43	6.07	Clay	CL/CH	stiff	120	3.2	5	0.730	0.730	6.35	0.89	1.39	21.6	2.94		5				0.92	6.5
4.27	14.0	14.13	4.49	Clay	CL/CH	stiff	120	3.3	4	0.760	0.760	4.74	0.89	1.34	17.9	2.92		4				0.79	5.3
4.42	14.5	31.60	4.40	Silty Clay to Clay	CL	very stiff	120	3.8	8	0.790	0.774	4.51	0.81	1.29	38.4	2.66		8				1.81	11.9
4.57	15.0	32.87	5.18	Clay	CL/CH	very stiff	120	3.7	9	0.820	0.789	5.31	0.82	1.27	39.5	2.70		9				1.89	12.2
4.72	15.5	46.07	3.14	Sandy Silt to Clayey Silt	ML	medium dense	120	4.2	11	0.850	0.803	3.20	0.75	1.23	53.5	2.45	135.6	12	27	51	31		
4.88	16.0	55.40	1.82	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	12	0.880	0.818	1.85	0.68	1.19	62.4	2.24	110.4	13	22	57	31		
5.03	16.5	12.87	5.10	Clay	CL/CH	stiff	120	3.1	4	0.910	0.832	5.48	0.92	1.25	15.2	3.01		4				0.71	4.3
5.18	17.0	6.90	3.14	Clay	CL/CH	firm	120	2.9	2	0.940	0.846	3.63	0.96	1.24	8.1	3.12		2				0.36	2.1
5.33	17.5	7.20	2.87	Silty Clay to Clay	CL	firm	120	3.0	2	0.970	0.861	3.32	0.95	1.22	8.3	3.09		2				0.37	2.2
5.49	18.0	7.63	2.84	Silty Clay to Clay	CL	firm	120	3.0	3	1.000	0.875	3.27	0.94	1.20	8.6	3.07		3				0.40	2.3
5.64	18.5	8.07	2.62	Silty Clay to Clay	CL	firm	120	3.1	3	1.030	0.890	3.00	0.93	1.18	9.0	3.04		3				0.42	2.4
5.79	19.0	22.77	4.11	Silty Clay to Clay	CL	very stiff	120	3.5	6	1.060	0.904	4.31	0.85	1.14	24.6	2.79		6				1.29	7.2
5.94	19.5	64.43	2.74	Sandy Silt to Clayey Silt	ML	medium dense	120	4.4	15	1.090	0.918	2.79	0.71	1.11	67.3	2.34	140.1	15	28	60	32		
6.10	20.0	51.27	4.27	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.0	13	1.120	0.933	4.36	0.77	1.10	53.4	2.55	161.6	13	32	51	31		
6.25	20.5	32.10	7.20	Clay	CL/CH	very stiff	120	3.4	9	1.150	0.947	7.46	0.87	1.10	33.4	2.86		9				1.83	9.8
6.40	21.0	31.90	6.58	Clay	CL/CH	very stiff	120	3.4	9	1.180	0.962	6.83	0.86	1.09	32.7	2.84		9				1.82	9.6
6.55	21.5	59.37	3.91	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	14	1.210	0.976	3.99	0.76	1.06	59.6	2.49	161.4	15	32	55	32		
6.71	22.0	94.63	2.30	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.7	20	1.240	0.990	2.33	0.66	1.04	93.5	2.18	152.1	20	30	74	33		
6.86	22.5	87.03	2.42	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	19	1.270	1.005	2.45	0.68	1.04	85.2	2.23	148.0	19	30	70	33		
7.01	23.0	62.87	3.12	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	15	1.300	1.019	3.19	0.73	1.03	61.1	2.41	143.6	15	29	56	32		
7.16	23.5	125.57	2.33	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.9	26	1.330	1.034	2.36	0.64	1.02	120.5	2.11	178.2	25	36	85	35		
7.32	24.0	243.07	1.04	Sand	SP	dense	120	5.7	42	1.360	1.048	1.04	0.51	1.00	230.8	1.66	233.3	41	47	100	39		
7.47	24.5	220.93	1.22	Sand	SP	dense	120	5.6	40	1.390	1.062	1.23	0.53	1.00	208.4	1.74	222.4	38	44	100	38		
7.62	25.0	213.37	1.19	Sand	SP	dense	120	5.6	38	1.420	1.077	1.20	0.53	0.99	199.8	1.75	213.7	37	43	100	38		
7.77	25.5	208.30	1.00	Sand	SP	dense	120	5.7	37	1.450	1.091	1.01	0.52	0.98	193.7	1.70	201.3	35	40	100	37		
7.92	26.0	191.13	1.24	Sand	SP	dense	120	5.5	35	1.480	1.106	1.25	0.55	0.98	176.3	1.80	195.0	33	39	100	37		
8.08	26.5	135.40	1.83	Silty Sand to Sandy Silt	SM/ML	medium dense	120	5.0	27	1.510	1.120	1.85	0.62	0.97	123.6	2.03	165.4	25	33	86	35		
8.23	27.0	31.17	3.92	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.6	9	1.540	1.134	4.12	0.83	0.94	27.8	2.73		9				1.77	7.8
8.38	27.5	40.63	3.46	Clayey Silt to Silty Clay	ML/CL	hard	120	3.9	10	1.570	1.149	3.60	0.79	0.94	36.0	2.61		10				2.32	10.2
8.53	28.0	204.40	0.81	Sand	SP	dense	120	5.8	35	1.600	1.163	0.82	0.50	0.95	184.2	1.65	185.3	33	37	100	37		
8.69	28.5	257.57	0.83	Sand	SP	dense	120	5.9	44	1.630	1.178	0.83	0.50	0.95	230.8	1.59	230.8	40	46	100	39		
8.84	29.0	257.83	0.87	Sand	SP	dense	120	5.9	44	1.660	1.192	0.87	0.50	0.94	229.6	1.61	229.6	40	46	100	39		
8.99	29.5	239.30	0.96	Sand	SP	dense	120	5.7	42	1.690	1.206	0.97	0.51	0.94	211.6	1.66	214.1	38	43	100	38		
9.14	30.0	239.50	0.93	Sand	SP	dense	120	5.8	42	1.720	1.221	0.93	0.50	0.93	210.6	1.65	211.7	38	42	100	38		
9.30	30.5	257.87	0.68	Sand	SP	dense	120	6.0	43	1.750	1.235	0.68	0.50	0.93	225.6	1.54	225.6	39	45	100	38		
9.45	31.0	281.87	0.48	Gravelly Sand to Sand	SW	dense	120	6.2	45	1.780	1.250	0.48	0.50	0.92	245.1	1.41	245.1	40	49	100	39		
9.60	31.5	290.93	0.57	Gravelly Sand to Sand	SW	dense	120	6.2	47	1.810	1.264	0.57	0.50	0.91	251.6	1.45	251.6	42	50	100	39		
9.75	32.0	340.00	0.58	Gravelly Sand to Sand	SW	dense	120	6.2	54	1.840	1.278	0.59	0.50	0.91	292.3	1.41	292.3	48	58	100	40		
9.91	32.5	344.27	0.68	Gravelly Sand to Sand	SW	dense	120	6.2	56	1.870	1.293	0.68	0.50	0.90	294.4	1.45	294.4	49	59	100	40		
10.06	33.0	320.13	0.69	Gravelly Sand to Sand	SW	dense	120	6.1	53	1.900	1.307	0.70	0.50	0.90	272.2	1.48	272.2	46	54	100	40		
10.21	33.5	316.80	0.50	Gravelly Sand to Sand	SW	dense	120	6.3	51	1.930	1.322	0.50	0.50	0.89	267.9	1.39	267.9	44	54	100	39		
10.36	34.0	310.07	0.49	Gravelly Sand to Sand	SW	dense	120	6.3	49	1.960	1.336	0.49	0.50	0.89	260.8	1.39	260.8	43	52	100	39		
10.52	34.5	324.97	0.52	Gravelly Sand to Sand	SW	dense	120	6.3	52	1.990	1.350	0.52	0.50	0.89	271.9	1.40	271.9	45	54	100	39		
10.67	35.0	394.17	0.62	Gravelly Sand to Sand	SW	very dense	120	6.3	63	2.020	1.365	0.62	0.50	0.88	328.0	1.39	328.0	54	66	100	41		
10.82	35.5	416.80	0.48	Gravelly Sand to Sand	SW	very dense	120	6.5	65	2.050	1.379	0.49	0.50	0.88	345.0	1.30	345.0	55	69	100	42		
10.97	36.0	396.83	0.59	Gravelly Sand to Sand	SW	very dense	120	6.3	63	2.080	1.394	0.59	0.50	0.87	326.8	1.38	326.8	53	65	100	41		
11.13	36.5	375.00	0.53	Gravelly Sand to Sand	SW	dense	120	6.3	59	2.110	1.408	0.54	0.50	0.87	307.2	1.37	307.2	50	61	100	41		
11.28	37.0	364.07	0.44	Gravelly Sand to Sand	SW	dense	120	6.4	57	2.140	1.422	0.44	0.50	0.86	296.8	1.32	296.8	48	59	100	40		
11.43	37.5	322.47	0.33	Gravelly Sand to Sand	SW	dense	120	6.5	50	2.170	1.437	0.34	0.50	0.86	261.5	1.29	261.5	42	52	100	39		
11.58	38.0	234.80	0.38	Gravelly Sand to Sand	SW	dense	120	6.2	38	2.200	1.451	0.39	0.50	0.85	189.5	1.44	189.5	32	38	100	36		

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-6 Plot: 6 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
11.73	38.5	127.57	0.81	Sand	SP	medium dense	120	5.4	24	2.230	1.466	0.82	0.57	0.83	100.2	1.86	115.3	20	23	77	33		
11.89	39.0	38.93	5.63	Clay	CL/CH	hard	120	3.4	11	2.260	1.480	5.98	0.87	0.75	27.5	2.85		11				2.20	7.4
12.04	39.5	25.63	3.67	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.4	8	2.290	1.494	4.03	0.88	0.74	17.9	2.87		8				1.42	4.7
12.19	40.0	18.90	4.01	Silty Clay to Clay	CL	very stiff	120	3.1	6	2.320	1.509	4.58	0.92	0.72	12.9	3.02		6				1.02	3.3
12.34	40.5	10.67	3.99	Clay	CL/CH	stiff	120	2.6	4	2.350	1.523	5.11	1.00	0.69	7.0	3.26		4				0.54	1.6
12.50	41.0	49.37	2.04	Sandy Silt to Clayey Silt	ML	loose	120	4.2	12	2.380	1.538	2.14	0.75	0.75	35.2	2.47	92.4	10	18	34	30		
12.65	41.5	81.90	2.38	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.4	19	2.410	1.552	2.45	0.71	0.76	58.9	2.34	123.0	15	25	55	32		
12.80	42.0	244.80	0.50	Sand	SP	dense	120	6.0	40	2.440	1.566	0.51	0.50	0.82	190.2	1.51	190.2	32	38	100	37		
12.95	42.5	293.63	0.51	Gravelly Sand to Sand	SW	dense	120	6.2	48	2.470	1.581	0.52	0.50	0.82	227.1	1.45	227.1	38	45	100	38		
13.11	43.0	289.60	0.55	Gravelly Sand to Sand	SW	dense	120	6.1	47	2.500	1.595	0.56	0.50	0.81	222.9	1.48	222.9	38	45	100	38		
13.26	43.5	281.63	0.52	Gravelly Sand to Sand	SW	dense	120	6.1	46	2.530	1.610	0.52	0.50	0.81	215.8	1.47	215.8	36	43	100	38		
13.41	44.0	287.87	0.47	Gravelly Sand to Sand	SW	dense	120	6.2	47	2.560	1.624	0.48	0.50	0.81	219.6	1.44	219.6	37	44	100	38		
13.56	44.5	320.83	0.33	Gravelly Sand to Sand	SW	dense	120	6.4	50	2.590	1.638	0.33	0.50	0.80	243.7	1.31	243.7	39	49	100	38		
13.72	45.0	291.77	0.32	Gravelly Sand to Sand	SW	dense	120	6.4	46	2.620	1.653	0.32	0.50	0.80	220.6	1.34	220.6	36	44	100	37		
13.87	45.5	280.33	0.38	Gravelly Sand to Sand	SW	dense	120	6.3	45	2.650	1.667	0.39	0.50	0.80	211.1	1.40	211.1	35	42	100	37		
14.02	46.0	324.70	0.41	Gravelly Sand to Sand	SW	dense	120	6.3	51	2.680	1.682	0.41	0.50	0.79	243.4	1.37	243.4	40	49	100	38		
14.17	46.5	321.53	0.48	Gravelly Sand to Sand	SW	dense	120	6.2	52	2.710	1.696	0.48	0.50	0.79	240.0	1.41	240.0	40	48	100	38		
14.33	47.0	312.20	0.76	Sand	SP	dense	120	5.9	53	2.740	1.710	0.76	0.50	0.79	232.1	1.56	232.1	40	46	100	39		
14.48	47.5	302.83	1.03	Sand	SP	dense	120	5.7	53	2.770	1.725	1.04	0.51	0.78	223.1	1.67	226.8	40	45	100	39		
14.63	48.0	309.07	1.15	Sand	SP	dense	120	5.7	55	2.800	1.739	1.16	0.52	0.77	225.6	1.70	234.5	41	47	100	39		
14.78	48.5	359.83	0.93	Sand	SP	dense	120	5.9	61	2.830	1.754	0.94	0.50	0.78	264.2	1.59	264.2	46	53	100	40		
14.94	49.0	413.13	0.59	Gravelly Sand to Sand	SW	dense	120	6.3	66	2.860	1.768	0.59	0.50	0.77	302.1	1.40	302.1	50	60	100	41		
15.09	49.5	405.53	0.58	Gravelly Sand to Sand	SW	dense	120	6.2	65	2.890	1.782	0.58	0.50	0.77	295.3	1.40	295.3	49	59	100	40		
15.24	50.0	396.07	0.69	Gravelly Sand to Sand	SW	dense	120	6.1	65	2.920	1.797	0.69	0.50	0.77	287.3	1.47	287.3	48	57	100	40		
15.39	50.5	439.83	0.46	Gravelly Sand to Sand	SW	very dense	120	6.4	68	2.950	1.811	0.46	0.50	0.76	317.7	1.31	317.7	51	64	100	41		
15.54	51.0	432.13	0.41	Gravelly Sand to Sand	SW	dense	120	6.5	67	2.980	1.826	0.41	0.50	0.76	310.9	1.29	310.9	49	62	100	40		
15.70	51.5	426.13	0.31	Gravelly Sand to Sand	SW	dense	120	6.6	64	3.010	1.840	0.32	0.50	0.76	305.4	1.22	305.4	48	61	100	40		
15.85	52.0	349.73	0.40	Gravelly Sand to Sand	SW	dense	120	6.3	55	3.040	1.854	0.41	0.50	0.76	249.7	1.35	249.7	40	50	100	39		
16.00	52.5	279.20	0.59	Gravelly Sand to Sand	SW	dense	120	6.0	47	3.070	1.869	0.60	0.50	0.75	198.6	1.54	198.6	34	40	100	37		
16.15	53.0	305.90	0.51	Gravelly Sand to Sand	SW	dense	120	6.1	50	3.100	1.883	0.51	0.50	0.75	216.7	1.47	216.7	36	43	100	38		
16.31	53.5	310.20	0.50	Gravelly Sand to Sand	SW	dense	120	6.1	50	3.130	1.898	0.50	0.50	0.75	218.9	1.46	218.9	37	44	100	38		
16.46	54.0	326.83	0.58	Gravelly Sand to Sand	SW	dense	120	6.1	54	3.160	1.912	0.58	0.50	0.74	229.8	1.48	229.8	39	46	100	38		
16.61	54.5	348.37	0.64	Gravelly Sand to Sand	SW	dense	120	6.1	57	3.190	1.926	0.65	0.50	0.74	244.0	1.50	244.0	41	49	100	39		
16.76	55.0	352.67	0.61	Gravelly Sand to Sand	SW	dense	120	6.1	58	3.220	1.941	0.61	0.50	0.74	246.1	1.48	246.1	41	49	100	39		
16.92	55.5	359.27	0.61	Gravelly Sand to Sand	SW	dense	120	6.1	59	3.250	1.955	0.62	0.50	0.74	249.8	1.47	249.8	42	50	100	39		
17.07	56.0	373.70	0.63	Gravelly Sand to Sand	SW	dense	120	6.1	61	3.280	1.970	0.63	0.50	0.73	258.9	1.47	258.9	44	52	100	39		
17.22	56.5	391.37	0.52	Gravelly Sand to Sand	SW	dense	120	6.3	63	3.310	1.984	0.52	0.50	0.73	270.1	1.40	270.1	44	54	100	39		
17.37	57.0	353.77	0.60	Gravelly Sand to Sand	SW	dense	120	6.1	58	3.340	1.998	0.60	0.50	0.73	243.3	1.47	243.3	41	49	100	39		
17.53	57.5	324.93	0.55	Gravelly Sand to Sand	SW	dense	120	6.1	53	3.370	2.013	0.55	0.50	0.73	222.7	1.48	222.7	38	45	100	38		
17.68	58.0	317.83	0.54	Gravelly Sand to Sand	SW	dense	120	6.1	52	3.400	2.027	0.55	0.50	0.72	217.0	1.49	217.0	37	43	100	38		
17.83	58.5	338.40	0.77	Gravelly Sand to Sand	SW	dense	120	5.9	57	3.430	2.042	0.78	0.50	0.72	230.3	1.57	230.3	40	46	100	38		
17.98	59.0	380.10	0.58	Gravelly Sand to Sand	SW	dense	120	6.2	62	3.460	2.056	0.58	0.50	0.72	257.7	1.45	257.7	43	52	100	39		
18.14	59.5	354.20	0.60	Gravelly Sand to Sand	SW	dense	120	6.1	58	3.490	2.070	0.61	0.50	0.71	239.3	1.48	239.3	40	48	100	39		
18.29	60.0	344.73	0.66	Gravelly Sand to Sand	SW	dense	120	6.0	57	3.520	2.085	0.66	0.50	0.71	232.1	1.52	232.1	40	46	100	38		
18.44	60.5	289.73	0.69	Gravelly Sand to Sand	SW	dense	120	5.9	49	3.550	2.099	0.70	0.50	0.71	194.4	1.59	194.4	34	39	100	37		
18.59	61.0	103.10	3.02	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	24	3.580	2.114	3.13	0.74	0.60	58.6	2.42	139.4	17	28	55	32		
18.75	61.5	118.37	3.31	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	28	3.610	2.128	3.41	0.73	0.60	67.1	2.40	155.9	19	31	60	33		
18.90	62.0	298.10	0.73	Sand	SP	dense	120	5.9	51	3.640	2.142	0.74	0.50	0.70	198.0	1.60	198.0	35	40	100	37		
19.05	62.5	336.47	0.68	Gravelly Sand to Sand	SW	dense	120	6.0	56	3.670	2.157	0.69	0.50	0.70	222.7	1.54	222.7	38	45	100	38		
19.20	63.0	342.80	0.61	Gravelly Sand to Sand	SW	dense	120	6.0	57	3.700	2.171	0.62	0.50	0.70	226.2	1.51	226.2	38	45	100	38		
19.35	63.5	364.07	0.55	Gravelly Sand to Sand	SW	dense	120	6.1	59	3.730	2.186	0.56	0.50	0.70	239.4	1.46	239.4	40	48	100	38		
19.51	64.0	449.87	0.62	Gravelly Sand to Sand	SW	dense	120	6.2	73	3.760	2.200	0.63	0.50	0.69	294.9	1.43	294.9	49	59	100	40		
19.66	64.5	457.37	0.66	Gravelly Sand to Sand	SW	dense	120	6.2	74	3.790	2.214	0.67	0.50	0.69	298.8	1.44	298.8	50	60	100	41		

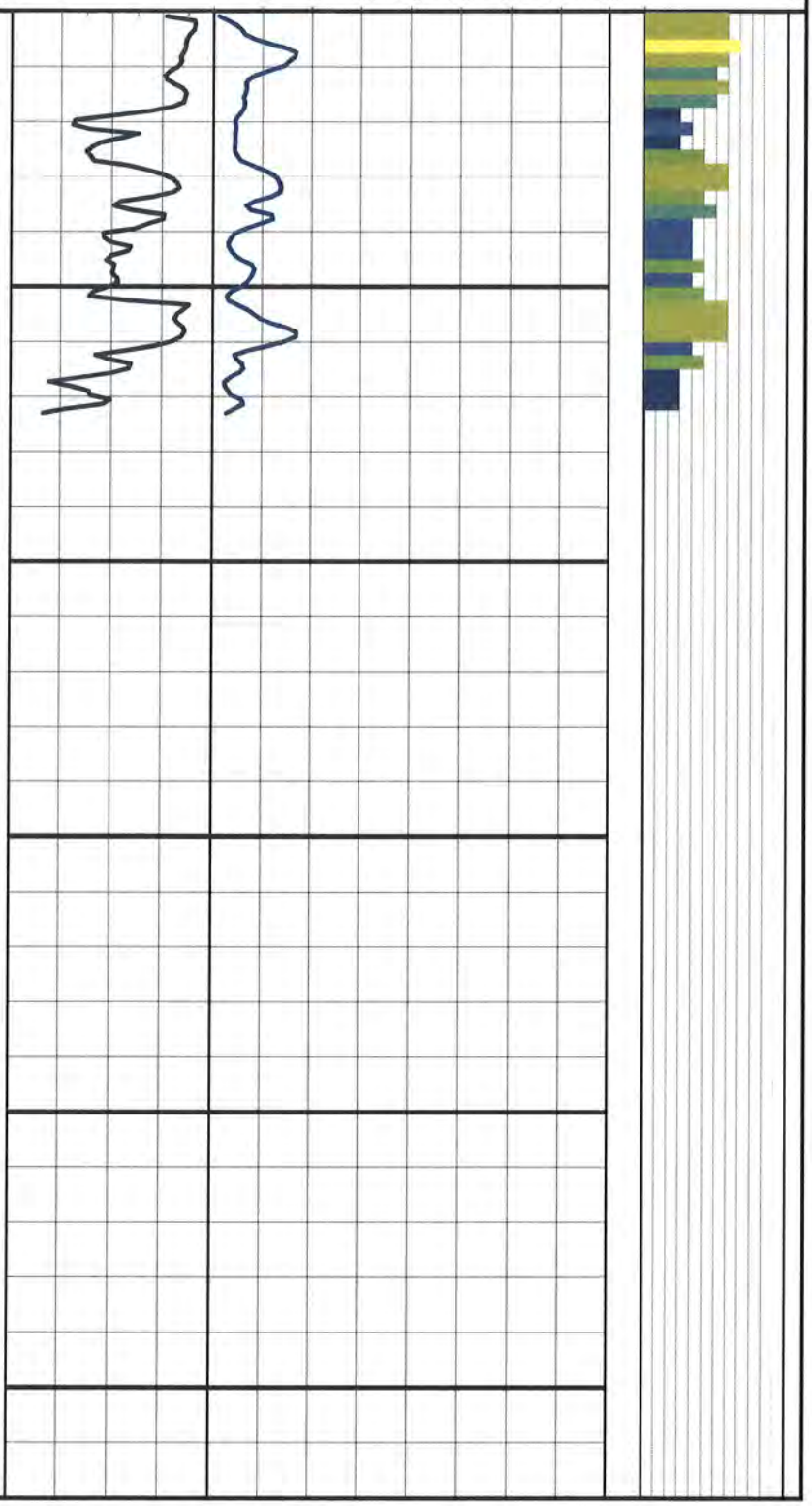
Earth Systems
Southern California

CPT No: CPT-7
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: Kehoe Testing and Engineering
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Clayey Silt to Silty Clay	medium dense
	Silty Clay to Clay	very stiff
5	Sandy Silt to Clayey Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Silty Clay to Clay	very stiff
10	Clayey Silt to Silty Clay	medium dense
	Sandy Silt to Clayey Silt	loose
	Silty Sand to Sandy Silt	medium dense
	Clayey Silt to Silty Clay	very stiff
15	Clay	stiff
20		
25		
30		
35		
40		
45		
50		

End of Sounding @ 14.8 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson — Project No: VT-24867-10 — Date: 08/28/17

CPT SOUNDING: CPT-7 — Plot: 7 — Density: 1 — SPT N — Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** — Dr correlation: 0 — Baldi — Qc/N: 0 — Jefferies & Davies — Phi Correlation: 4 — SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	21.87	0.76	Silty Sand to Sandy Silt	SM/ML	loose	110	4.7	5	0.014	0.014	0.76	0.67	1.70	35.1	2.22	60.1	8	12	33	29		
0.30	1.0	42.13	1.05	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.0	8	0.041	0.041	1.05	0.62	1.70	67.7	2.06	93.4	14	19	61	31		
0.46	1.5	79.33	1.22	Sand to Silty Sand	SP/SM	medium dense	100	5.3	15	0.068	0.068	1.22	0.57	1.70	127.5	1.89	150.2	25	30	87	35		
0.61	2.0	67.93	1.45	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	13	0.094	0.094	1.46	0.61	1.70	109.2	1.99	140.6	23	28	80	34		
0.76	2.5	36.83	1.78	Sandy Silt to Clayey Silt	ML	medium dense	110	4.6	8	0.121	0.121	1.78	0.68	1.70	59.2	2.25	105.9	14	21	55	31		
0.91	3.0	31.70	1.16	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.7	7	0.149	0.149	1.16	0.66	1.70	50.9	2.18	82.6	11	17	49	30		
1.07	3.5	30.30	1.74	Sandy Silt to Clayey Silt	ML	medium dense	110	4.5	7	0.176	0.176	1.75	0.70	1.70	48.7	2.31	95.8	11	19	47	30		
1.22	4.0	22.67	4.98	Clay	CL/CH	very stiff	110	3.7	6	0.204	0.204	5.03	0.82	1.70	36.4	2.71		6				1.32	33.1
1.37	4.5	21.87	3.84	Silty Clay to Clay	CL	very stiff	110	3.6	6	0.231	0.231	3.88	0.80	1.70	35.1	2.64		6				1.27	28.1
1.52	5.0	21.50	4.75	Clay	CL/CH	very stiff	110	3.7	6	0.259	0.259	4.80	0.82	1.70	34.5	2.71		6				1.25	24.6
1.68	5.5	35.03	3.91	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.1	9	0.286	0.286	3.94	0.76	1.70	56.3	2.50	156.0	15	31	53	32		
1.83	6.0	64.07	1.68	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.0	13	0.314	0.314	1.69	0.62	1.70	102.9	2.05	141.7	22	28	78	34		
1.98	6.5	64.73	1.77	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.0	13	0.341	0.341	1.78	0.63	1.70	104.0	2.07	145.6	22	29	78	34		
2.13	7.0	37.57	3.58	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	9	0.369	0.369	3.62	0.74	1.70	60.4	2.45	153.3	15	31	56	32		
2.29	7.5	55.57	2.17	Sandy Silt to Clayey Silt	ML	medium dense	110	4.7	12	0.396	0.396	2.18	0.66	1.70	89.3	2.18	143.9	19	29	72	33		
2.44	8.0	24.37	3.90	Silty Clay to Clay	CL	very stiff	110	3.9	6	0.424	0.424	3.97	0.79	1.70	39.2	2.61		6				1.41	17.0
2.59	8.5	16.13	3.56	Silty Clay to Clay	CL	stiff	110	3.7	4	0.451	0.451	3.67	0.83	1.70	25.9	2.72		4				0.92	10.4
2.74	9.0	29.93	4.05	Silty Clay to Clay	CL	medium dense	110	4.0	8	0.479	0.479	4.11	0.78	1.70	48.1	2.56	149.0	11	30	46	30		
2.90	9.5	39.57	3.90	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	9	0.506	0.506	3.95	0.75	1.70	63.6	2.47	165.2	13	33	58	31		
3.05	10.0	26.63	4.20	Silty Clay to Clay	CL	very stiff	110	3.9	7	0.534	0.534	4.29	0.79	1.70	42.8	2.61		7				1.54	14.7
3.20	10.5	17.97	3.08	Clayey Silt to Silty Clay	ML/CL	very stiff	110	3.8	5	0.561	0.561	3.18	0.81	1.67	28.3	2.65		5				1.02	9.3
3.35	11.0	40.77	1.37	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.7	9	0.590	0.590	1.39	0.67	1.48	56.9	2.19	93.6	11	19	53	30		
3.51	11.5	71.83	1.24	Silty Sand to Sandy Silt	SM/ML	medium dense	120	5.1	14	0.620	0.620	1.25	0.61	1.38	94.0	1.99	121.5	18	24	74	33		
3.66	12.0	70.97	1.71	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.9	15	0.650	0.650	1.73	0.64	1.37	91.6	2.10	132.8	18	27	73	33		
3.81	12.5	26.77	4.03	Silty Clay to Clay	CL	very stiff	120	3.8	7	0.680	0.680	4.14	0.81	1.43	36.1	2.65		7				1.53	11.5
3.96	13.0	28.50	3.52	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.9	7	0.710	0.710	3.61	0.79	1.37	36.9	2.60		7				1.63	11.7
4.11	13.5	13.50	5.74	Clay	CL/CH	stiff	120	3.1	4	0.740	0.740	6.07	0.91	1.39	17.7	2.99		4				0.75	5.2
4.27	14.0	20.63	4.59	Clay	CL/CH	very stiff	120	3.5	6	0.770	0.770	4.77	0.85	1.31	25.6	2.80		6				1.17	7.7
4.42	14.5	21.57	5.62	Clay	CL/CH	very stiff	120	3.4	6	0.800	0.784	5.84	0.87	1.30	26.4	2.85		6				1.22	7.9

Earth Systems
Southern California

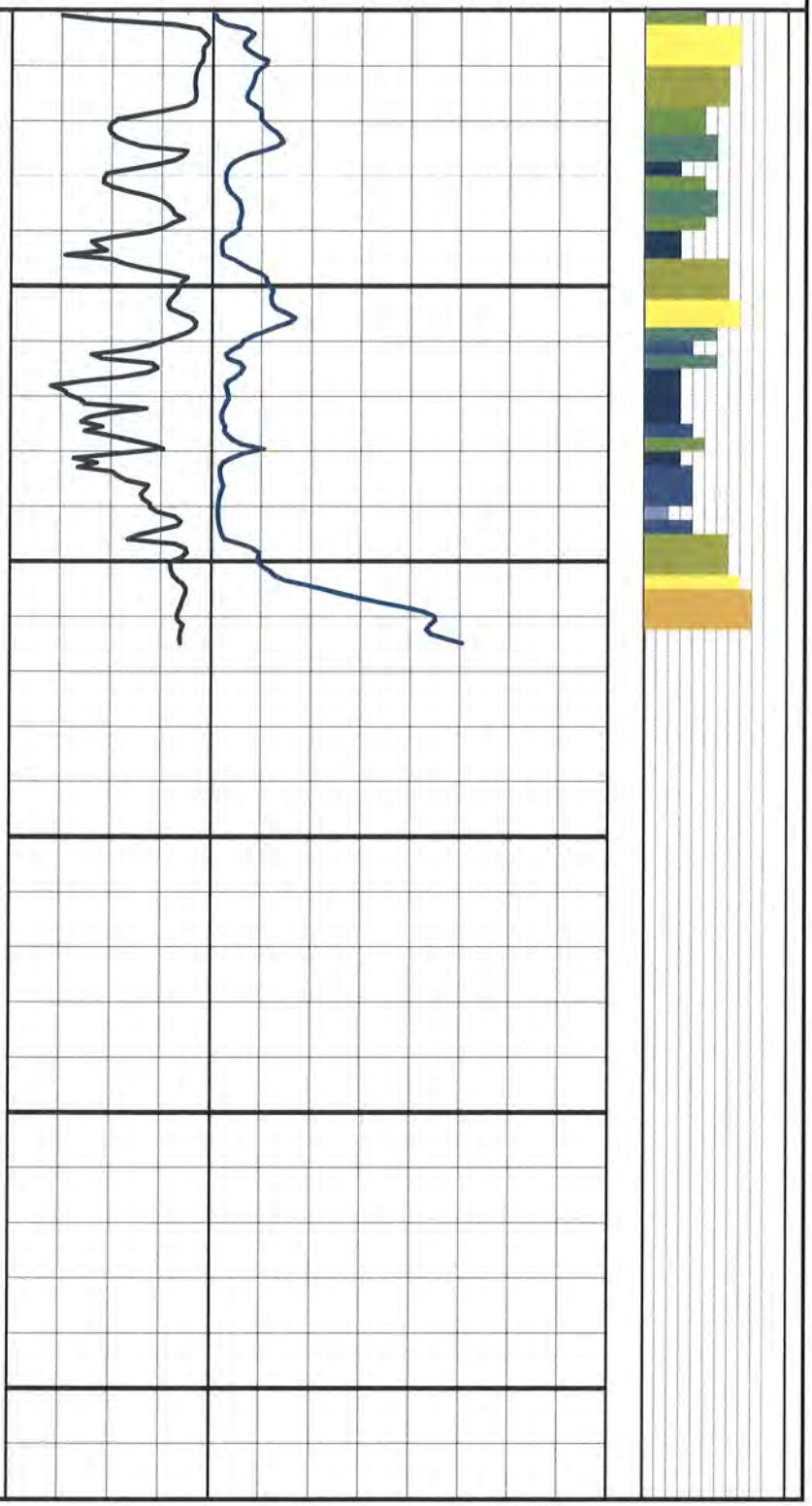
CPT No: CPT-8

Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: **Kehoe Testing and Engineering**
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Sandy Silt to Clayey Silt	loose
	Sand to Silty Sand	medium dense
	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
5	Clayey Silt to Silty Clay	very stiff
	Clayey Silt to Silty Clay	loose
	Sandy Silt to Clayey Silt	loose
	Clay	stiff
	Silty Sand to Sandy Silt	medium dense
10	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Clayey Silt to Silty Clay	very stiff
	Clay	stiff
	Clay	stiff
15	Clayey Silt to Silty Clay	very stiff
	Clay	stiff
	Silty Clay to Clay	firm
	Clayey Silt to Silty Clay	firm
	Silty Sand to Sandy Silt	loose
20	Sand to Silty Sand	medium dense
	Sand	dense
25		
30		
35		
40		
45		
50		

End of Sounding @ 23.1 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson — Project No: VT-24867-10 — Date: 08/28/17

CPT SOUNDING: CPT-8 — Plot: 8 — Density: 1 SPT N — Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** — Dr correlation: 0 Baldi — Qc/N: 0 Jefferies & Davies — Phi Correlation: 4 SPT N — Nk: 17

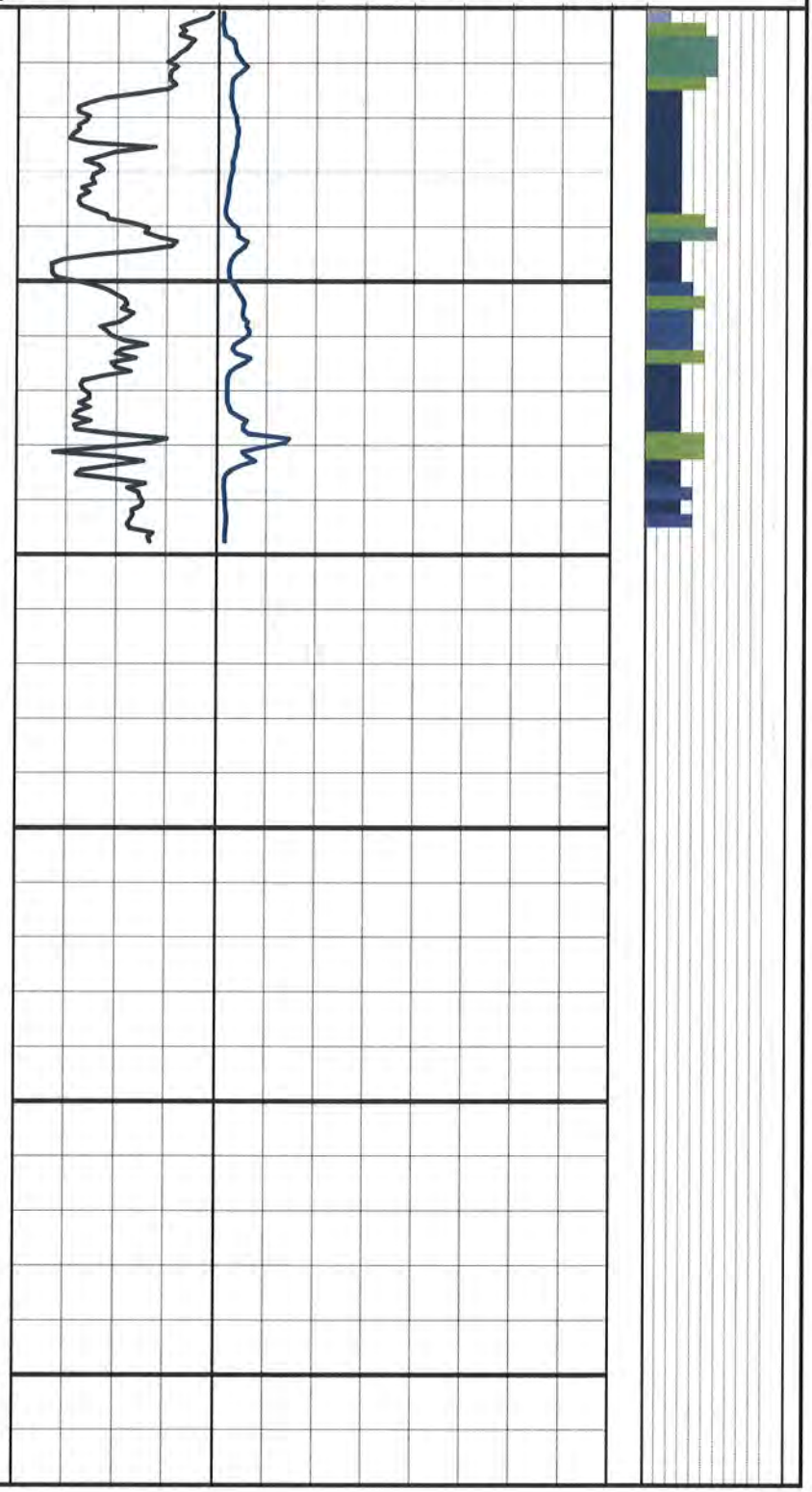
Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Su (tsf)	OCR
0.15	0.5	16.87	2.17	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	4	0.014	0.014	2.17	0.78	1.70	27.1	2.56	84.4	7	17	23	29		
0.30	1.0	36.83	0.23	Sand to Silty Sand	SP/SM	medium dense	100	5.5	7	0.040	0.040	0.23	0.55	1.70	59.2	1.79	59.2	11	12	55	30		
0.46	1.5	37.83	0.38	Sand to Silty Sand	SP/SM	medium dense	100	5.3	7	0.065	0.065	0.38	0.57	1.70	60.8	1.87	60.8	12	12	56	31		
0.61	2.0	51.53	0.52	Sand to Silty Sand	SP/SM	medium dense	100	5.4	9	0.090	0.090	0.52	0.55	1.70	82.8	1.81	92.5	16	19	69	32		
0.76	2.5	41.67	0.70	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	8	0.116	0.116	0.70	0.60	1.70	67.0	1.96	83.6	14	17	60	31		
0.91	3.0	35.93	0.69	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	7	0.144	0.144	0.69	0.61	1.70	57.7	2.01	75.8	12	15	54	31		
1.07	3.5	42.10	1.19	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	9	0.171	0.171	1.19	0.64	1.70	67.6	2.09	97.3	15	19	61	32		
1.22	4.0	50.13	3.54	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.4	11	0.199	0.199	3.55	0.72	1.70	80.6	2.36	174.4	19	35	68	33		
1.37	4.5	63.63	3.99	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.4	14	0.226	0.226	4.00	0.71	1.70	102.2	2.34	211.4	24	42	78	35		
1.52	5.0	61.87	2.39	Sandy Silt to Clayey Silt	ML	medium dense	110	4.7	13	0.254	0.254	2.40	0.66	1.70	99.4	2.18	159.8	22	32	77	34		
1.68	5.5	23.33	2.01	Sandy Silt to Clayey Silt	ML	loose	110	4.2	6	0.281	0.281	2.03	0.74	1.70	37.5	2.44	92.3	9	18	36	30		
1.83	6.0	13.27	4.27	Clay	CL/CH	stiff	110	3.4	4	0.309	0.309	4.37	0.86	1.70	21.3	2.84		4				0.76	12.6
1.98	6.5	18.00	3.30	Clayey Silt to Silty Clay	ML/CL	very stiff	110	3.8	5	0.336	0.336	3.36	0.81	1.70	28.9	2.66		5				1.04	15.8
2.13	7.0	27.77	1.80	Sandy Silt to Clayey Silt	ML	medium dense	110	4.4	6	0.364	0.364	1.82	0.71	1.70	44.6	2.35	94.0	10	19	43	30		
2.29	7.5	27.90	1.41	Sandy Silt to Clayey Silt	ML	loose	110	4.5	6	0.391	0.391	1.43	0.69	1.70	44.8	2.28	84.6	10	17	44	30		
2.44	8.0	21.10	2.83	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	5	0.419	0.419	2.89	0.78	1.70	33.9	2.57	106.0	8	21	32	29		
2.59	8.5	9.67	4.52	Clay	CL/CH	stiff	110	3.2	3	0.446	0.446	4.73	0.90	1.70	15.5	2.96		3				0.54	6.2
2.74	9.0	20.10	4.43	Clay	CL/CH	very stiff	110	3.7	5	0.474	0.474	4.54	0.82	1.70	32.3	2.71		5				1.15	12.4
2.90	9.5	46.13	1.79	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.7	10	0.501	0.501	1.81	0.67	1.64	71.7	2.19	117.6	14	24	63	31		
3.05	10.0	58.20	1.29	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.0	12	0.529	0.529	1.30	0.62	1.54	84.6	2.04	114.6	16	23	70	32		
3.20	10.5	59.67	1.64	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	12	0.556	0.556	1.66	0.64	1.51	85.2	2.11	125.1	16	25	70	32		
3.35	11.0	74.37	1.25	Sand to Silty Sand	SP/SM	medium dense	120	5.1	14	0.585	0.585	1.26	0.60	1.43	100.4	1.98	127.5	19	25	77	33		
3.51	11.5	65.03	0.74	Sand to Silty Sand	SP/SM	medium dense	120	5.3	12	0.615	0.615	0.75	0.58	1.37	84.1	1.89	99.5	16	20	70	32		
3.66	12.0	33.53	1.89	Sandy Silt to Clayey Silt	ML	loose	120	4.4	8	0.645	0.645	1.93	0.72	1.43	45.2	2.36	97.2	10	19	44	30		
3.81	12.5	16.57	4.14	Silty Clay to Clay	CL	stiff	120	3.5	5	0.675	0.675	4.32	0.85	1.47	23.0	2.81		5				0.93	7.1
3.96	13.0	29.67	2.35	Sandy Silt to Clayey Silt	ML	loose	120	4.2	7	0.705	0.705	2.41	0.75	1.36	38.1	2.48	101.1	9	20	37	29		
4.11	13.5	17.87	5.01	Clay	CL/CH	very stiff	120	3.4	5	0.735	0.735	5.22	0.87	1.37	23.2	2.86		5				1.01	7.0
4.27	14.0	15.87	5.62	Clay	CL/CH	stiff	120	3.2	5	0.765	0.765	5.91	0.90	1.34	20.1	2.94		5				0.89	5.9
4.42	14.5	11.70	3.86	Clay	CL/CH	stiff	120	3.2	4	0.795	0.779	4.14	0.90	1.32	14.6	2.95		4				0.64	4.2
4.57	15.0	11.03	4.81	Clay	CL/CH	stiff	120	3.1	4	0.825	0.794	5.20	0.93	1.30	13.6	3.03		4				0.60	3.9
4.72	15.5	16.20	4.16	Silty Clay to Clay	CL	stiff	120	3.4	5	0.855	0.808	4.39	0.87	1.27	19.4	2.87		5				0.91	5.7
4.88	16.0	33.43	3.39	Clayey Silt to Silty Clay	ML/CL	loose	120	3.9	8	0.885	0.823	3.48	0.78	1.22	38.5	2.58	123.4	9	25	37	30		
5.03	16.5	9.20	4.61	Clay	CL/CH	firm	120	2.9	3	0.915	0.837	5.12	0.95	1.25	10.9	3.11		3				0.49	3.0
5.18	17.0	9.87	3.20	Silty Clay to Clay	CL	stiff	120	3.1	3	0.945	0.851	3.54	0.92	1.22	11.4	2.99		3				0.53	3.1
5.33	17.5	8.57	2.73	Silty Clay to Clay	CL	firm	120	3.1	3	0.975	0.866	3.08	0.92	1.20	9.7	3.01		3				0.45	2.6
5.49	18.0	6.27	2.34	Silty Clay to Clay	CL	firm	120	2.9	2	1.005	0.880	2.78	0.96	1.19	7.1	3.10		2				0.32	1.8
5.64	18.5	6.70	1.34	Sensitive fine grained	ML	firm	120	3.2	2	1.035	0.895	1.59	0.91	1.17	7.4	2.96		2				0.34	1.9
5.79	19.0	10.50	2.77	Silty Clay to Clay	CL	stiff	120	3.2	3	1.065	0.909	3.09	0.91	1.15	11.4	2.96		3				0.56	3.1

Earth Systems
Southern California

CPT No: CPT-9
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: **Kehoe Testing and Engineering**
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Sensitive fine grained	firm
	Sandy Silt to Clayey Silt	loose
	Clayey Silt to Silty Clay	loose
	Clay	stiff
5	Clay	very stiff
	Clay	stiff
	Clay	stiff
	Silty Clay to Clay	stiff
	Clayey Silt to Silty Clay	very stiff
10	Clay	stiff
	Clayey Silt to Silty Clay	very stiff
	Silty Clay to Clay	very stiff
	Clayey Silt to Silty Clay	very stiff
	Clay	stiff
15	Clay	stiff
	Silty Clay to Clay	medium dense
	Silty Clay to Clay	very stiff
	Clay	firm
	Silty Clay to Clay	firm
20		
25		
30		
35		
40		
45		
50		



End of Sounding @ 19.7 feet

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-9 Plot: 9 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	4.17	0.98	Sensitive fine grained	ML	soft	110	3.3	1	0.014	0.014	0.98	0.88	1.70	6.7	2.91		1				0.24	90.6
0.30	1.0	8.20	1.28	Clayey Silt to Silty Clay	ML/CL	firm	110	3.7	2	0.041	0.041	1.28	0.82	1.70	13.2	2.70		2				0.48	59.3
0.46	1.5	16.73	1.31	Sandy Silt to Clayey Silt	ML	loose	110	4.2	4	0.069	0.069	1.31	0.74	1.70	26.9	2.44	66.8	7	13	22	29		
0.61	2.0	24.47	1.79	Sandy Silt to Clayey Silt	ML	loose	110	4.3	6	0.096	0.096	1.80	0.72	1.70	39.3	2.39	88.7	10	18	38	30		
0.76	2.5	18.47	1.90	Sandy Silt to Clayey Silt	ML	loose	110	4.1	4	0.124	0.124	1.91	0.76	1.70	29.7	2.50	82.0	8	16	26	29		
0.91	3.0	12.70	2.24	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.6	3	0.151	0.151	2.26	0.81	1.70	20.4	2.67		3				0.74	24.9
1.07	3.5	13.07	5.05	Clay	CL/CH	stiff	110	3.3	4	0.179	0.179	5.12	0.88	1.70	21.0	2.89		4				0.76	21.6
1.22	4.0	16.80	5.33	Clay	CL/CH	stiff	110	3.5	5	0.206	0.206	5.40	0.86	1.70	27.0	2.82		5				0.98	24.1
1.37	4.5	19.23	5.63	Clay	CL/CH	very stiff	110	3.5	5	0.234	0.234	5.70	0.85	1.70	30.9	2.80		5				1.12	24.4
1.52	5.0	18.20	4.53	Clay	CL/CH	very stiff	110	3.6	5	0.261	0.261	4.60	0.83	1.70	29.2	2.75		5				1.06	20.6
1.68	5.5	15.38	4.70	Clay	CL/CH	stiff	110	3.5	4	0.289	0.289	4.79	0.85	1.70	24.7	2.82		4				0.89	15.7
1.83	6.0	13.07	4.86	Clay	CL/CH	stiff	110	3.4	4	0.316	0.316	4.98	0.87	1.70	21.0	2.88		4				0.75	12.1
1.98	6.5	10.73	5.16	Clay	CL/CH	stiff	110	3.2	3	0.344	0.344	5.33	0.90	1.70	17.2	2.96		3				0.61	9.1
2.13	7.0	8.77	5.51	Clay	CL/CH	firm	110	3.0	3	0.371	0.371	5.75	0.93	1.70	14.1	3.05		3				0.49	6.8
2.29	7.5	7.93	4.60	Clay	CL/CH	firm	110	3.1	3	0.399	0.399	4.85	0.92	1.70	12.7	3.04		3				0.44	5.7
2.44	8.0	17.47	2.98	Clayey Silt to Silty Clay	ML/CL	very stiff	110	3.8	5	0.426	0.426	3.06	0.80	1.70	28.1	2.64		5				1.00	12.0
2.59	8.5	25.80	1.95	Sandy Silt to Clayey Silt	ML	loose	110	4.3	6	0.454	0.454	1.98	0.73	1.70	41.5	2.39	94.9	9	19	40	30		
2.74	9.0	17.10	4.67	Clay	CL/CH	stiff	110	3.6	5	0.481	0.481	4.80	0.85	1.70	27.5	2.78		5				0.98	10.4
2.90	9.5	11.13	6.62	Clay	CL/CH	stiff	110	3.1	4	0.509	0.509	6.93	0.92	1.70	17.9	3.03		4				0.62	6.3
3.05	10.0	14.03	5.59	Clay	CL/CH	stiff	110	3.3	4	0.536	0.536	5.81	0.88	1.70	22.5	2.90		4				0.79	7.6
3.20	10.5	22.17	4.00	Silty Clay to Clay	CL	very stiff	110	3.8	6	0.564	0.564	4.10	0.81	1.66	34.9	2.66		6				1.27	11.5
3.35	11.0	25.63	3.59	Clayey Silt to Silty Clay	ML/CL	loose	120	3.9	7	0.593	0.593	3.67	0.79	1.58	38.3	2.60	126.8	9	25	37	29		
3.51	11.5	27.93	4.05	Silty Clay to Clay	CL	very stiff	120	3.9	7	0.623	0.623	4.14	0.80	1.53	40.3	2.62		7				1.61	13.2
3.66	12.0	29.00	4.13	Silty Clay to Clay	CL	very stiff	120	3.9	8	0.653	0.653	4.22	0.80	1.47	40.3	2.62		8				1.67	13.0
3.81	12.5	16.60	3.55	Silty Clay to Clay	CL	stiff	120	3.6	5	0.683	0.683	3.70	0.84	1.45	22.7	2.77		5				0.94	7.0
3.96	13.0	26.63	3.84	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	7	0.713	0.713	3.94	0.81	1.38	34.6	2.65		7				1.52	10.9
4.11	13.5	11.03	4.44	Clay	CL/CH	stiff	120	3.1	4	0.743	0.743	4.76	0.91	1.38	14.4	2.99		4				0.61	4.2
4.27	14.0	9.93	5.30	Clay	CL/CH	stiff	120	3.0	3	0.773	0.773	5.75	0.94	1.34	12.6	3.09		3				0.54	3.6
4.42	14.5	10.47	5.23	Clay	CL/CH	stiff	120	3.0	4	0.803	0.787	5.67	0.94	1.32	13.1	3.07		4				0.57	3.7
4.57	15.0	21.07	5.45	Clay	CL/CH	very stiff	120	3.4	6	0.833	0.801	5.68	0.87	1.27	25.4	2.86		6				1.19	7.6
4.72	15.5	27.80	5.15	Clay	CL/CH	very stiff	120	3.6	8	0.863	0.816	5.31	0.84	1.24	32.7	2.76		8				1.59	9.9
4.88	16.0	52.48	3.96	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.1	13	0.893	0.830	4.03	0.76	1.20	59.6	2.49	162.2	14	32	55	31		
5.03	16.5	30.77	3.74	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	8	0.923	0.845	3.86	0.80	1.20	34.9	2.64		8				1.76	10.6
5.18	17.0	9.87	5.04	Clay	CL/CH	stiff	120	2.9	3	0.953	0.859	5.58	0.95	1.22	11.4	3.11		3				0.53	3.1
5.33	17.5	6.67	3.16	Clay	CL/CH	firm	120	2.8	2	0.983	0.873	3.71	0.97	1.20	7.6	3.15		2				0.34	2.0
5.49	18.0	7.47	2.99	Silty Clay to Clay	CL	firm	120	2.9	3	1.013	0.888	3.46	0.95	1.18	8.3	3.10		3				0.39	2.2
5.64	18.5	8.67	3.38	Clay	CL/CH	firm	120	3.0	3	1.043	0.902	3.85	0.94	1.16	9.5	3.08		3				0.46	2.5
5.79	19.0	8.23	3.18	Silty Clay to Clay	CL	firm	120	3.0	3	1.073	0.917	3.66	0.95	1.15	8.9	3.09		3				0.43	2.3

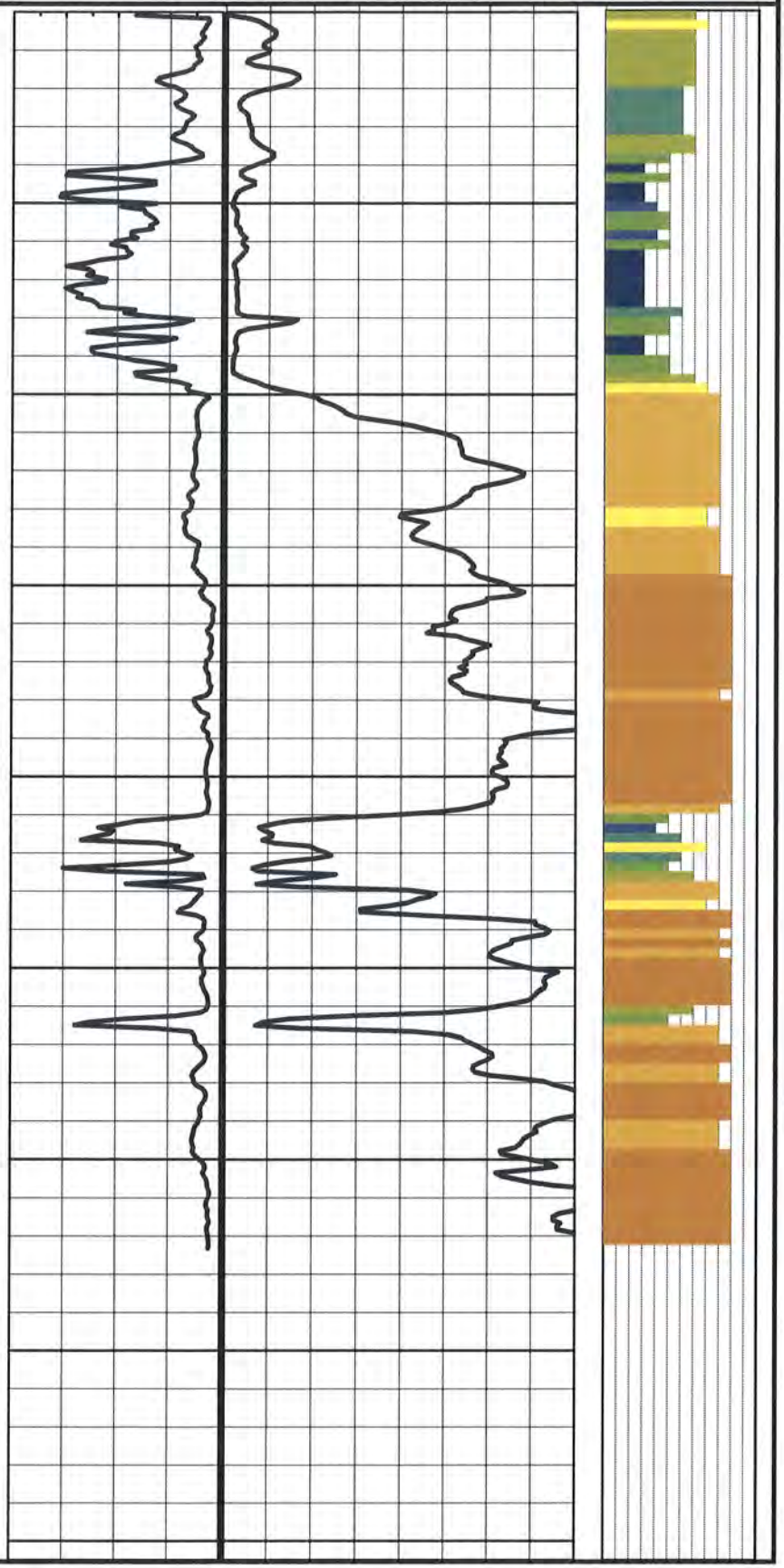
Earth Systems
Southern California

CPT No : CPT-10
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

Cone Penetrometer: **Kehoe Testing and Engineerin**
Truck Mounted Electric Cone
with 23-ton reaction weight
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
5	Sandy Silt to Clayey Silt	loose
	Sandy Silt to Clayey Silt	loose
	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Silty Clay to Clay	very stiff
10	Clay	stiff
	Clayey Silt to Silty Clay	stiff
	Silty Clay to Clay	very stiff
	Silty Clay to Clay	stiff
	Clay	stiff
15	Clay	stiff
	Clayey Silt to Silty Clay	loose
	Clayey Silt to Silty Clay	very stiff
	Clay	stiff
	Clayey Silt to Silty Clay	stiff
20	Sand to Silty Sand	medium dense
	Sand	medium dense
	Sand	dense
	Sand	dense
	Sand	very dense
25	Sand	very dense
	Sand	dense
	Sand to Silty Sand	dense
	Sand	dense
	Sand	dense
30	Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
35	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	very dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
40	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Sand	dense
	Clayey Silt to Silty Clay	hard
	Silty Sand to Sandy Silt	medium dense
45	Sandy Silt to Clayey Silt	medium dense
	Sand to Silty Sand	medium dense
	Sand	medium dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
50	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Sandy Silt to Clayey Silt	medium dense
	Sand	dense
55	Gravelly Sand to Sand	dense
	Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Sand	dense
60	Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
	Gravelly Sand to Sand	dense
65		
70		
75		
80		

End of Sounding @ 64.8 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-10 Plot: 10 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Nk: 17

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Su (tsf)	OCR
0.15	0.5	35.43	0.57	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	7	0.014	0.014	0.57	0.60	1.70	56.9	1.97	72.1	12	14	53	31		
0.30	1.0	54.00	0.76	Sand to Silty Sand	SP/SM	medium dense	100	5.3	10	0.040	0.040	0.76	0.57	1.70	86.8	1.89	102.1	17	20	71	32		
0.46	1.5	48.33	0.81	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	9	0.066	0.066	0.81	0.59	1.70	77.7	1.94	95.5	16	19	66	32		
0.61	2.0	46.27	1.01	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	9	0.094	0.094	1.01	0.61	1.70	74.3	2.01	98.1	16	20	65	32		
0.76	2.5	28.27	0.93	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	6	0.121	0.121	0.93	0.66	1.70	45.4	2.17	72.3	10	14	44	30		
0.91	3.0	54.83	1.24	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	11	0.149	0.149	1.24	0.61	1.70	88.1	2.01	116.0	18	23	72	33		
1.07	3.5	80.60	2.32	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	16	0.176	0.176	2.32	0.63	1.70	129.5	2.09	185.6	28	37	88	35		
1.22	4.0	56.13	1.86	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.8	12	0.204	0.204	1.87	0.65	1.70	90.2	2.13	135.7	20	27	73	33		
1.37	4.5	22.03	1.50	Sandy Silt to Clayey Silt	ML	loose	110	4.3	5	0.231	0.231	1.51	0.72	1.70	35.4	2.38	78.6	9	16	34	29		
1.52	5.0	15.30	1.73	Sandy Silt to Clayey Silt	ML	loose	110	4.0	4	0.259	0.259	1.76	0.77	1.70	24.6	2.54	73.7	6	15	19	29		
1.68	5.5	24.15	1.23	Sandy Silt to Clayey Silt	ML	loose	110	4.5	5	0.286	0.286	1.25	0.70	1.70	38.8	2.30	75.1	9	15	38	30		
1.83	6.0	28.23	1.47	Sandy Silt to Clayey Silt	ML	medium dense	110	4.5	6	0.314	0.314	1.49	0.70	1.70	45.4	2.29	86.5	11	17	44	30		
1.98	6.5	30.03	1.85	Sandy Silt to Clayey Silt	ML	medium dense	110	4.4	7	0.341	0.341	1.87	0.71	1.70	48.3	2.33	98.4	11	20	47	30		
2.13	7.0	42.50	1.22	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.9	9	0.369	0.369	1.24	0.64	1.70	68.3	2.10	98.9	14	20	61	31		
2.29	7.5	52.50	0.95	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	10	0.396	0.396	0.96	0.60	1.70	84.4	1.96	105.1	16	21	70	32		
2.44	8.0	30.87	3.02	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	7	0.424	0.424	3.06	0.75	1.70	49.6	2.46	128.1	11	26	48	30		
2.59	8.5	18.37	5.34	Clay	CL/CH	very stiff	110	3.5	5	0.451	0.451	5.47	0.85	1.70	29.5	2.80		5				1.05	11.9
2.74	9.0	29.00	2.99	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.1	7	0.479	0.479	3.04	0.75	1.70	46.6	2.48	124.2	10	25	45	30		
2.90	9.5	12.43	5.87	Clay	CL/CH	stiff	110	3.2	4	0.506	0.506	6.11	0.90	1.70	20.0	2.95		4				0.70	7.1
3.05	10.0	8.27	3.85	Clay	CL/CH	firm	110	3.2	3	0.534	0.534	4.11	0.91	1.70	13.3	2.98		3				0.45	4.3
3.20	10.5	12.27	2.91	Silty Clay to Clay	CL	stiff	110	3.6	3	0.561	0.561	3.05	0.84	1.70	19.7	2.76		3				0.69	6.3
3.35	11.0	11.77	2.63	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.6	3	0.590	0.590	2.77	0.84	1.64	18.2	2.77		3				0.66	5.7
3.51	11.5	16.90	3.22	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.7	5	0.620	0.620	3.34	0.83	1.55	24.8	2.71		5				0.96	7.9
3.66	12.0	20.43	3.87	Silty Clay to Clay	CL	very stiff	120	3.7	6	0.650	0.650	3.99	0.83	1.49	28.9	2.71		6				1.16	9.1
3.81	12.5	21.87	3.61	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.7	6	0.680	0.680	3.72	0.82	1.43	29.6	2.68		6				1.25	9.3
3.96	13.0	12.97	4.49	Clay	CL/CH	stiff	120	3.3	4	0.710	0.710	4.75	0.89	1.43	17.5	2.93		4				0.72	5.2
4.11	13.5	10.40	5.33	Clay	CL/CH	stiff	120	3.0	3	0.740	0.740	5.74	0.93	1.40	13.7	3.06		3				0.57	3.9
4.27	14.0	12.43	4.71	Clay	CL/CH	stiff	120	3.2	4	0.770	0.770	5.02	0.91	1.33	15.7	2.98		4				0.69	4.5
4.42	14.5	12.30	5.75	Clay	CL/CH	stiff	120	3.0	4	0.800	0.784	6.15	0.93	1.32	15.3	3.04		4				0.68	4.4
4.57	15.0	13.03	5.30	Clay	CL/CH	stiff	120	3.1	4	0.830	0.799	5.66	0.92	1.29	15.9	3.01		4				0.72	4.6
4.72	15.5	12.87	4.28	Clay	CL/CH	stiff	120	3.2	4	0.860	0.813	4.58	0.90	1.27	15.4	2.96		4				0.71	4.4
4.88	16.0	48.35	2.30	Sandy Silt to Clayey Silt	ML	medium dense	120	4.4	11	0.890	0.828	2.34	0.72	1.19	54.5	2.35	116.0	12	23	52	31		
5.03	16.5	30.60	3.84	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.8	8	0.920	0.842	3.95	0.81	1.20	34.8	2.65		8				1.75	10.6
5.18	17.0	11.57	2.61	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.4	3	0.950	0.856	2.84	0.88	1.20	13.2	2.89		3				0.63	3.7
5.33	17.5	11.87	4.64	Clay	CL/CH	stiff	120	3.1	4	0.980	0.871	5.06	0.93	1.20	13.4	3.03		4				0.65	3.8
5.49	18.0	9.43	4.06	Clay	CL/CH	stiff	120	3.0	3	1.010	0.885	4.55	0.94	1.18	10.5	3.08		3				0.50	2.9
5.64	18.5	8.33	2.04	Clayey Silt to Silty Clay	ML/CL	firm	120	3.2	3	1.040	0.900	2.33	0.91	1.16	9.1	2.97		3				0.44	2.4
5.79	19.0	15.90	3.04	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.5	5	1.070	0.914	3.26	0.86	1.13	17.1	2.83		5				0.88	4.9
5.94	19.5	45.03	1.41	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.6	10	1.100	0.928	1.45	0.69	1.09	46.8	2.27	86.4	10	17	45	30		
6.10	20.0	88.83	0.79	Sand to Silty Sand	SP/SM	medium dense	120	5.3	17	1.130	0.943	0.80	0.58	1.07	89.7	1.89	105.6	17	21	72	32		
6.25	20.5	117.77	0.78	Sand	SP	medium dense	120	5.5	21	1.160	0.957	0.79	0.55	1.06	117.6	1.79	129.3	22	26	84	34		
6.40	21.0	138.43	0.96	Sand	SP	medium dense	120	5.5	25	1.190	0.972	0.97	0.55	1.05	137.1	1.80	151.5	26	30	90	35		
6.55	21.5	191.77	0.95	Sand	SP	dense	120	5.7	34	1.220	0.986	0.96	0.52	1.04	188.0	1.69	194.4	34	39	100	37		
6.71	22.0	241.80	0.91	Sand	SP	dense	120	5.8	41	1.250	1.000	0.91	0.50	1.03	235.0	1.61	235.0	41	47	100	39		
6.86	22.5	265.67	0.98	Sand	SP	dense	120	5.8	45	1.280	1.015	0.98	0.50	1.02	256.4	1.61	256.4	45	51	100	40		
7.01	23.0	268.77	1.03	Sand	SP	dense	120	5.8	46	1.310	1.029	1.03	0.50	1.01	257.6	1.63	257.6	46	52	100	40		
7.16	23.5	286.93	1.00	Sand	SP	dense	120	5.9	49	1.340	1.044	1.00	0.50	1.01	273.1	1.60	273.1	48	55	100	40		
7.32	24.0	329.80	1.08	Sand	SP	very dense	120	5.9	56	1.370	1.058	1.08	0.50	1.00	311.7	1.59	311.7	54	62	100	41		
7.47	24.5	326.77	1.06	Sand	SP	very dense	120	5.9	55	1.400	1.072	1.06	0.50	0.99	306.8	1.59	306.8	54	61	100	41		
7.62	25.0	286.63	1.06	Sand	SP	dense	120	5.8	49	1.430	1.087	1.06	0.50	0.99	267.3	1.63	267.3	47	53	100	40		
7.77	25.5	271.70	1.22	Sand	SP	dense	120	5.7	48	1.460	1.101	1.22	0.52	0.98	251.6	1.69	259.2	45	52	100	40		
7.92	26.0	248.80	1.19	Sand	SP	dense	120	5.7	44	1.490	1.116	1.20	0.52	0.97	228.8	1.71	238.9	42	48	100	39		
8.08	26.5	210.63	1.41	Sand to Silty Sand	SP/SM	dense	120	5.4	39	1.520	1.130	1.42	0.55	0.96	192.0	1.81	214.5	36	43	100	38		
8.23	27.0	218.37	1.40	Sand to Silty Sand	SP/SM	dense	120	5.5	40	1.550	1.144	1.41	0.55	0.96	197.7	1.80	219.3	37	44	100	38		
8.38	27.5	216.27	1.11	Sand	SP	dense	120	5.6	39	1.580	1.159	1.12	0.53	0.95	194.8	1.73	206.4	36	41	100	38		
8.53	28.0	248.87	0.91	Sand	SP	dense	120	5.8	43	1.610	1.173	0.92	0.50	0.95	223.4	1.63	223.4	40	45	100	38		
8.69	28.5	274.07	0.99	Sand	SP	dense	120	5.8	47	1.640	1.188	0.99	0.50	0.94	244.5	1.63	244.5	43	49	100	39		
8.84	29.0	281.20	1.04	Sand	SP	dense	120	5.8	49	1.670	1.202	1.04	0.50	0.94	249.4	1.64	249.4	44	50	100	39		
8.99	29.5	291.60	0.76	Sand	SP	dense	120	6.0	49	1.700	1.216	0.77	0.50	0.93	257.0	1.53	257.0	44	51	100	39		
9.14	30.0	322.90	0.66	Gravelly Sand to Sand	SW	dense	120	6.1	53	1.730	1.231	0.66	0.50	0.93	283.0	1.46	283.0	47	57	100	40		
9.30	30.5	323.40	0.76	Gravelly Sand to Sand	SW	dense	120	6.1	53	1.760	1.245	0.76	0.50	0.92	281.8	1.50	281.8	48	56	100	40		
9.45	31.0	281.10	0.40	Gravelly Sand to Sand	SW	dense	120	6.3	44	1.790	1.260	0.41	0.50	0.92	243.5	1.36	243.5	40	49	100	38		
9.60	31.5	256.63	0.33	Gravelly Sand to Sand	SW	dense	120	6.4	40	1.820	1.274	0.33	0.50	0.91	221.0	1.35	221.0	36	44	100	37		
9.75	32.0	250.80	0.37	Gravelly Sand to Sand	SW	dense	120	6.3	40	1.850	1.288	0.37	0.50	0.91	214.8	1.39	214.8	35	43	100	37		
9.91	32.5	243.67	0.49	Gravelly Sand to Sand	SW	dense	120	6.1	40	1.880	1.303	0.49	0.50	0.90	207.5	1.47	207.5	35	42	100	37		
10.06	33.0	287.97	0.39	Gravelly Sand to Sand	SW	dense	120	6.3	45	1.910	1.317	0.39	0.50	0.90	243.9	1.35	243.9	40	49	100	38		
10.21	33.5	284.70	0.41	Gravelly Sand to Sand	SW	dense	120	6.3	45	1.940	1.332	0.42	0.50	0.89	239.9	1.38	239.9	39	48	100	38		
10.36	34.0	274.93	0.54	Gravelly Sand to Sand	SW	dense	120	6.1	45	1.970	1.346	0.55	0.50	0.89	230.4	1.46	230.4	39	46	100	38		
10.52	34.5	271.40	0.57	Gravelly Sand to Sand	SW	dense	120	6.1	45	2.000	1.360	0.57	0.50	0.88	226.2	1.48	226.2	38	45	100	38		
10.67	35.0	257.50	0.48	Gravelly Sand to Sand	SW	dense	120	6.1	42	2.030	1.375	0.48	0.50	0.88	213.5	1.46	213.5	36	43	100	37		
10.82	35.5	268.37	0.42	Gravelly Sand to Sand	SW	dense	120	6.2	43	2.060	1.389	0.42	0.50	0.87	221.4	1.41	221.4	36	44	100	38		
10.97	36.0	320.60	0.89	Sand	SP	dense	120	5.9	54	2.090	1.404	0.89	0.50	0.87	263.1	1.57	263.1	46	53	100	40		
11.13	36.5	376.75	0.78	Gravelly Sand to Sand	SW	very dense	120	6.1	62	2.120	1.418	0.78	0.50	0.86	307.6	1.48	307.6	52	62	100	41		
11.28	37.0	457.93	0.58	Gravelly Sand to Sand	SW	very dense	120	6.4	72	2.150	1.432	0.59	0.50	0.86	372.0	1.34	372.0	60	74	100	42		
11.43	37.5	392.00	0.62	Gravelly Sand to Sand	SW	very dense	120	6.2	63	2.180	1.447	0.62	0.50	0.86	316.8	1.40	316.8	52	63	100	41		
11.58	38.0	324.80	0.47	Gravelly Sand to Sand	SW	dense	120	6.3	52	2.210	1.461	0.47	0.50	0.85	261.2	1.38	261.2	43	52	100	39		

Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-10 Plot: 10 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Nk: 17

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Su (tsf)	OCR
11.73	38.5	315.83	0.40	Gravelly Sand to Sand	SW	dense	120	6.4	50	2.240	1.476	0.40	0.50	0.85	252.8	1.35	252.8	41	51	100	39		
11.89	39.0	313.37	0.52	Gravelly Sand to Sand	SW	dense	120	6.2	50	2.270	1.490	0.52	0.50	0.84	249.6	1.42	249.6	41	50	100	39		
12.04	39.5	310.43	0.58	Gravelly Sand to Sand	SW	dense	120	6.1	51	2.300	1.504	0.58	0.50	0.84	246.1	1.46	246.1	41	49	100	39		
12.19	40.0	313.57	0.56	Gravelly Sand to Sand	SW	dense	120	6.2	51	2.330	1.519	0.56	0.50	0.83	247.4	1.45	247.4	41	49	100	39		
12.34	40.5	317.23	0.53	Gravelly Sand to Sand	SW	dense	120	6.2	51	2.360	1.533	0.53	0.50	0.83	249.1	1.43	249.1	41	50	100	39		
12.50	41.0	305.07	0.53	Gravelly Sand to Sand	SW	dense	120	6.2	49	2.390	1.548	0.54	0.50	0.83	238.4	1.45	238.4	40	48	100	38		
12.65	41.5	289.17	0.47	Gravelly Sand to Sand	SW	dense	120	6.2	47	2.420	1.562	0.47	0.50	0.82	224.9	1.43	224.9	37	45	100	38		
12.80	42.0	185.67	1.04	Sand	SP	medium dense	120	5.4	34	2.450	1.576	1.05	0.55	0.80	140.7	1.81	157.2	27	31	91	35		
12.95	42.5	55.90	3.91	Clayey Silt to Silty Clay	ML/CL	hard	120	3.8	15	2.480	1.591	4.10	0.80	0.72	38.1	2.63		15				3.19	10.1
13.11	43.0	51.43	4.41	Silty Clay to Clay	CL	hard	120	3.7	14	2.510	1.605	4.64	0.82	0.71	34.5	2.70		14				2.93	9.1
13.26	43.5	86.33	3.10	Sandy Silt to Clayey Silt	ML	medium dense	120	4.1	16	2.540	1.620	3.23	0.76	0.72	45.3	2.51	126.8	13	25	44	31		
13.41	44.0	113.23	1.43	Sand to Silty Sand	SP/SM	medium dense	120	4.9	23	2.570	1.634	1.46	0.64	0.76	81.2	2.09	116.1	18	23	68	33		
13.56	44.5	71.00	2.42	Sandy Silt to Clayey Silt	ML	medium dense	120	4.3	17	2.600	1.648	2.51	0.73	0.72	48.5	2.41	114.2	13	23	47	31		
13.72	45.0	65.67	3.67	Clayey Silt to Silty Clay	ML/CL	medium dense	120	4.0	17	2.630	1.663	3.83	0.78	0.70	43.6	2.57	137.0	13	27	42	31		
13.87	45.5	67.30	1.92	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.4	15	2.660	1.677	2.00	0.72	0.72	45.6	2.37	99.3	12	20	44	31		
14.02	46.0	177.67	1.04	Sand	SP	medium dense	120	5.4	33	2.690	1.692	1.06	0.56	0.77	129.0	1.84	146.9	25	29	87	35		
14.17	46.5	219.80	0.96	Sand	SP	dense	120	5.6	39	2.720	1.706	0.97	0.53	0.77	161.0	1.75	172.3	30	34	97	36		
14.33	47.0	179.55	1.32	Sand to Silty Sand	SP/SM	medium dense	120	5.2	34	2.750	1.720	1.34	0.58	0.75	127.7	1.92	153.8	26	31	87	35		
14.48	47.5	336.13	0.64	Gravelly Sand to Sand	SW	dense	120	6.1	55	2.780	1.735	0.65	0.50	0.78	248.1	1.49	248.1	42	50	100	39		
14.63	48.0	366.87	0.72	Gravelly Sand to Sand	SW	dense	120	6.1	61	2.810	1.749	0.73	0.50	0.78	269.7	1.50	269.7	46	54	100	40		
14.78	48.5	333.43	0.87	Sand	SP	dense	120	5.9	57	2.840	1.764	0.87	0.50	0.77	244.1	1.59	244.1	43	49	100	39		
14.94	49.0	308.73	0.68	Gravelly Sand to Sand	SW	dense	120	6.0	52	2.870	1.778	0.69	0.50	0.77	225.1	1.54	225.1	39	45	100	38		
15.09	49.5	310.63	0.75	Sand	SP	dense	120	5.9	52	2.900	1.792	0.76	0.50	0.77	225.6	1.57	225.6	39	45	100	38		
15.24	50.0	355.57	0.68	Gravelly Sand to Sand	SW	dense	120	6.1	59	2.930	1.807	0.69	0.50	0.77	257.2	1.50	257.2	44	51	100	39		
15.39	50.5	367.20	0.70	Gravelly Sand to Sand	SW	dense	120	6.1	61	2.960	1.821	0.71	0.50	0.76	264.5	1.50	264.5	45	53	100	40		
15.54	51.0	363.43	0.66	Gravelly Sand to Sand	SW	dense	120	6.1	60	2.990	1.836	0.67	0.50	0.76	260.8	1.48	260.8	44	52	100	39		
15.70	51.5	351.30	0.51	Gravelly Sand to Sand	SW	dense	120	6.2	58	3.020	1.850	0.51	0.50	0.76	251.1	1.42	251.1	42	50	100	39		
15.85	52.0	311.27	0.50	Gravelly Sand to Sand	SW	dense	120	6.2	51	3.050	1.864	0.50	0.50	0.75	221.6	1.45	221.6	37	44	100	38		
16.00	52.5	156.00	2.05	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.8	32	3.080	1.879	2.09	0.65	0.69	101.7	2.12	152.5	24	31	78	34		
16.15	53.0	55.33	4.35	Clayey Silt to Silty Clay	ML/CL	hard	120	3.7	15	3.110	1.893	4.60	0.83	0.62	32.3	2.72		15				3.14	8.3
16.31	53.5	246.33	1.03	Sand	SP	dense	120	5.6	44	3.140	1.908	1.04	0.54	0.73	169.8	1.75	182.2	32	36	99	37		
16.46	54.0	282.57	0.87	Sand	SP	dense	120	5.8	49	3.170	1.922	0.88	0.51	0.74	197.4	1.65	198.6	35	40	100	37		
16.61	54.5	302.27	0.61	Gravelly Sand to Sand	SW	dense	120	6.0	50	3.200	1.936	0.62	0.50	0.74	211.2	1.53	211.2	36	42	100	38		
16.76	55.0	291.33	0.69	Gravelly Sand to Sand	SW	dense	120	5.9	49	3.230	1.951	0.70	0.50	0.74	202.8	1.58	202.8	35	41	100	37		
16.92	55.5	290.80	1.02	Sand	SP	dense	120	5.7	51	3.260	1.965	1.03	0.52	0.72	199.2	1.70	206.7	37	41	100	38		
17.07	56.0	360.03	0.99	Sand	SP	dense	120	5.8	62	3.290	1.980	1.00	0.50	0.73	248.8	1.62	248.8	44	50	100	39		
17.22	56.5	400.57	0.62	Gravelly Sand to Sand	SW	dense	120	6.2	65	3.320	1.994	0.62	0.50	0.73	275.8	1.45	275.8	46	55	100	40		
17.37	57.0	418.17	0.62	Gravelly Sand to Sand	SW	dense	120	6.2	68	3.350	2.008	0.63	0.50	0.73	286.9	1.43	286.9	48	57	100	40		
17.53	57.5	410.23	0.76	Gravelly Sand to Sand	SW	dense	120	6.0	68	3.380	2.023	0.77	0.50	0.72	280.4	1.51	280.4	48	56	100	40		
17.68	58.0	366.53	0.87	Gravelly Sand to Sand	SW	dense	120	5.9	62	3.410	2.037	0.88	0.50	0.72	249.7	1.58	249.7	44	50	100	39		
17.83	58.5	352.73	1.01	Sand	SP	dense	120	5.8	61	3.440	2.052	1.02	0.50	0.72	238.9	1.64	238.7	43	48	100	39		
17.98	59.0	339.27	1.07	Sand	SP	dense	120	5.7	59	3.470	2.066	1.08	0.51	0.71	227.5	1.68	232.4	41	46	100	39		
18.14	59.5	320.80	1.03	Sand	SP	dense	120	5.7	56	3.500	2.080	1.04	0.51	0.71	214.1	1.68	219.6	39	44	100	38		
18.29	60.0	353.47	0.75	Gravelly Sand to Sand	SW	dense	120	6.0	59	3.530	2.095	0.76	0.50	0.71	237.4	1.55	237.4	41	47	100	39		
18.44	60.5	345.17	0.61	Gravelly Sand to Sand	SW	dense	120	6.1	57	3.560	2.109	0.62	0.50	0.71	231.1	1.50	231.1	39	46	100	38		
18.59	61.0	333.23	0.54	Gravelly Sand to Sand	SW	dense	120	6.1	55	3.590	2.124	0.55	0.50	0.71	222.3	1.48	222.3	37	44	100	38		
18.75	61.5	414.07	0.46	Gravelly Sand to Sand	SW	dense	120	6.3	65	3.620	2.138	0.46	0.50	0.70	275.3	1.36	275.3	45	55	100	39		
18.90	62.0	432.40	0.46	Gravelly Sand to Sand	SW	dense	120	6.4	68	3.650	2.152	0.47	0.50	0.70	286.5	1.35	286.5	46	57	100	40		
19.05	62.5	404.90	0.51	Gravelly Sand to Sand	SW	dense	120	6.3	65	3.680	2.167	0.51	0.50	0.70	267.4	1.40	267.4	44	53	100	39		
19.20	63.0	377.07	0.46	Gravelly Sand to Sand	SW	dense	120	6.3	60	3.710	2.181	0.47	0.50	0.70	248.2	1.40	248.2	41	50	100	39		
19.35	63.5	380.97	0.48	Gravelly Sand to Sand	SW	dense	120	6.3	61	3.740	2.196	0.48	0.50	0.69	250.0	1.40	250.0	41	50	100	39		
19.51	64.0	421.57	0.47	Gravelly Sand to Sand	SW	dense	120	6.3	67	3.770	2.210	0.47	0.50	0.69	275.7	1.36	275.7	45	55	100	40		
19.66	64.5	471.87	0.44	Gravelly Sand to Sand	SW	dense	120	6.4	73	3.800	2.224	0.44	0.50	0.69	307.6	1.31	307.6	49	62	100	40		

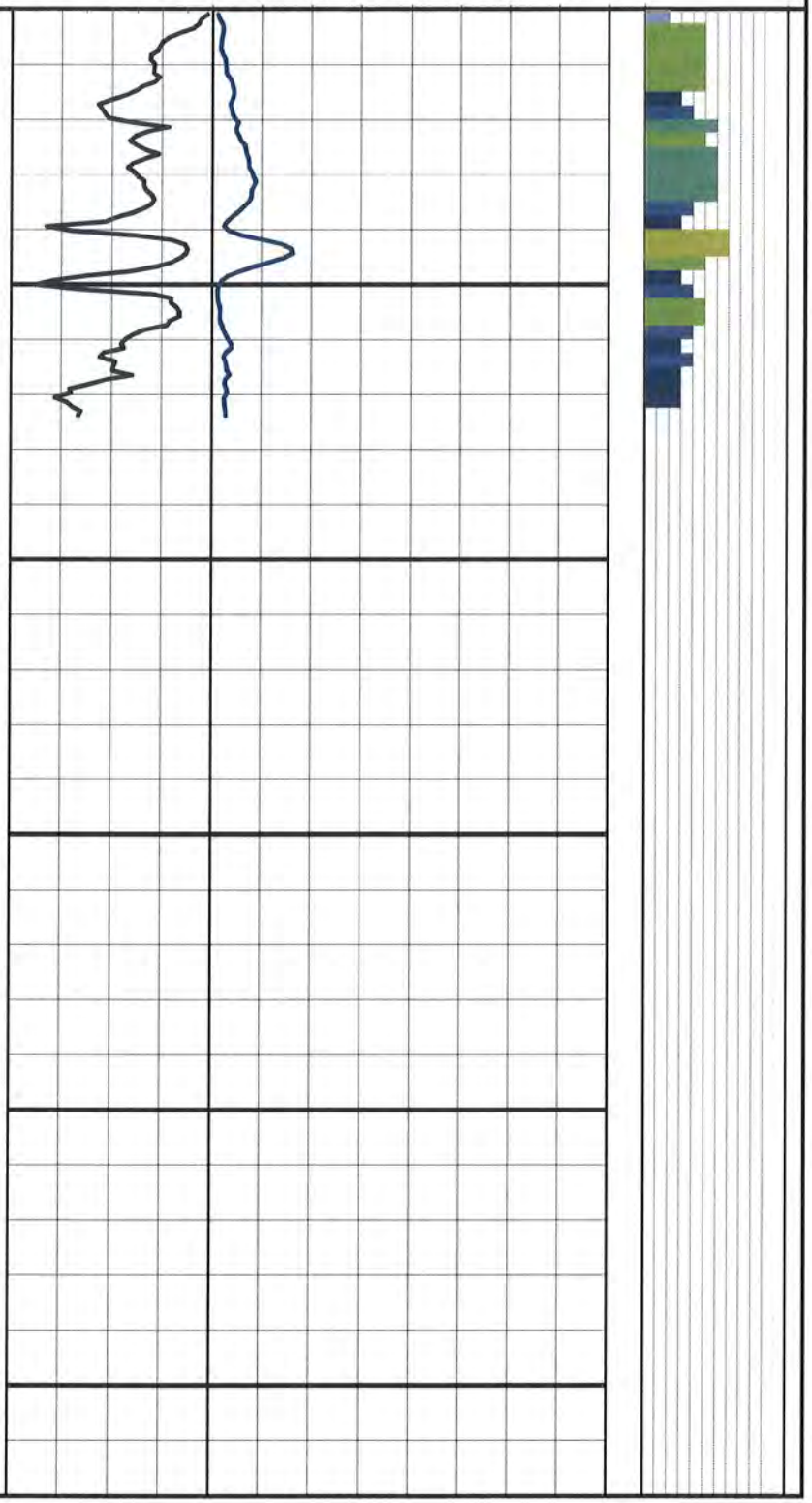
Earth Systems
Southern California

CPT No: CPT-11
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: **Kehoe Testing and Engineering**
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Clayey Silt to Silty Clay	stiff
	Clayey Silt to Silty Clay	stiff
	Clayey Silt to Silty Clay	loose
	Silty Clay to Clay	very stiff
5	Clayey Silt to Silty Clay	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Clay	very stiff
	Silty Sand to Sandy Silt	medium dense
10	Clay	very stiff
	Clayey Silt to Silty Clay	firm
	Clayey Silt to Silty Clay	stiff
	Clay	stiff
	Clay	stiff
15		
20		
25		
30		
35		
40		
45		
50		

End of Sounding @ 14.9 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-11 Plot: 11 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	Clean Sand $N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	8.67	0.59	Sensitive fine grained	ML	very loose	110	4.0	2	0.014	0.014	0.59	0.77	1.70	13.9	2.53	40.7	4	8	-5	28		
0.30	1.0	9.43	1.65	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.7	3	0.041	0.041	1.65	0.82	1.70	15.2	2.70		3				0.55	68.3
0.46	1.5	8.87	2.24	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.5	3	0.069	0.069	2.26	0.85	1.70	14.2	2.80		3				0.52	38.4
0.61	2.0	12.87	2.39	Clayey Silt to Silty Clay	ML/CL	stiff	110	3.7	3	0.096	0.096	2.40	0.81	1.70	20.7	2.68		3				0.75	39.8
0.76	2.5	16.43	2.26	Clayey Silt to Silty Clay	ML/CL	loose	110	3.9	4	0.124	0.124	2.27	0.78	1.70	26.4	2.58	85.4	7	17	22	29		
0.91	3.0	20.90	3.12	Clayey Silt to Silty Clay	ML/CL	loose	110	3.9	5	0.151	0.151	3.14	0.79	1.70	33.6	2.59	110.5	9	22	32	30		
1.07	3.5	18.63	4.34	Clay	CL/CH	very stiff	110	3.7	5	0.179	0.179	4.38	0.83	1.70	29.9	2.73		5				1.09	31.0
1.22	4.0	22.63	3.87	Silty Clay to Clay	CL	very stiff	110	3.8	6	0.206	0.206	3.91	0.80	1.70	36.4	2.63		6				1.32	32.6
1.37	4.5	24.93	2.48	Sandy Silt to Clayey Silt	ML	medium dense	110	4.2	6	0.234	0.234	2.50	0.75	1.70	40.1	2.47	105.2	10	21	39	30		
1.52	5.0	31.53	3.01	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	8	0.261	0.261	3.03	0.74	1.70	50.7	2.45	128.6	13	26	49	31		
1.68	5.5	36.03	2.84	Sandy Silt to Clayey Silt	ML	medium dense	110	4.3	8	0.289	0.289	2.86	0.73	1.70	57.9	2.39	132.3	14	26	54	31		
1.83	6.0	41.63	2.94	Sandy Silt to Clayey Silt	ML	medium dense	110	4.4	10	0.316	0.316	2.96	0.72	1.70	66.9	2.36	144.0	16	29	60	32		
1.98	6.5	40.23	2.61	Sandy Silt to Clayey Silt	ML	medium dense	110	4.4	9	0.344	0.344	2.63	0.71	1.70	64.6	2.33	133.1	15	27	59	32		
2.13	7.0	34.40	2.48	Sandy Silt to Clayey Silt	ML	medium dense	110	4.4	8	0.371	0.371	2.50	0.72	1.70	55.3	2.37	120.7	13	24	52	31		
2.29	7.5	19.63	3.73	Silty Clay to Clay	CL	very stiff	110	3.8	5	0.399	0.399	3.81	0.81	1.70	31.5	2.67		5				1.13	14.5
2.44	8.0	19.30	5.09	Clay	CL/CH	very stiff	110	3.6	5	0.426	0.426	5.21	0.84	1.70	31.0	2.77		5				1.11	13.3
2.59	8.5	67.07	1.24	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	13	0.454	0.454	1.25	0.60	1.66	105.0	1.96	131.2	19	26	79	33		
2.74	9.0	70.10	1.32	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	14	0.481	0.481	1.32	0.60	1.60	106.3	1.97	134.4	20	27	79	33		
2.90	9.5	28.47	3.54	Clayey Silt to Silty Clay	ML/CL	loose	110	4.0	7	0.509	0.509	3.60	0.77	1.70	45.7	2.54	135.3	10	27	44	30		
3.05	10.0	7.23	6.21	Clay	CL/CH	firm	110	2.8	3	0.536	0.536	6.71	0.96	1.70	11.6	3.16		3				0.39	3.7
3.20	10.5	5.67	1.89	Silty Clay to Clay	CL	firm	110	3.2	2	0.564	0.564	2.10	0.90	1.70	9.1	2.95		2				0.30	2.7
3.35	11.0	7.73	1.34	Clayey Silt to Silty Clay	ML/CL	firm	120	3.6	2	0.593	0.593	1.45	0.85	1.63	11.9	2.76		2				0.42	3.6
3.51	11.5	9.53	2.08	Clayey Silt to Silty Clay	ML/CL	stiff	120	3.5	3	0.623	0.623	2.22	0.86	1.57	14.2	2.80		3				0.52	4.3
3.66	12.0	16.13	3.40	Silty Clay to Clay	CL	stiff	120	3.6	4	0.653	0.653	3.55	0.84	1.50	22.9	2.75		4				0.91	7.1
3.81	12.5	14.87	4.10	Clay	CL/CH	stiff	120	3.4	4	0.683	0.683	4.30	0.87	1.46	20.5	2.84		4				0.83	6.2
3.96	13.0	14.10	3.92	Silty Clay to Clay	CL	stiff	120	3.4	4	0.713	0.713	4.13	0.87	1.41	18.8	2.86		4				0.79	5.6
4.11	13.5	14.37	4.10	Clay	CL/CH	stiff	120	3.4	4	0.743	0.743	4.32	0.88	1.36	18.5	2.88		4				0.80	5.5
4.27	14.0	13.90	5.85	Clay	CL/CH	stiff	120	3.1	4	0.773	0.773	6.20	0.91	1.33	17.5	3.00		4				0.77	5.1
4.42	14.5	12.57	5.53	Clay	CL/CH	stiff	120	3.1	4	0.803	0.787	5.90	0.92	1.31	15.6	3.02		4				0.69	4.5

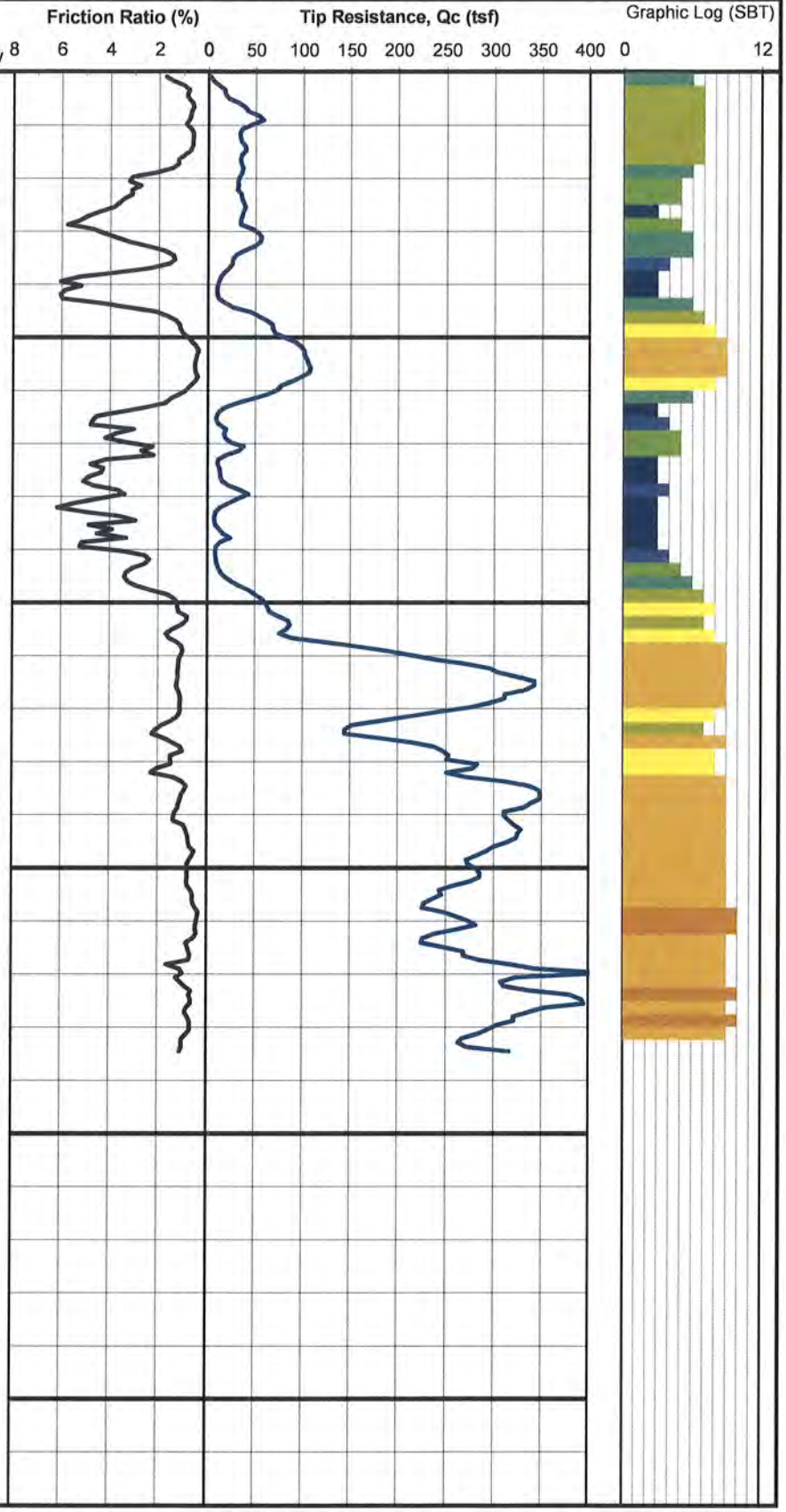
Earth Systems
Southern California

CPT No: CPT-12
Project Name: Doris and Patterson
Project No.: VT-24867-10
Location: See Site Exploration Plan

CPT Vendor: **Kehoe Testing and Engineering**
Truck Mounted Electric
Cone with 23-ton reaction
Date: 8/28/2017

DEPTH (FEET)	Interpreted Soil Stratigraphy Robertson & Campanella ('89)	Density/Consistency
	Sandy Silt to Clayey Silt	loose
	Silty Sand to Sandy Silt	medium dense
	Silty Sand to Sandy Silt	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Clayey Silt to Silty Clay	medium dense
5	Silty Clay to Clay	medium dense
	Sandy Silt to Clayey Silt	medium dense
	Clay	stiff
	Silty Clay to Clay	loose
	Sand to Silty Sand	medium dense
10	Sand	medium dense
	Sand to Silty Sand	medium dense
	Clayey Silt to Silty Clay	very stiff
	Clayey Silt to Silty Clay	very stiff
	Silty Clay to Clay	stiff
15	Silty Clay to Clay	very stiff
	Clay	firm
	Clay	stiff
	Clayey Silt to Silty Clay	stiff
	Silty Sand to Sandy Silt	medium dense
20	Sand to Silty Sand	medium dense
	Sand	dense
	Sand	very dense
	Sand	dense
	Sand to Silty Sand	dense
25	Sand	dense
	Sand	very dense
	Sand	very dense
	Sand	dense
	Sand	dense
30	Sand	dense
	Gravelly Sand to Sand	dense
	Sand	dense
	Sand	dense
	Gravelly Sand to Sand	dense
35	Gravelly Sand to Sand	dense
40		
45		
50		

End of Sounding @ 37.1 feet



Earth Systems
Southern California

CONE PENETROMETER INTERPRETATION

(based on Robertson & Campanella, 1989)

Project: Doris and Patterson

Project No: VT-24867-10

Date: 08/28/17

CPT SOUNDING: CPT-12 Plot: 12 Density: 1 SPT N Program developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Est. GWT (feet): **14.0** Dr correlation: 0 Baldi Qc/N: 0 Jefferies & Davies Phi Correlation: 4 SPT N

Base Depth meters	Base Depth feet	Avg Tip Qc, tsf	Avg Friction Ratio, %	Soil Classification	USCS	Density or Consistency	Est. Density (pcf)	Qc to N	SPT N(60)	Total po tsf	p'o tsf	F	n	Cq	Norm. Qc1n	2.6 Ic	Clean Sand Qc1n	$N_{1(60)}$	Clean Sand $N_{1(60)}$	Rel. Dens. Dr (%)	Phi (deg.)	Nk: 17 Su (tsf)	OCR
0.15	0.5	10.73	1.09	Sandy Silt to Clayey Silt	ML	loose	110	4.0	3	0.014	0.014	1.09	0.78	1.70	17.2	2.56	53.6	5	11	4	28		
0.30	1.0	23.00	0.78	Silty Sand to Sandy Silt	SM/ML	loose	110	4.7	5	0.041	0.041	0.78	0.67	1.70	37.0	2.20	61.9	8	12	36	29		
0.46	1.5	44.00	0.68	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	8	0.069	0.069	0.68	0.59	1.70	70.7	1.93	86.2	14	17	62	31		
0.61	2.0	46.30	0.81	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.2	9	0.096	0.096	0.81	0.60	1.70	74.4	1.96	92.7	15	19	65	32		
0.76	2.5	33.53	0.63	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	7	0.124	0.124	0.63	0.61	1.70	53.9	2.01	71.1	11	14	51	30		
0.91	3.0	37.50	0.79	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.0	7	0.151	0.151	0.79	0.62	1.70	60.3	2.03	80.5	13	16	56	31		
1.07	3.5	34.57	1.30	Silty Sand to Sandy Silt	SM/ML	medium dense	110	4.7	7	0.179	0.179	1.31	0.66	1.70	55.5	2.18	90.2	12	18	52	31		
1.22	4.0	32.83	2.81	Sandy Silt to Clayey Silt	ML	medium dense	110	4.3	8	0.206	0.206	2.83	0.73	1.70	52.8	2.42	126.0	13	25	50	31		
1.37	4.5	31.97	3.00	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	8	0.234	0.234	3.02	0.74	1.70	51.4	2.45	129.1	13	26	49	31		
1.52	5.0	36.93	3.66	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.2	9	0.261	0.261	3.68	0.75	1.70	59.3	2.46	153.7	15	31	55	32		
1.68	5.5	34.85	5.09	Clay	CL/CH	medium dense	110	3.9	9	0.289	0.289	5.14	0.78	1.70	56.0	2.59	181.9	15	36	53	32		
1.83	6.0	51.47	4.25	Clayey Silt to Silty Clay	ML/CL	medium dense	110	4.3	12	0.316	0.316	4.28	0.73	1.70	82.7	2.42	196.8	20	39	69	33		
1.98	6.5	46.80	2.48	Sandy Silt to Clayey Silt	ML	medium dense	110	4.6	10	0.344	0.344	2.49	0.69	1.70	75.2	2.27	139.7	17	28	65	32		
2.13	7.0	26.57	1.47	Sandy Silt to Clayey Silt	ML	loose	110	4.5	6	0.371	0.371	1.49	0.70	1.70	42.7	2.31	84.3	10	17	42	30		
2.29	7.5	17.30	3.77	Silty Clay to Clay	CL	stiff	110	3.7	5	0.399	0.399	3.86	0.82	1.70	27.8	2.71		5				0.99	12.7
2.44	8.0	9.90	5.71	Clay	CL/CH	stiff	110	3.1	3	0.426	0.426	5.97	0.92	1.70	15.9	3.02		3				0.56	6.7
2.59	8.5	12.53	5.48	Clay	CL/CH	stiff	110	3.3	4	0.454	0.454	5.69	0.89	1.70	20.1	2.93		4				0.71	8.0
2.74	9.0	40.37	2.36	Sandy Silt to Clayey Silt	ML	medium dense	110	4.5	9	0.481	0.481	2.39	0.70	1.70	64.9	2.30	126.9	13	25	59	31		
2.90	9.5	65.43	1.21	Silty Sand to Sandy Silt	SM/ML	medium dense	110	5.1	13	0.509	0.509	1.22	0.60	1.56	96.2	1.98	122.5	18	25	75	33		
3.05	10.0	80.93	0.83	Sand to Silty Sand	SP/SM	medium dense	100	5.4	15	0.535	0.535	0.83	0.56	1.46	111.8	1.82	125.6	20	25	81	33		
3.20	10.5	99.73	0.44	Sand	SP	medium dense	100	5.8	17	0.560	0.560	0.44	0.50	1.37	129.6	1.61	129.6	23	26	88	34		
3.35	11.0	105.37	0.52	Sand	SP	medium dense	120	5.8	18	0.588	0.588	0.52	0.50	1.34	133.7	1.64	133.7	24	27	89	34		
3.51	11.5	97.47	0.49	Sand	SP	medium dense	120	5.7	17	0.616	0.618	0.49	0.51	1.31	121.0	1.66	121.0	22	24	85	34		
3.66	12.0	70.63	0.93	Sand to Silty Sand	SP/SM	medium dense	120	5.2	14	0.648	0.648	0.94	0.59	1.34	89.2	1.93	108.9	17	22	72	32		
3.81	12.5	31.53	1.94	Sandy Silt to Clayey Silt	ML	loose	120	4.3	7	0.678	0.678	1.99	0.73	1.38	41.3	2.40	94.8	9	19	40	30		
3.96	13.0	9.73	4.28	Clay	CL/CH	stiff	120	3.1	3	0.708	0.708	4.61	0.92	1.45	13.3	3.01		3				0.53	3.8
4.11	13.5	15.87	3.85	Silty Clay to Clay	CL	stiff	120	3.5	5	0.738	0.738	4.04	0.86	1.36	20.5	2.83		5				0.89	6.2
4.27	14.0	26.23	3.28	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.9	7	0.768	0.768	3.38	0.80	1.29	32.1	2.63		7				1.50	10.0
4.42	14.5	20.63	3.03	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.7	6	0.798	0.782	3.15	0.82	1.28	25.0	2.69		6				1.17	7.6
4.57	15.0	11.50	4.48	Clay	CL/CH	stiff	120	3.1	4	0.828	0.796	4.83	0.92	1.30	14.1	3.00		4				0.63	4.0
4.72	15.5	16.47	4.69	Clay	CL/CH	stiff	120	3.3	5	0.858	0.811	5.16	0.89	1.27	19.7	2.91		5				0.92	5.8
4.88	16.0	32.33	4.27	Silty Clay to Clay	CL	very stiff	120	3.8	9	0.888	0.825	4.39	0.81	1.22	37.4	2.66		9				1.85	11.4
5.03	16.5	9.20	4.94	Clay	CL/CH	firm	120	2.9	3	0.918	0.840	5.49	0.96	1.25	10.8	3.13		3				0.49	3.0
5.18	17.0	8.63	3.91	Clay	CL/CH	firm	120	2.9	3	0.948	0.854	4.39	0.95	1.23	10.0	3.09		3				0.46	2.7
5.33	17.5	17.30	4.34	Clay	CL/CH	stiff	120	3.4	5	0.978	0.868	4.60	0.88	1.19	19.4	2.88		5				0.97	5.6
5.49	18.0	8.00	3.78	Clay	CL/CH	firm	120	2.9	3	1.008	0.883	4.33	0.96	1.19	9.0	3.13		3				0.42	2.4
5.64	18.5	9.60	2.68	Silty Clay to Clay	CL	stiff	120	3.2	3	1.038	0.897	3.00	0.91	1.16	10.5	2.98		3				0.51	2.9
5.79	19.0	18.80	3.34	Clayey Silt to Silty Clay	ML/CL	very stiff	120	3.5	5	1.068	0.912	3.54	0.85	1.14	20.2	2.80		5				1.05	5.8
5.94	19.5	41.70	2.31	Sandy Silt to Clayey Silt	ML	medium dense	120	4.2	10	1.098	0.926	2.38	0.74	1.10	43.5	2.43	106.0	10	21	42	30		
6.10	20.0	60.03	1.27	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.8	13	1.128	0.940	1.30	0.65	1.08	61.3	2.15	94.8	13	19	57	31		
6.25	20.5	74.53	0.96	Sand to Silty Sand	SP/SM	medium dense	120	5.1	15	1.158	0.955	0.97	0.61	1.06	75.0	2.00	97.6	15	20	65	32		
6.40	21.0	81.33	1.41	Silty Sand to Sandy Silt	SM/ML	medium dense	120	4.9	17	1.188	0.969	1.43	0.63	1.06	81.3	2.08	115.3	17	23	68	32		
6.55	21.5	123.37	1.29	Sand to Silty Sand	SP/SM	medium dense	120	5.2	24	1.218	0.984	1.30	0.59	1.04	121.7	1.92	147.4	24	29	85	34		
6.71	22.0	214.10	1.09	Sand	SP	dense	120	5.7	38	1.248	0.998	1.10	0.52	1.03	208.6	1.71	217.5	38	43	100	38		
6.86	22.5	290.30	1.20	Sand	SP	very dense	120	5.8	50	1.278	1.012	1.20	0.50	1.02	280.6	1.65	282.2	50	56	100	41		
7.01	23.0	336.37	1.24	Sand	SP	very dense	120	5.8	58	1.308	1.027	1.24	0.50	1.02	322.7	1.63	322.7	57	65	100	42		
7.16	23.5	318.03	1.15	Sand	SP	very dense	120	5.8	55	1.338	1.041	1.15	0.50	1.01	303.0	1.62	303.0	53	61	100	41		
7.32	24.0	270.67	1.12	Sand	SP	dense	120	5.8	47	1.368	1.056	1.13	0.51	1.00	256.1	1.66	258.2	46	52	100	40		
7.47	24.5	182.47	1.51	Sand to Silty Sand	SP/SM	dense	120	5.3	34	1.398	1.070	1.52	0.57	0.99	171.4	1.87	199.1	33	40	99	37		
7.62	25.0	155.90	2.04	Silty Sand to Sandy Silt	SM/ML	medium dense	120	5.1	31	1.428	1.084	2.05	0.61	0.99	145.2	2.01	191.6	30	38	92	36		
7.77	25.5	232.97	1.19	Sand	SP	dense	120	5.6	41	1.458	1.099	1.20	0.53	0.98	215.9	1.72	227.6	40	46	100	38		
7.92	26.0	261.87	1.50	Sand to Silty Sand	SP/SM	dense	120	5.5	47	1.488	1.113	1.51	0.54	0.97	240.8	1.77	261.8	45	52	100	40		
8.08	26.5	277.48	1.69	Sand to Silty Sand	SP/SM	dense	120	5.5	51	1.518	1.128	1.70	0.55	0.97	253.3	1.80	280.4	48	56	100	40		
8.23	27.0	343.80	0.95	Sand	SP	very dense	120	6.0	58	1.548	1.142	0.95	0.50	0.96	312.8	1.54	312.8	54	63	100	41		
8.38	27.5	339.43	1.15	Sand	SP	very dense	120	5.8	58	1.578	1.156	1.16	0.50	0.96	306.9	1.62	306.9	54	61	100	41		
8.53	28.0	312.30	1.35	Sand	SP	very dense	120	5.7	55	1.608	1.171	1.36	0.52	0.95	280.1	1.70	289.9	51	58	100	41		
8.69	28.5	324.50	0.89	Sand	SP	dense	120	6.0	54	1.638	1.185	0.89	0.50	0.94	289.8	1.54	289.8	50	58	100	41		
8.84	29.0	311.67	0.75	Sand	SP	dense	120	6.1	51	1.668	1.200	0.75	0.50	0.94	276.7	1.50	276.7	47	55	100	40		
8.99	29.5	281.57	0.61	Sand	SP	dense	120	6.1	46	1.698	1.214	0.62	0.50	0.93	248.5	1.48	248.5	42	50	100	39		
9.14	30.0	279.87	0.80	Sand	SP	dense	120	5.9	47	1.728	1.228	0.81	0.50	0.93	245.5	1.56	245.5	43	49	100	39		
9.30	30.5	272.17	0.81	Sand	SP	dense	120	5.9	46	1.758	1.243	0.81	0.50	0.92	237.4	1.57	237.4	41	47	100	39		
9.45	31.0	241.60	0.61	Sand	SP	dense	120	6.0	40	1.788	1.257	0.61	0.50	0.92	209.5	1.53	209.5	36	42	100	38		
9.60	31.5	233.43	0.46	Sand	SP	dense	120	6.1	38	1.818	1.272	0.46	0.50	0.91	201.3	1.46	201.3	34	40	100	37		
9.75	32.0	271.43	0.41	Gravelly Sand to Sand	SW	dense	120	6.3	43	1.848	1.286	0.42	0.50	0.91	232.7	1.39	232.7	38	47	100	38		
9.91	32.5	242.03	0.48	Gravelly Sand to Sand	SW	dense	120	6.1	40	1.878	1.300	0.49	0.50	0.90	206.4	1.47	206.4	35	41	100	37		
10.06	33.0	246.50	0.79	Sand	SP	dense	120	5.9	42	1.908	1.315	0.80	0.50	0.90	209.0	1.61	209.0	37	42	100	38		
10.21	33.5	290.47	1.02	Sand	SP	dense	120	5.8	50	1.938	1.329	1.03	0.50	0.89	244.9	1.64	244.0	44	49	100	39		
10.36	34.0	361.40	1.12	Sand	SP	very dense	120	5.8	62	1.968	1.344	1.12	0.50	0.89	303.1	1.61	303.1	53	61	100	41		
10.52	34.5	317.93	0.88	Sand	SP	dense	120	5.9	54	1.998	1.358	0.88	0.50	0.88	265.3	1.57	265.3	46	53	100	40		
10.67	35.0	389.50	0.68	Gravelly Sand to Sand	SW	very dense	120	6.2	63	2.028	1.372	0.68	0.50	0.88	323.3	1.42	323.3	54	65	100	41		
10.82	35.5	336.33	0.83	Sand	SP	dense	120	6.0	56	2.058	1.387	0.84	0.50	0.87	277.7	1.54	277.7	48	56	100	40		
10.97	36.0	305.80	0.68	Gravelly Sand to Sand	SW	dense	120	6.1	51	2.088	1.401	0.69	0.50	0.87	251.2	1.50	251.2	43	50	100	39		
11.13	36.5	271.53	0.97	Sand	SP	dense	120	5.8	47	2.118	1.416	0.98	0.50	0.86	221.6	1.65	222.6	40	45	100	38		

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-1
Sheet : 1 **Of :** 1

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height :** 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Soil Type (USCS)	Description	Additional Tests
				0	ML	**FILL: Sandy SILT;** soft	
1	19.1		4 4 3			**ALLUVIUM** **SILT with SAND;** firm, layers of sandy clay, moist, dark olive brown	#200 Wash Fines = 81 %
2	20.2	112	6 10 13	5	ML	**Sandy SILT;** stiff, slightly moist, light brown	#200 Wash Fines = 67 % PP = 2.5 tsf
						Layers of sandy lean clay	PP=0.5-0.75 tsf
3	17.8		2 3 4	10	SC	**Clayey SAND;** loose, moist, dark brown	#200 Wash Fines = 38 %
4	17.2	111	7 10 14		SM	**Silty SAND;** medium dense, very moist, mottled yellowish brown and grayish brown	#200 Wash Fines = 16 %
				15		**Sandy SILT;** stiff, moist, pale brown	
5	21.4		7 6 5		ML	Thin layers of lean clay	#200 Wash Fines = 54 %
6	20.2		10 14 21	20		**Silty SAND;** dense, wet, olive gray	#200 Wash Fines = 14 %
					SM		
7	20.1		15 17 22	25		Lenses of lean clay	#200 Wash Fines = 13 %
						End of Boring @ 26' 6" Groundwater encountered @ 17'	
				30			
				35			
				40			

Groundwater ▽ Bulk ⊠ CD ■ SPT ⊠

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-2
Sheet : 1 **Of** : 2

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height** : 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
				0			SM	**FILL** **Silty SAND;** very fine, loose, dry, light brown	
1	21.5	102	2 3 6				CL	**ALLUVIUM** **Sandy Lean CLAY;** firm, moist, brown	#200 Wash Fines = 63% PP = 1.2 tsf
2	24.8		2 2 3	5				Lean clay	#200 Wash Fines = 85% PP = 2.5 tsf
3	24.4	96	3 5 4					Lean Clay	#200 Wash Fines = 87%
4	18.0		2 3 4	10				8" layers of of clayey sand	#200 Wash Fines = 37% LL = 21 PL = 16
5	21.4		2 3 4	15			ML	**Sandy SILT;** firm, moist, olive brown	#200 Wash Fines = 64% PP = 3.5 tsf
6	21.8		2 4 6	20					#200 Wash Fines = 56%
7	21.5		7 10 12	25			SM	**Silty SAND;** fine to medium, layers of poorly graded sand, medium dense, wet, olive gray	#200 Wash Fines = 16%
8	21.4		7 8 9	30			SP-SM	**Poorly graded SAND with SILT;** fine to medium, medium dense, wet, brownish gray	#200 Wash Fines = 8%
9	19.0		9 8 13	35			SM	**Silty SAND;** fine to medium, lenses of dark brown lean clay, wet, gray and yellowish brown	#200 Wash Fines = 40%
				40					

Groundwater ▽ Bulk ⊠ CD ■ SPT ⊠

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-2
Sheet : 2 **Of** : 2

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height** : 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
10	20.1		10 14 22	40			SP-SM	**Poorly graded SAND with SILT;** fine, dense, wet, dark olive gray	#200 Wash Fines = 5%
11	19.5		4 6 10	45			ML	**Sandy SILT;** layers of sandy lean clay, very stiff, moist, gray	#200 Wash Fines = 70%
12	19.9		8 13 18	50			SP-SM	**Poorly graded SAND with SILT;** fine to coarse, medium dense	#200 Wash Fines = 11%
				55				End of Boring @ 51' 6" Groundwater encountered @15' 8"	
				60					
				65					
				70					
				75					
				80					

Groundwater ▽ Bulk ⊠ CD ■ SPT ⊠

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-3
Sheet : 1 **Of** : 1

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height** : 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Soil Type (USCS)	Description	Additional Tests
				0	ML	**FILL** **Sandy SILT;** soft, moist	
1	20.8		3 3 4		ML	**ALLUVIUM : Sandy SILT;** thin layers of sandy clay, firm, moist, dark brown	#200 Wash Fines = 67%
2	24.1	103	6 8 10	5		Thin layers of sandy clay	#200 Wash Fines = 75% PP = 2.2 tsf
3	26.1		3 4 6		CL	**Sandy Lean CLAY;** layers of sandy silt, firm, moist, light olive gray	#200 Wash Fines = 65% PP=1.5-1.7 tsf
4	22.3	103	7 8 10	10		Layers of silty sand	#200 Wash Fines = 64%
5	31.3		3 4 7	15	ML	**SILT;** stiff, moist, pale brown Layers of silty sand	#200 Wash Fines = 87% PP = 4.0 tsf
6	21.0		3 5 6	20	CL	**Sandy Lean CLAY;** thin layers of sandy silt, stiff, moist, pale brown	#200 Wash Fines = 59% LL = 28 PL = 20 PP = 1.7 tsf
7	23.0		10 14 18	25	ML	**Sandy SILT;** thin layers of lean clay with sand, very stiff, moist, pale brown Thin layers of silty sand	#200 Wash Fines = 80% PP = 4.0 tsf
				30		End of Boring @ 26' 6" Groundwater encountered @ approx. 19'	
				35			
				40			

Groundwater ▽ Bulk ☒ CD ■ SPT ☒

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : P-1
Sheet : 1 **Of** : 1

Drilling Method : Hand Auger
Sampling Method : Bulk
Hammer Weight : **Drop Height** :
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
1	7.9			0	☒		ML	**FILL: Sandy SILT;** slightly moist, brown	#200 Wash Fines = 57%
2	12.8				☒		ML	**ALLUVIUM** **Sandy SILT;** firm, slightly moist, brown	#200 Wash Fines = 66%
3	23.4				☒		CL	**Sandy Lean CLAY;** firm, moist, dark brown, caliche	Fines = 80%
4	24.4			5	☒				Fines = 69%
5	24.2				☒				Fines = 62%
6	25.2				☒		ML	**Sandy SILT;** very moist, pale brown	Fines = 50%
7	28.0				☒		SM	**Silty SAND;** very moist, pale brown	Fines = 37%
								End of Boring @ 8' No groundwater encountered	
				10					
				15					
				20					
				25					
				30					
				35					
				40					

Bulk ☒

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : P-2
Sheet : 1 **Of** : 1

Drilling Method : Hand Auger
Sampling Method : Bulk
Hammer Weight : **Drop Height** :
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
				0			ML	**FILL: Sandy SILT;** soft	
							CL	**ALLUVIUM : Sandy Lean CLAY;** firm, moist, dark brown	
				5			ML	**Sandy SILT;** firm, moist, brown	
								No groundwater encountered	
				10					
				15					
				20					
				25					
				30					
				35					
				40					

Bulk ☒

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : P-3
Sheet : 1 **Of** : 1

Drilling Method : Hand Auger
Sampling Method : Bulk
Hammer Weight : **Drop Height** :
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
1	13.6			0	⊠		SM	**FILL: Silty SAND;** fine, moist, dark brown	#200 Wash Fines = 36%
2	18.3				⊠		SM	**ALLUVIUM** **Silty SAND;** fine, moist, dark brown	#200 Wash Fines = 47%
3	23.1			5	⊠		ML	**Sandy SILT;** layers of sandy lean clay, moist, brown	#200 Wash Fines = 65%
4	23.0				⊠		CL	**Sandy Lean CLAY;** firm, very moist, brown	#200 Wash Fines = 53%
				10				End of boring @ 7' 6" No groundwater encountered	
				15					
				20					
				25					
				30					
				35					
				40					

Bulk ⊠

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-1
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0	X					SM			**ALLUVIUM:** Olive brown silty sand; loose; dry.
			■	3/4/4		ML/ SM	99.5	16.0	**ALLUVIUM:** Olive brown sandy silt to silty sand; medium stiff to loose; moist.
5			■	2/3/5		ML	98.7	24.8	**ALLUVIUM:** Mottled olive brown and gray clayey silt; caliche; medium stiff; moist.
10									Total Depth: 6.5 feet. No Groundwater Encountered.
15									
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-2
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; medium stiff; dry.
			■	4/4/5		ML	103.9	15.9	**ALLUVIUM:** Olive brown sandy silt; stiff; moist.
5			■	3/5/8		ML	108.9	11.8	
			■			SM/ ML			**ALLUVIUM:** Pale olive brown silty fine sand to sandy silt; iron stains; loose; moist.
10			■	4/6/8		SM/ ML	108.3	16.4	**ALLUVIUM:** Mottled olive brown and grayish brown silty sand to sandy silt; fine to medium grained; iron stains; loose; very moist.
15		■		3/2/3		CL			**ALLUVIUM:** Interbedded pale olive brown sandy clay; soft; wet.
									Total Depth: 16.5 feet.
20									Groundwater Depth: 14.0 feet.
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-3
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	4/5/7		ML	99.2	16.3	**ALLUVIUM:** Olive brown sandy silt; minor clay; caliche; stiff; moist.
5			■	4/5/6		SM/ ML	97.6	22.5	**ALLUVIUM:** Interbedded olive brown silty sand and sandy silt; loose; moist.
10			■	5/6/9		SM/ ML	102.8	22.0	**ALLUVIUM:** Mottled olive brown and grayish brown silty sand to sandy silt; iron stains; loose; moist.
15			■	3/6/8		ML			**ALLUVIUM:** Mottled olive brown and grayish brown sandy silt; stiff; moist.
20		■		2/3/4		ML			**ALLUVIUM:** Mottled olive brown and grayish brown sandy silt; medium stiff; moist.
25									Total Depth: 21.5 feet. No Groundwater Encountered.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-4
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	3/4/6		ML	97.7	20.7	**ALLUVIUM:** Dark olive brown sandy silt; pores and rootlets; medium stiff; damp.
5			■	4/6/7		ML	100.8	23.7	**ALLUVIUM:** Dark olive brown sandy silt; caliche; stiff; moist.
10			■	3/4/8		SM/ ML	109.3	18.6	**ALLUVIUM:** Mottled olive brown and grayish brown silty sand and sandy silt; iron stains; loose; moist.
15			■	3/5/7		ML			**ALLUVIUM:** Mottled olive brown sandy silt; mica; stiff; moist.
20			■	6/5/7		SM			**ALLUVIUM:** Mottled grayish brown silty fine sand; loose; moist.
25									Total Depth: 21.5 feet. No Groundwater Encountered.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-5
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	3/5/8		ML	96.6	15.9	**ALLUVIUM:** Olive brown sandy silt; rootlets; some caliche; stiff; damp.
5			■	6/6/6		ML	102.8	24.4	**ALLUVIUM:** Mottled olive brown and grayish brown sandy silt; some clay; caliche; stiff; moist.
10			■	4/8/11		SM	117.4	14.6	**ALLUVIUM:** Mottled olive brown and grayish brown and black silty fine sand; medium dense; moist.
15			■	3/5/8		ML			**ALLUVIUM:** Pale gray sandy silt; iron stains; stiff; moist.
20			■	5/7/8		SM			**ALLUVIUM:** Mottled grayish brown silty fine sand; medium dense; moist.
25									Total Depth: 21.5 feet. No Groundwater Encountered.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-6
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	4/5/5		ML	95.0	17.4	**ALLUVIUM:** Olive brown sandy silt; pinhole voids and rootlets; medium stiff; damp.
5			■	7/6/6		ML	101.7	21.9	**ALLUVIUM:** Olive brown sandy silt; stiff; moist.
10			■	3/5/9		SM/ ML	115.5	15.7	**ALLUVIUM:** Mottled grayish brown and black silty fine sand and sandy silt; loose; very moist.
15			■	6/8/6		SM/ ML			**ALLUVIUM:** Mottled grayish brown and black silty fine sand and sandy silt; loose; very moist.
20			■	3/5/6		SM			**ALLUVIUM:** Mottled gray silty fine sand; iron stains; loose; moist.
25									Total Depth: 21.5 feet. No Groundwater Encountered.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-7
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	3/3/3		ML	90.2	17.2	**ALLUVIUM:** Olive brown sandy silt; soft; damp.
5			■	4/6/11		ML	99.6	23.4	
						SM/ ML			**ALLUVIUM:** Mottled olive brown and grayish brown silty sand and sandy silt; medium dense; moist.
10			■	3/3/6		SM			**ALLUVIUM:** Mottled grayish brown and black silty fine sand; loose; very moist.
15			■	3/5/10		ML			**ALLUVIUM:** Mottled olive brown and gray sandy silt; soft; moist.
20		■		4/5/6		SM			**ALLUVIUM:** Mottled olive brown and gray silty fine sand; loose; moist.
25									Total Depth: 21.5 feet. No Groundwater Encountered.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-8
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	5/7/13		ML	95.4	18.8	**ALLUVIUM:** Olive brown sandy silt; rootlets; some caliche; very stiff; damp.
5			■	2/3/4		ML	102.5	22.6	**ALLUVIUM:** Olive brown sandy silt; medium stiff; moist.
10			■	2/4/9		SM	110.1	17.9	**ALLUVIUM:** Mottled olive brown and grayish brown silty fine sand; loose; moist.
15			■	3/5/7		ML			**ALLUVIUM:** Mottled olive brown and grayish brown sandy silt; stiff; moist.
20									Total Depth: 16.5 feet. No Groundwater Encountered.
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-9
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; very loose; dry.
			■	3/5/6		ML	98.9	22.0	**ALLUVIUM:** Olive brown sandy silt; rootlets; some caliche; medium dense; damp.
5			■	5/4/4		ML	102.0	22.8	**ALLUVIUM:** Mottled olive brown and grayish brown sandy silt; some caliche; medium stiff; moist.
10			■	2/3/4		ML/ SM	103.9	23.6	**ALLUVIUM:** Blackish brown sandy silt to silty fine sand; medium stiff; very moist.
15									Total Depth: 11.5 feet. No Groundwater Encountered.
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-10
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	3/4/4		ML	96.2	20.6	**ALLUVIUM:** Olive brown sandy silt; caliche; medium stiff; moist.
5			■	5/6/10		ML	103.6	22.9	
						SM			**ALLUVIUM:** Mottled olive brown and grayish brown silty fine sand; iron staining; loose; moist.
10			■	2/2/2		CL	91.5	21.8	**ALLUVIUM:** Blackish brown sandy clay; medium stiff; very moist.
15			■	3/3/6		ML			**ALLUVIUM:** Mottled olive brown and gray sandy silt; some clay; medium stiff; very moist.
20			■	3/4/9		SM			**ALLUVIUM:** Mottled gray silty sand to sandy silt; loose; moist.
25									Total Depth: 21.5 feet. No Groundwater Encountered.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-11
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 15, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 6.0" Hollow Stem Auger
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0	X					ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	3/4/5		ML	98.6	21.9	**ALLUVIUM:** Olive brown sandy silt; some caliche; medium stiff; moist.
5			■	5/5/7		ML	98.9	22.4	Same as above; but stiff and with higher sand content.
10									Total Depth: 6.5 feet. No Groundwater Encountered.
15									
20									
25									
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-12
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 24, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	5/6/7		SM/ ML	98.6	24.0	**ALLUVIUM:** Olive brown and dark brown silty sand and sandy silt; some pinhole voids and rootlets; loose; moist.
5			■	3/4/4		ML	96.8	21.6	**ALLUVIUM:** Mottled olive brown sandy silt; medium stiff; moist.
			■	P/2/4		ML	96.1	26.7	
10		■		1/2/2		ML/ SM			**ALLUVIUM:** Interbedded olive brown and grayish brown sandy silt and silty fine sand; some caliche; soft; moist.
		■		1/3/3		ML			**ALLUVIUM:** Mottled olive brown and gray sandy silt; medium stiff; moist.
15		■		2/3/3		ML			
		■		P/2/4		CL		30.0	**ALLUVIUM:** Mottled olive brown and gray sandy clay; medium stiff; moist.
20		■		3/5/6		CL			**ALLUVIUM:** Mottled olive brown and gray sandy clay; iron staining; stiff; moist.
		■		4/7/13		ML/ SM			**ALLUVIUM:** Interbedded gray silty sand and sandy silt; very stiff; wet.
25		■		9/8/7		ML/ SM			Same as above, but stiff.
		■		4/7/13		ML			**ALLUVIUM:** Olive brown and gray sandy silt; becoming sand; very stiff; wet.
30		■		12/13/15		SM			**ALLUVIUM:** Pale olive brown silty fine sand; medium dense; wet.
		■		14/15/18		SM			**ALLUVIUM:** Pale olive brown silty sand; fine to medium grained; dense; wet.
35		■		14/18/22		SM			Same as above.
		■		16/23/23		SW			**ALLUVIUM:** Gray well graded sand with some gravels; dense; wet.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-12 (Continued)
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 24, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40		■		13/12/9		SW			
				9/10/9		ML			**ALLUVIUM:** Dark gray sandy silt; some clay; very stiff; wet.
45		■		13/17/20		SM			**ALLUVIUM:** Gray silty sand; fine to medium grained; medium dense; wet.
		■		17/22/20		SM			Same as above.
50		■		17/22/22		SM			**ALLUVIUM:** Gray silty sand; fine to medium grained; medium dense; wet.
		■		15/16/18		SP			**ALLUVIUM:** Gray sand; fine to medium grained; dense; wet.
55		■		6/4/3		CL		34.8	**ALLUVIUM:** Dark olive brown sandy silty clay; medium stiff; moist.
		■		8/18/22		SP			**ALLUVIUM:** Pale gray fine grained sand; dense; wet.
60		■		11/24/25		SP			
		■		19/22/23		SP			**ALLUVIUM:** Pale gray fine grained sand; dense; wet.
65		■		18/21/22		SP/ SW			**ALLUVIUM:** Gray fine grained to well graded sand; some gravels; dense; wet.
									Total Depth: 66.5 feet.
70									Groundwater Depth 22.5 feet.
75									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-13
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 25, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; very loose; dry.
5			■	6/6/12		ML	106.4	16.2	**ALLUVIUM:** Mottled olive brown and gray sandy silt; some caliche; stiff; moist.
		■		1/1/2		ML			Same as above; soft.
10		■		P/1/1		ML			**ALLUVIUM:** Dark brown sandy silt with clay; very soft; moist.
		■		1/1/2		ML			**ALLUVIUM:** Pale olive brown clayey silt; soft; moist.
15		■		P/2/3		ML			**ALLUVIUM:** Mottled olive brown and gray sandy clayey silt; medium stiff; moist.
		■		1/2/4		SM/ ML			**ALLUVIUM:** Dark brown silt and sand; loose; moist.
20		■		4/6/6		ML/ SM			**ALLUVIUM:** Interbedded pale gray silty sand and sandy silt; stiff; wet.
		■		5/6/14		ML/ SM			**ALLUVIUM:** Interbedded pale gray and olive brown silty sand and sandy silt; very stiff; wet.
25		■		10/13/10		SM			**ALLUVIUM:** Pale olive brown slightly silty fine sand; medium dense; wet.
		■		10/16/18		SM			Same as above; dense.
30		■		12/13/14		SP			**ALLUVIUM:** Pale olive brown fine sand; some fine gravel; medium dense; wet.
		■		15/17/18		SW			**ALLUVIUM:** Pale olive brown well graded sand; some fine gravel; dense; wet.
35		■		16/20/23		SP			**ALLUVIUM:** Olive brown fine sand; dense; wet.
		■		24/25/27		SP			Same as above; very dense.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-13 (Continued)
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 25, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40		■		16/24/25		SP			**ALLUVIUM:** Gray fine sand; medium dense; wet.
		■		15/18/18		SP			**ALLUVIUM:** Gray sand; fine to medium grained; medium dense; wet.
45									
		■		20/21/22		SP			**ALLUVIUM:** Gray sand with gravel; coarse grained; medium dense; wet.
		■		27/30/46		SP			**ALLUVIUM:** Gray sand; fine to medium grained; very dense; wet.
50									
		■		24/32/28		SP			Same as above; some gravels.
									Total Depth: 51.5 feet.
55									Unable to measure depth to groundwater
60									
65									
70									
75									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-14
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 25, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: SC

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
			■	4/6/9		ML	104.0	19.0	**ALLUVIUM:** Olive brown sandy silt; caliche; rootlets; stiff; moist.
5			■	3/5/7		ML	99.7	23.1	
			■	4/4/3		SM	112.6	16.4	**ALLUVIUM:** Mottled olive brown silty fine sand; iron staining; loose; moist.
10			■	2/2/3		SM			Same as above, but very loose.
15			■	3/4/5		ML			**ALLUVIUM:** Mottled olive brown and gray sandy silt; some clay; medium stiff; very moist.
20			■	4/5/9		SM/ ML			**ALLUVIUM:** Mottled olive brown and gray silty sand to sandy silt; loose; moist.
25									Total Depth: 21.5 feet. No Groundwater Encountered.
30									
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-15
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 28, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: JW

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
5		■		4/6/5		SM			**ALLUVIUM:** Olive brown silty sand; fine grain; medium dense; damp.
						ML			**ALLUVIUM:** Olive brown sandy silt; medium stiff; damp.
10		■		1/3/4		SM		17.6	**ALLUVIUM:** Olive brown silty sand; loose; damp.
15		■		4/8/7		SM/ ML			**ALLUVIUM:** Olive brown silty sand and sandy silt; medium dense; damp.
20		■		4/5/8		SM/ ML		22.7	**ALLUVIUM:** Olive gray silty sand and sandy silt; medium dense; damp.
25		■		10/13/14		SP			**ALLUVIUM:** Pale olive brown sand; medium dense; wet.
30		■		14/17/18		SP			**ALLUVIUM:** Pale olive brown sand; dense; wet.
35		■		15/21/34		SP			**ALLUVIUM:** Olive brown sand with gravels and trace cobbles; very dense; wet.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-15 (Continued)
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 28, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: JW

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40				14/20/21		SP			**ALLUVIUM:** Gray sand; medium grained; dense; wet.
45				15/18/22		SP			**ALLUVIUM:** Gray sand; medium grained; dense; wet.
50				14/18/19		SP			Same as above.
55									Total Depth: 51.5 feet. Unable to measure depth to groundwater.
60									
65									
70									
75									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-16
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 28, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: JW

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0						ML			**ALLUVIUM:** Olive brown sandy silt; soft; dry.
5				2/2/4		ML			**ALLUVIUM:** Olive brown sandy silt; medium stiff; dry.
10				3/4/5		SM			**ALLUVIUM:** Grayish brown silty sand; fine grained; loose; damp.
15				3/6/4		SM/ ML		17.5	**ALLUVIUM:** Grayish brown silty sand and sandy silt; loose; damp.
20				4/6/6		SM/ ML			**ALLUVIUM:** Dark gray silty sand and sandy silt; medium dense; damp.
25				15/16/16		SP		23.8	**ALLUVIUM:** Dark olive gray fine sand; dense; wet.
30				11/11/14		SP			**ALLUVIUM:** Dark olive gray sand; medium dense; wet.
35				17/20/25		SP			**ALLUVIUM:** Dark olive gray sand; medium dense; wet.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: B-16 (Continued)
PROJECT NAME: Doris and Patterson K-8 School
PROJECT NUMBER: VT-24867-10
BORING LOCATION: Per Plan

DRILLING DATE: August 28, 2017
DRILL RIG: Mobile B-61
DRILLING METHOD: 4-Inch Diameter Mud Rotary
LOGGED BY: JW

Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
40		■		30/31/34		SP			**ALLUVIUM:** Dark olive gray sand; some gravel; very dense; wet.
45		■		23/26/40		SP			**ALLUVIUM:** Dark olive gray sand; some gravel; very dense; wet.
50		■		21/31/50-2"		SP			Same as above.
55									Total Depth: 51.5 feet. Unable to measure depth to groundwater.
60									
65									
70									
75									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

SYMBOLS COMMONLY USED ON BORING LOGS


Modified California Split Barrel Sampler


Modified California Split Barrel Sampler - No Recovery


Standard Penetration Test (SPT) Sampler


Standard Penetration Test (SPT) Sampler - No Recovery


Perched Water Level


Water Level First Encountered


Water Level After Drilling


Pocket Penetrometer (tsf)


Vane Shear (ksf)

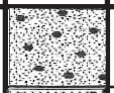
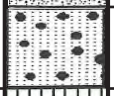
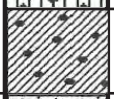
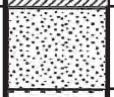
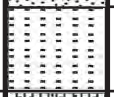
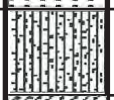
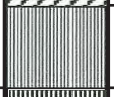
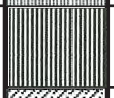
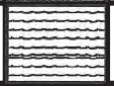
1. The location of borings were approximately determined by pacing and/or siting from visible features. Elevations of borings are approximately determined by interpolating between plan contours. The location and elevation of the borings should be considered

2. The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

3. Water level readings have been made in the drill holes at times and under conditions stated on the boring logs. This data has been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, tides, temperature, and other factors at the time measurements were made.

BORING LOG SYMBOLS

Earth Systems
Southern California

MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNTOF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENT

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

UNIFIED SOIL CLASSIFICATION SYSTEM

Earth Systems
Southern California

APPENDIX B

Laboratory Testing
Tabulated Laboratory Test Results
Individual Laboratory Test Results
Table 18-I-D

A. Samples were reviewed along with field logs to determine which would be analyzed further. Those chosen for laboratory analysis were considered representative of soils that would be exposed and/or used during grading, and those deemed to be within the influence of proposed structures. Test results are presented in graphic and tabular form in this Appendix.

B. In-situ Moisture Content and Unit Dry Weight for the ring samples were determined in general accordance with ASTM D 2937.

C. The relative strength characteristics of soils were determined from the results of Direct Shear tests on remolded samples. Specimens were placed in contact with water at least 24 hours before testing, and were then sheared under normal loads ranging from 1 to 3 ksf in general accordance with ASTM D 3080.

D. Settlement characteristics were developed from the results of one dimensional Consolidation tests performed in general accordance with ASTM D 2435. The samples were typically loaded to 0.125, then loads were raised incrementally to 0.25 ksf and 0.5 ksf, at which point they were flooded with water, and then incrementally loaded to 0.5, 1.0, 2.0, 4.0 and 8.0 ksf. The samples were allowed to consolidate under each load increment. Rebound was measured under reverse alternate loading. Compression was measured by dial gauges accurate to 0.0001 inch. Results of the consolidation tests are presented in this Appendix in the form of percent consolidation versus log of pressure curves.

E. Expansion index tests were performed on selected bulk soil samples in accordance with ASTM D 4829. The samples were surcharged under 144 pounds per square foot at moisture content of near 50% saturation. Samples were then submerged in water for 24 hours and the amount of expansion was recorded with a dial indicator.

F. Maximum density tests were performed to estimate the moisture-density relationship of typical soil materials. The tests were performed in accordance with ASTM D 1557.

G. The gradation characteristics of selected samples were evaluated by hydrometer (in accordance with ASTM D 422) and sieve analysis procedures. Selected samples were soaked in water until individual soil particles were separated, then washed on the No. 200 mesh sieve, oven dried, weighed to calculate the percent passing the No. 200 sieve, and mechanically sieved. Additionally, hydrometer analyses were performed to assess the distribution of the minus No. 200 mesh material of the samples. The hydrometer portions of the tests were run using sodium hexametaphosphate as a dispersing agent.

H. Resistance ("R") Value tests were conducted on selected bulk samples secured during the field study. The tests were performed in accordance with California Method 301. Three specimens at different moisture contents were tested for each sample, and the R-Value at 300 psi exudation pressure was determined from the plotted results.

I. Portions of the bulk samples were sent to another laboratory for analyses of soil pH, resistivity, chloride contents, and sulfate contents. Soluble chloride and sulfate contents were determined on a dry weight basis. Resistivity testing was performed in accordance with California Test Method 424, wherein the ratio of soil to water was 1:3.

J. The Plasticity Indices of selected samples were evaluated in accordance with ASTM D 4318.

TABULATED LABORATORY TEST RESULTS

BORING AND DEPTH	B-3 @ 0-5’	B-8 @ 0-5’
USCS	ML	ML
MAXIMUM DENSITY (pcf)	122.0	121.0
OPTIMUM MOISTURE (%)	11.0	12.0
COHESION (psf)	300* 20**	320* 90**
ANGLE OF INTERNAL FRICTION	29°* 33°**	29°* 32°**
EXPANSION INDEX	24	0
pH	7.9	7.8
SOLUBLE CHLORIDES (mg/Kg)	59	35
RESISTIVITY (OHMs-cm)	430	390
SOLUBLE SULFATES (mg/Kg)	3,600	4,500

* = Peak Strength Parameters

** = Ultimate Strength Parameters

BORING AND DEPTH	B-1 @ 0-2’	B-11 @ 0-2.5’
USCS	SM	ML
RESISTANCE (“R”) VALUE	23	15

BORING AND DEPTH	B-12 @ 7.5’	B-12 @ 17.5’
USCS	ML	CL
LIQUID LIMIT	--	34
PLASTIC LIMIT	--	19
PLASTICITY INDEX	--	15
GRAIN SIZE DISTRIBUTION (%)		
GRAVEL	0.0	0.0
SAND	37.9	20.8
SILT	39.7	47.3
CLAY (2μm to 5μm)	14.9	8.2
CLAY (≤2μm)	7.5	23.7

TABULATED LABORATORY TEST RESULTS (Continued)

BORING AND DEPTH	B-12 @ 22.5’	B-12 @ 42.5’	B-12 @ 55’
USCS	SM	SM	CL
LIQUID LIMIT	--	--	30
PLASTIC LIMIT	--	--	21
PLASTICITY INDEX	--	--	9
GRAIN SIZE DISTRIBUTION (%)			
GRAVEL	0.0	0.0	0.0
SAND	63.5	50.7	37.1
SILT	25.5	42.8	39.2
CLAY (2μm to 5μm)	5.1	3.7	6.5
CLAY (≤2μm)	5.9	2.8	17.2

BORING AND DEPTH	B-13 @ 12.5’	B-13 @17.5’	B-15 @ 10’
USCS	ML	SM	SM
LIQUID LIMIT	33	29	--
PLASTIC LIMIT	25	24	--
PLASTICITY INDEX	8	5	Non-Plastic
GRAIN SIZE DISTRIBUTION (%)			
GRAVEL	0.0	0.0	0.0
SAND	24.8	56.9	72.4
SILT	53.4	22.0	16.2
CLAY (2μm to 5μm)	9.7	5.5	3.0
CLAY (≤2μm)	12.1	15.6	8.4

BORING AND DEPTH	B-15 @20’	B-16 @ 10’	B-16 @ 25’
USCS	SM	SM	SP
LIQUID LIMIT	--	--	--
PLASTIC LIMIT	--	--	--
PLASTICITY INDEX	Non-Plastic	Non-Plastic	--
GRAIN SIZE DISTRIBUTION (%)			
GRAVEL	0.0	0.0	0.2
SAND	52.6	69.6	87.7
SILT	32.9	20.6	7.2
CLAY (2μm to 5μm)	3.0	1.4	3.1
CLAY (≤2μm)	11.5	8.4	1.8

File Number: VT-24867-10 Lab Number: 097530

MAXIMUM DENSITY / OPTIMUM MOISTURE

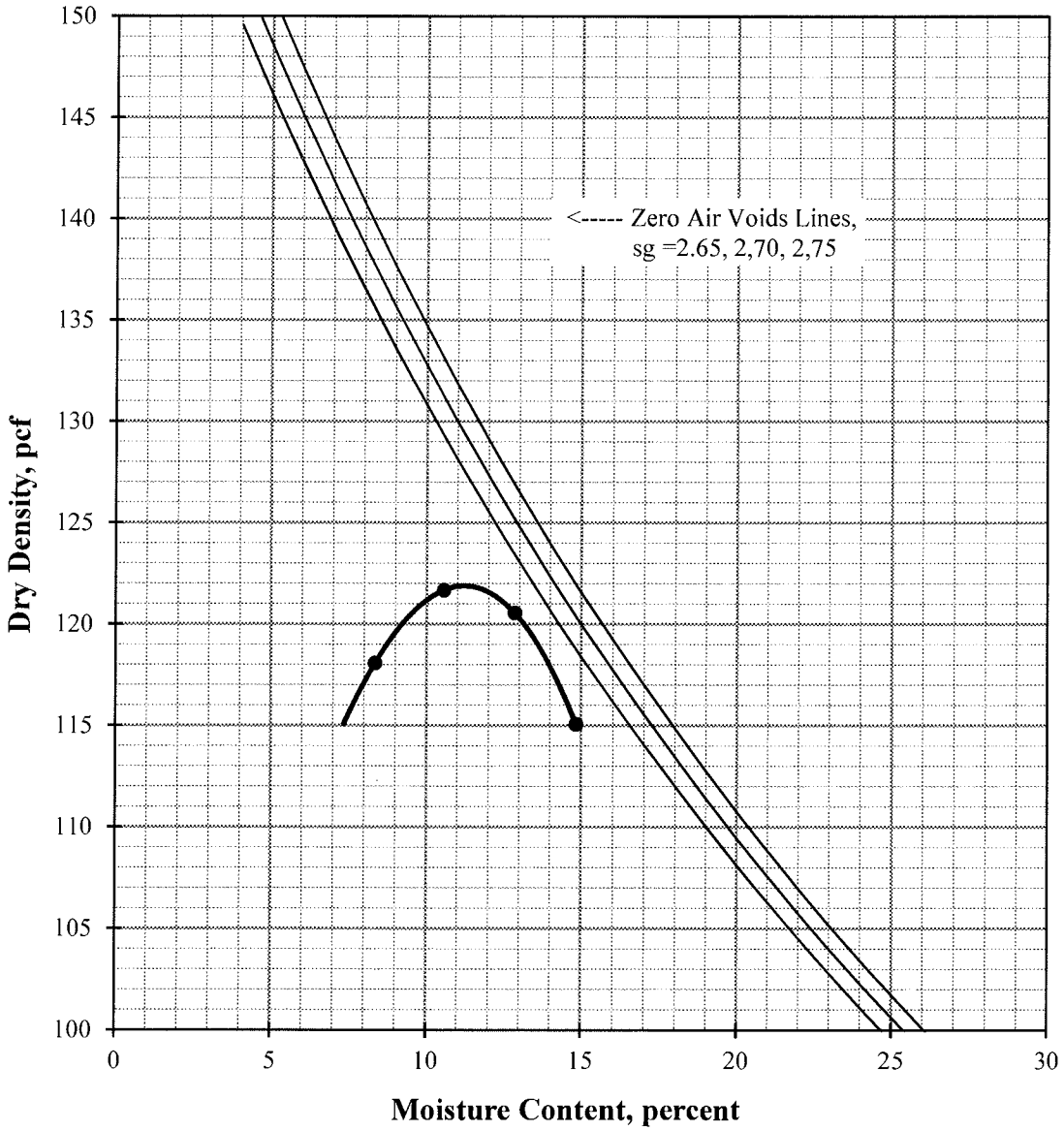
ASTM D 1557-12 (Modified)

Job Name: Doris & Patterson Middle School
Sample ID: B 3 @ 0-5'
Location:
Description: Very Dark Grayish Brown Sandy Silt
SG: 2.50

Procedure Used: A
Prep. Method: Moist
Rammer Type: Automatic

Maximum Density: **122 pcf**
Optimum Moisture: **11%**

Sieve Size	% Retained
3/4"	0.0
3/8"	0.0
#4	0.0



File Number: VT-24867-10 Lab Number: 097530

MAXIMUM DENSITY / OPTIMUM MOISTURE

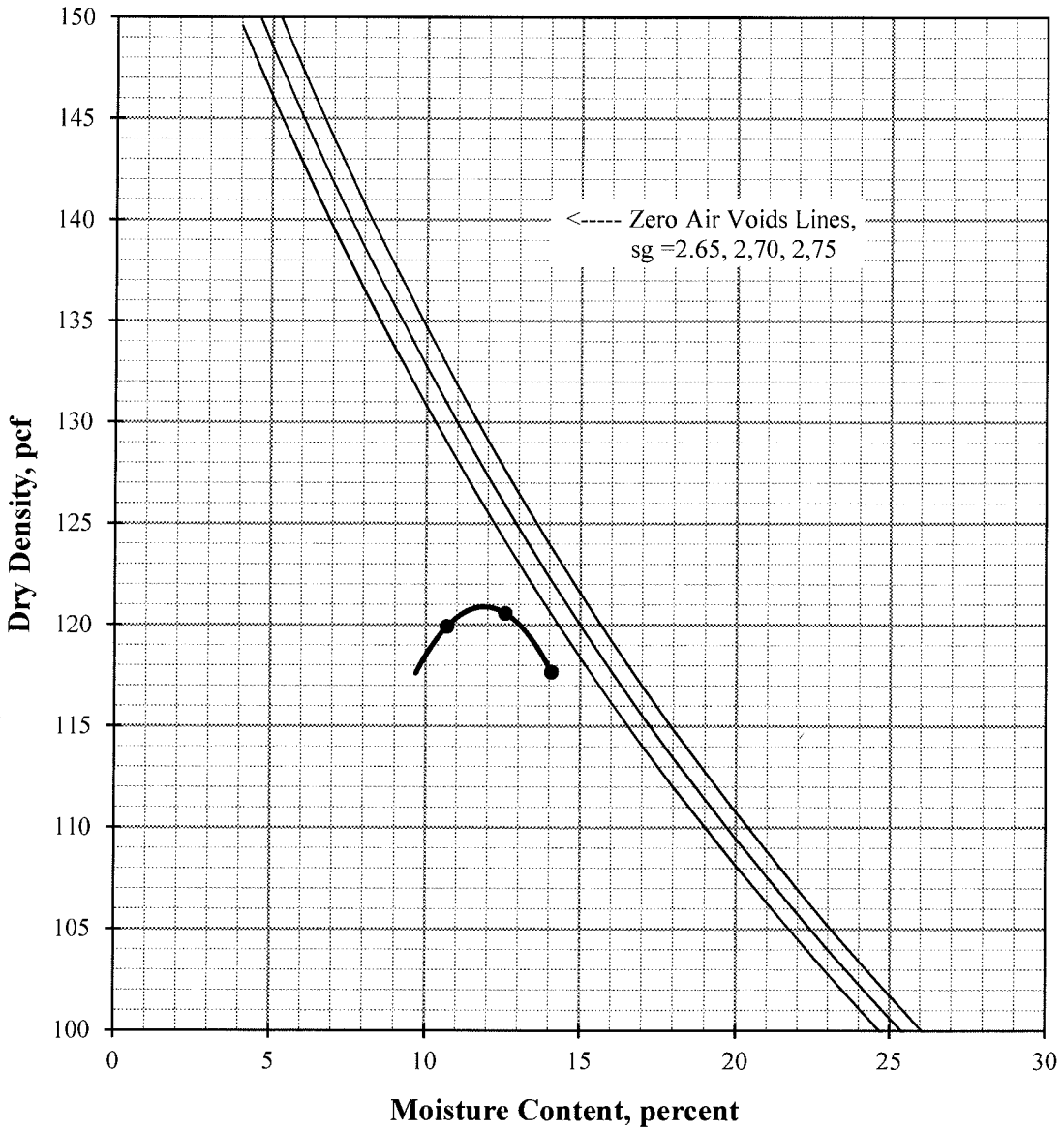
ASTM D 1557-12 (Modified)

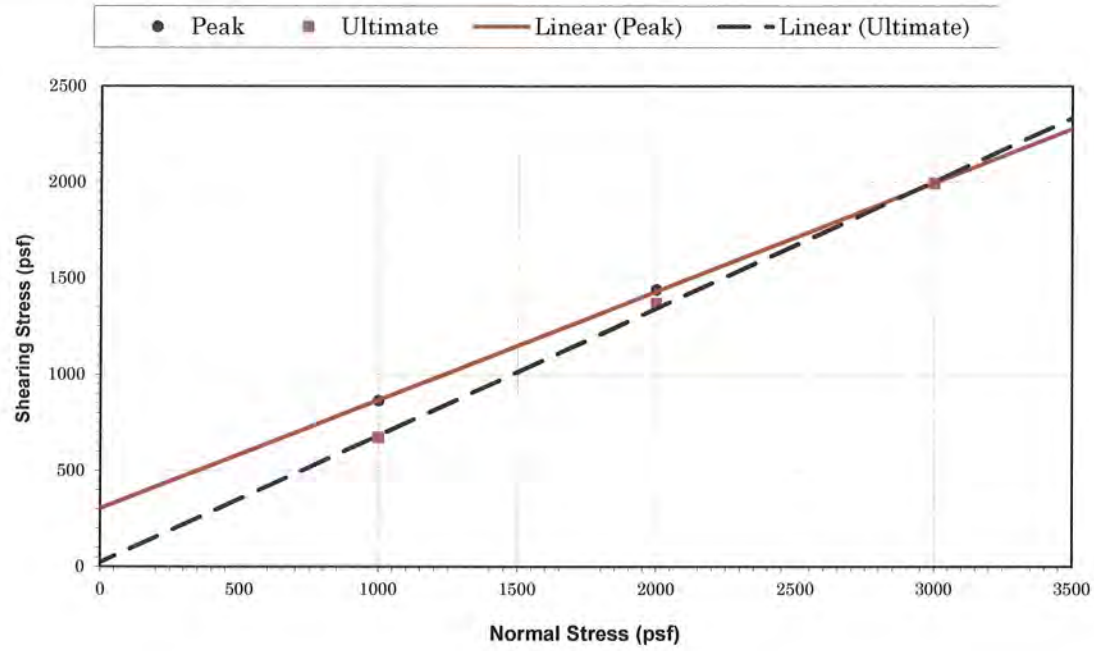
Job Name: Doris & Patterson Middle School
Sample ID: B 8 @ 0-5'
Location:
Description: Dark Grayish Brown Sandy Silt
SG: 2.50

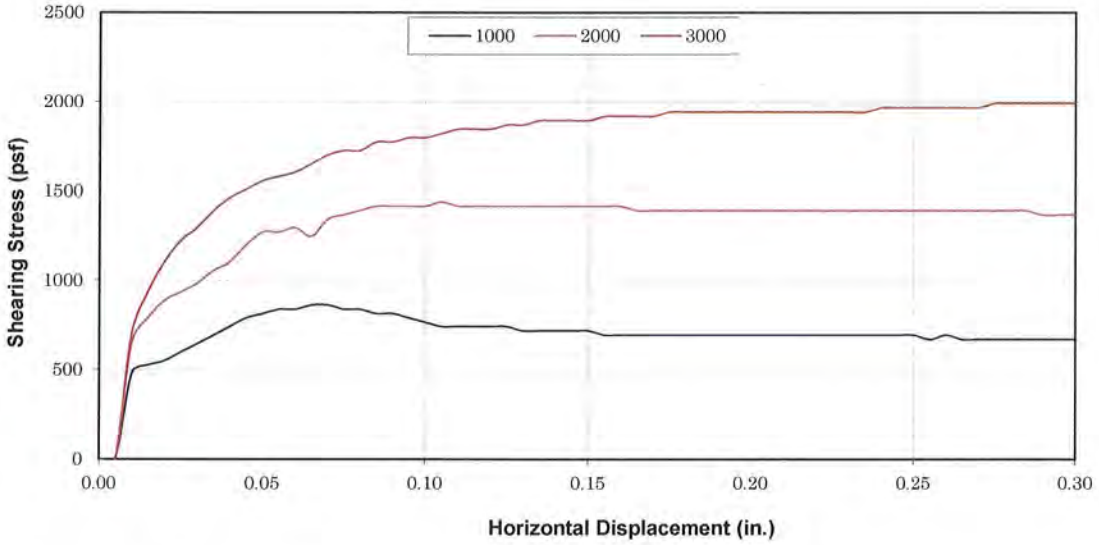
Procedure Used: A
Prep. Method: Moist
Rammer Type: Automatic

Maximum Density: **121 pcf**
Optimum Moisture: **12%**

Sieve Size	% Retained
3/4"	0.0
3/8"	0.0
#4	0.3







DIRECT SHEAR DATA*

Sample Location: B 3 @ 0-5'
Sample Description: Sandy Silt
Dry Density (pcf): 110.0
Intial % Moisture: 11.2
Average Degree of Saturation: 95.8
Shear Rate (in/min): 0.0109 in/min

Normal stress (psf)	1000	2000	3000
Peak stress (psf)	864	1440	1992
Ultimate stress (psf)	672	1368	1992

	Peak	Ultimate
ϕ Angle of Friction (degrees):	29	33
c Cohesive Strength (psf):	300	20

Test Type: Peak & Ultimate

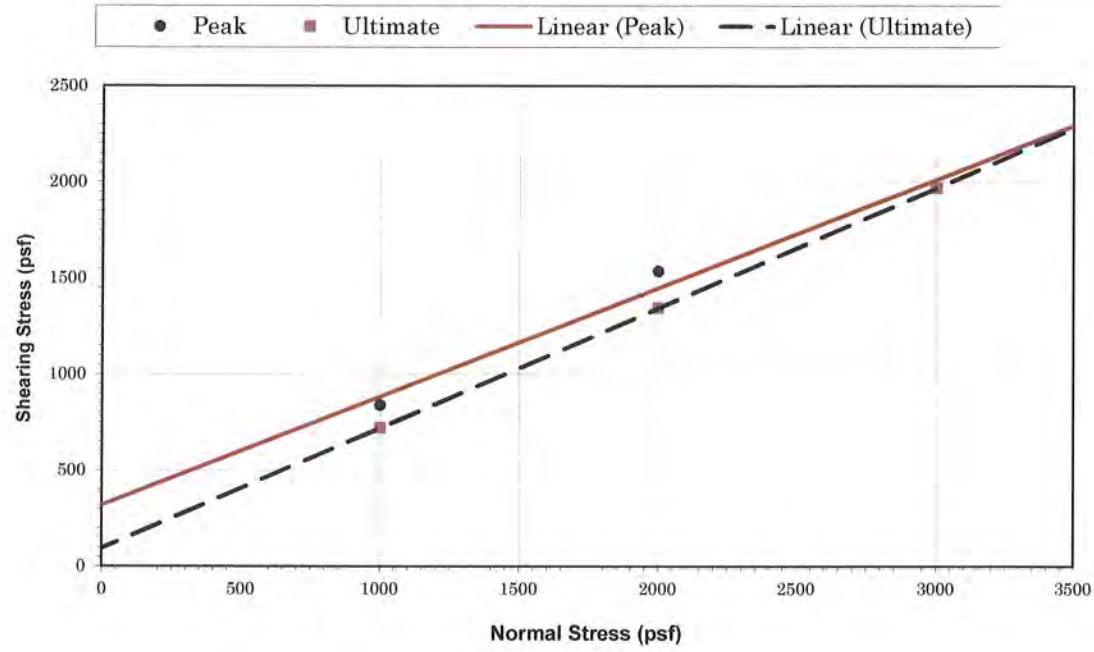
* Test Method: ASTM D-3080

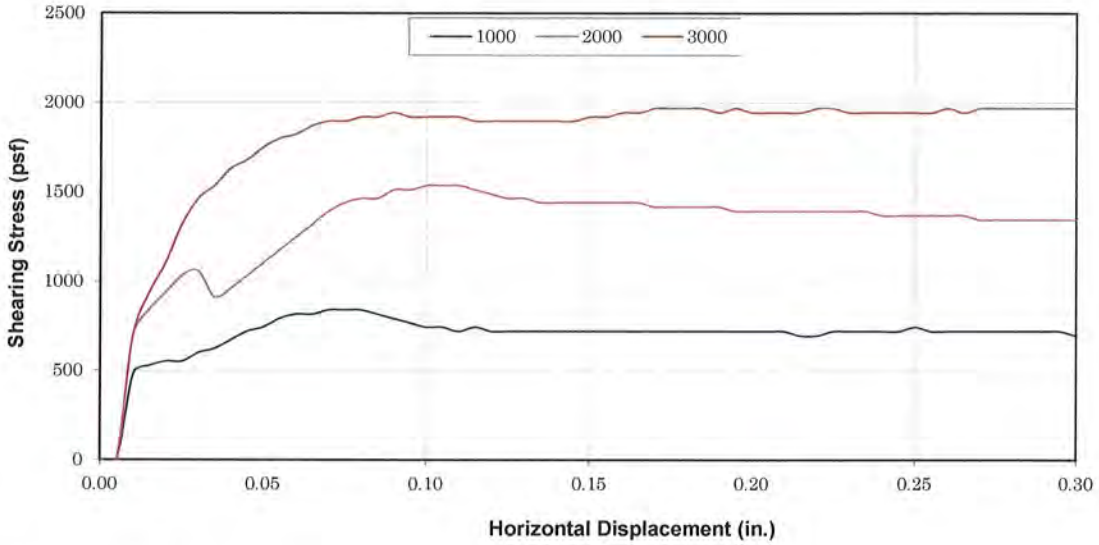
DIRECT SHEAR TEST

Doris & Patterson Middle School

Earth Systems
Southern California

9/27/2017 | VT-24867-10





DIRECT SHEAR DATA*

Sample Location: B 8 @ 0-5'
Sample Description: Sandy Silt
Dry Density (pcf): 109.2
Intial % Moisture: 11.8
Average Degree of Saturation: 98.7
Shear Rate (in/min): 0.008 in/min

Normal stress (psf)	1000	2000	3000
Peak stress (psf)	840	1536	1968
Ultimate stress (psf)	720	1344	1968

	Peak	Ultimate
ϕ Angle of Friction (degrees):	29	32
c Cohesive Strength (psf):	320	90

Test Type: Peak & Ultimate

* Test Method: ASTM D-3080

DIRECT SHEAR TEST

Doris & Patterson Middle School

Earth Systems
Southern California

9/27/2017 | VT-24867-10

File No.: VT-24867-10 September 19, 2017

EXPANSION INDEX

ASTM D-4829, UBC 18-2

Job Name: Doris & Patterson Middle School
Sample ID: B 3 @ 0-5'
Soil Description: ML

Initial Moisture, %:	10.6
Initial Compacted Dry Density, pcf:	106.9
Initial Saturation, %:	50
Final Moisture, %:	21.6
Volumetric Swell, %:	2.4
Expansion Index:	**24** **Low**

EI	UBC Classification
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
130+	Very High

File No.: VT-24867-10 September 19, 2017

EXPANSION INDEX

ASTM D-4829, UBC 18-2

Job Name: Doris & Patterson Middle School
Sample ID: B 8 @ 0-5'
Soil Description: ML

Initial Moisture, %:	10.6
Initial Compacted Dry Density, pcf:	106.6
Initial Saturation, %:	50
Final Moisture, %:	19.8
Volumetric Swell, %:	0.0

Expansion Index: **0** **Very Low**

EI	UBC Classification
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
130+	Very High

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 12 @ 7.5'**
Soil Description: **ML**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	694
Corrected Wt., g:	694.0

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.0	0.00	100.00
#10	0.0	0.00	100.00

Air Dry Hydro Sample Wt., g:	60.4
Corrected Wt., g:	60.4
Calculation Factor	0.6040

Hydrometer Analysis for <#10 Material

Start time: 8:00:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	8:00:20 AM	41	24	3.5	37.5
1 hour	9:00:00 AM	17	24	3.5	13.5
6 hour	2:00:00 PM	8	24	3.5	4.5

% Gravel:	0.0
% Sand(2mm - 74µm):	37.9
% Silt(74µm- 5µm):	39.7
% Clay(5µm - 2µm):	14.9
% Clay(≤2µm):	7.5

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 12 @ 17.5'**
Soil Description: **CL**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	462.8
Corrected Wt., g:	462.8

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.0	0.00	100.00
#10	0.8	0.17	99.83

Air Dry Hydro Sample Wt., g:	61.1
Corrected Wt., g:	61.1
Calculation Factor	0.6120

Hydrometer Analysis for <#10 Material

Start time: 8:06:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	8:06:20 AM	52	24	3.5	48.5
1 hour	9:06:00 AM	23	24	3.5	19.5
6 hour	2:06:00 PM	18	24	3.5	14.5

% Gravel:	0.0
% Sand(2mm - 74µm):	20.8
% Silt(74µm- 5µm):	47.3
% Clay(5µm - 2µm):	8.2
% Clay(≤2µm):	23.7

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 12 @ 22.5'**
Soil Description: **SM**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	439.2
Corrected Wt., g:	439.2

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.0	0.00	100.00
#10	0.0	0.00	100.00

Air Dry Hydro Sample Wt., g:	58.9
Corrected Wt., g:	58.9
Calculation Factor	0.5890

Hydrometer Analysis for <#10 Material

Start time: 7:54:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	7:54:20 AM	25	24	3.5	21.5
1 hour	8:54:00 AM	10	24	3.5	6.5
6 hour	1:54:00 PM	7	24	3.5	3.5

% Gravel:	0.0
% Sand(2mm - 74µm):	63.5
% Silt(74µm- 5µm):	25.5
% Clay(5µm - 2µm):	5.1
% Clay(≤2µm):	5.9

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 12 @ 42.5'**
Soil Description: **SM**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	377.1
Corrected Wt., g:	377.1

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.3	0.08	99.92
#10	0.5	0.13	99.87

Air Dry Hydro Sample Wt., g:	53.7
Corrected Wt., g:	53.7
Calculation Factor	0.5377

Hydrometer Analysis for <#10 Material

Start time: 7:44:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	7:44:20 AM	30	24	3.5	26.5
1 hour	8:44:00 AM	7	24	3.5	3.5
6 hour	1:44:00 PM	5	24	3.5	1.5

% Gravel:	0.0
% Sand(2mm - 74µm):	50.7
% Silt(74µm- 5µm):	42.8
% Clay(5µm - 2µm):	3.7
% Clay(≤2µm):	2.8

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 12 @ 55'**
Soil Description: **CL**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	371.3
Corrected Wt., g:	371.3

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.0	0.00	100.00
#10	0.0	0.00	100.00

Air Dry Hydro Sample Wt., g:	61.2
Corrected Wt., g:	61.2
Calculation Factor	0.6120

Hydrometer Analysis for <#10 Material

Start time: 8:13:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	8:13:20 AM	42	24	3.5	38.5
1 hour	9:13:00 AM	18	24	3.5	14.5
6 hour	2:13:00 PM	14	24	3.5	10.5

% Gravel:	0.0
% Sand(2mm - 74µm):	37.1
% Silt(74µm- 5µm):	39.2
% Clay(5µm - 2µm):	6.5
% Clay(≤2µm):	17.2

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 13 @ 12.5'**
Soil Description: **ML**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	382.1
Corrected Wt., g:	382.1

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.1	0.03	99.97
#10	0.1	0.03	99.97

Air Dry Hydro Sample Wt., g:	61.8
Corrected Wt., g:	61.8
Calculation Factor	0.6182

Hydrometer Analysis for <#10 Material

Start time: 7:38:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	7:38:20 AM	50	24	3.5	46.5
1 hour	8:38:00 AM	17	24	3.5	13.5
6 hour	1:38:00 PM	11	24	3.5	7.5

% Gravel:	0.0
% Sand(2mm - 74µm):	24.8
% Silt(74µm- 5µm):	53.4
% Clay(5µm - 2µm):	9.7
% Clay(≤2µm):	12.1

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 13 @ 17.5'**
Soil Description: **SM**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	453.2
Corrected Wt., g:	453.2

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.0	0.00	100.00
#10	0.0	0.00	100.00

Air Dry Hydro Sample Wt., g:	54.5
Corrected Wt., g:	54.5
Calculation Factor	0.5450

Hydrometer Analysis for <#10 Material

Start time: 7:49:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	7:49:20 AM	27	24	3.5	23.5
1 hour	8:49:00 AM	15	24	3.5	11.5
6 hour	1:49:00 PM	12	24	3.5	8.5

% Gravel:	0.0
% Sand(2mm - 74µm):	56.9
% Silt(74µm- 5µm):	22.0
% Clay(5µm - 2µm):	5.5
% Clay(≤2µm):	15.6

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 15 @ 10'**
Soil Description: **SM**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	700.4
Corrected Wt., g:	700.4

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.9	0.13	99.87
#10	1.3	0.19	99.81

Air Dry Hydro Sample Wt., g:	67.7
Corrected Wt., g:	67.7
Calculation Factor	0.6783

Hydrometer Analysis for <#10 Material

Start time: 10:21:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	10:21:20 AM	22	25	3.3	18.7
1 hour	11:21:00 AM	11	25	3.3	7.7
6 hour	4:21:00 PM	9	25	3.3	5.7

% Gravel:	0.0
% Sand(2mm - 74µm):	72.4
% Silt(74µm- 5µm):	16.2
% Clay(5µm - 2µm):	3.0
% Clay(≤2µm):	8.4

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 15 @ 20'**
Soil Description: **SM**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	609.2
Corrected Wt., g:	609.2

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.4	0.07	99.93
#10	0.5	0.08	99.92

Air Dry Hydro Sample Wt., g:	66.8
Corrected Wt., g:	66.8
Calculation Factor	0.6685

Hydrometer Analysis for <#10 Material

Start time: 10:27:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	10:27:20 AM	35	25	3.3	31.7
1 hour	11:27:00 AM	13	25	3.3	9.7
6 hour	4:27:00 PM	11	25	3.3	7.7

% Gravel:	0.0
% Sand(2mm - 74µm):	52.6
% Silt(74µm- 5µm):	32.9
% Clay(5µm - 2µm):	3.0
% Clay(≤2µm):	11.5

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 16 @ 10'**
Soil Description: **SM**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	691.6
Corrected Wt., g:	691.6

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.0	0.00	100.00
#8	0.0	0.00	100.00
#10	0.1	0.01	99.99

Air Dry Hydro Sample Wt., g:	68.1
Corrected Wt., g:	68.1
Calculation Factor	0.6811

Hydrometer Analysis for <#10 Material

Start time: 10:33:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	10:33:20 AM	24	25	3.3	20.7
1 hour	11:33:00 AM	10	25	3.3	6.7
6 hour	4:33:00 PM	9	25	3.3	5.7

% Gravel:	0.0
% Sand(2mm - 74µm):	69.6
% Silt(74µm- 5µm):	20.6
% Clay(5µm - 2µm):	1.4
% Clay(≤2µm):	8.4

MECHANICAL ANALYSIS

CTM 203-08

Job Name: Doris & Patterson Middle School
Job No.: VT-24867-10
Sample ID: **B 16 @ 25'**
Soil Description: **SP**

Hydroscopic Moisture

Air Dry Wt, g:	100.0
Oven Dry Wt, g	100.0
% Moisture:	0.0

Air Dry Sample Wt., g:	463.1
Corrected Wt., g:	463.1

Sieve Analysis for +#10 Material

Sieve Size	Wt Ret	% Ret	% Passing
1/2 inch	0.0	0.00	100.00
3/8 inch	0.0	0.00	100.00
#4	0.7	0.15	99.85
#8	1.3	0.28	99.72
#10	1.5	0.32	99.68

Air Dry Hydro Sample Wt., g:	96.3
Corrected Wt., g:	96.3
Calculation Factor	0.9661

Hydrometer Analysis for <#10 Material

Start time: 10:38:00 AM

Short Hydro	Time of Reading	Hydro Reading	Temp. at Reading, °C	Correction Factor	Corrected Hydro Reading
20 sec	10:38:20 AM	15	25	3.3	11.7
1 hour	11:38:00 AM	8	25	3.3	4.7
6 hour	4:38:00 PM	5	25	3.3	1.7

% Gravel:	0.2
% Sand(2mm - 74µm):	87.7
% Silt(74µm- 5µm):	7.2
% Clay(5µm - 2µm):	3.1
% Clay(≤2µm):	1.8

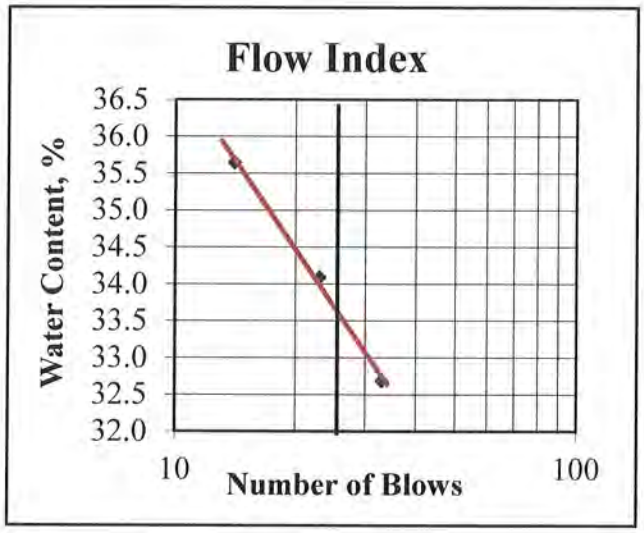
File No.: VT-24867-10 September 19, 2017

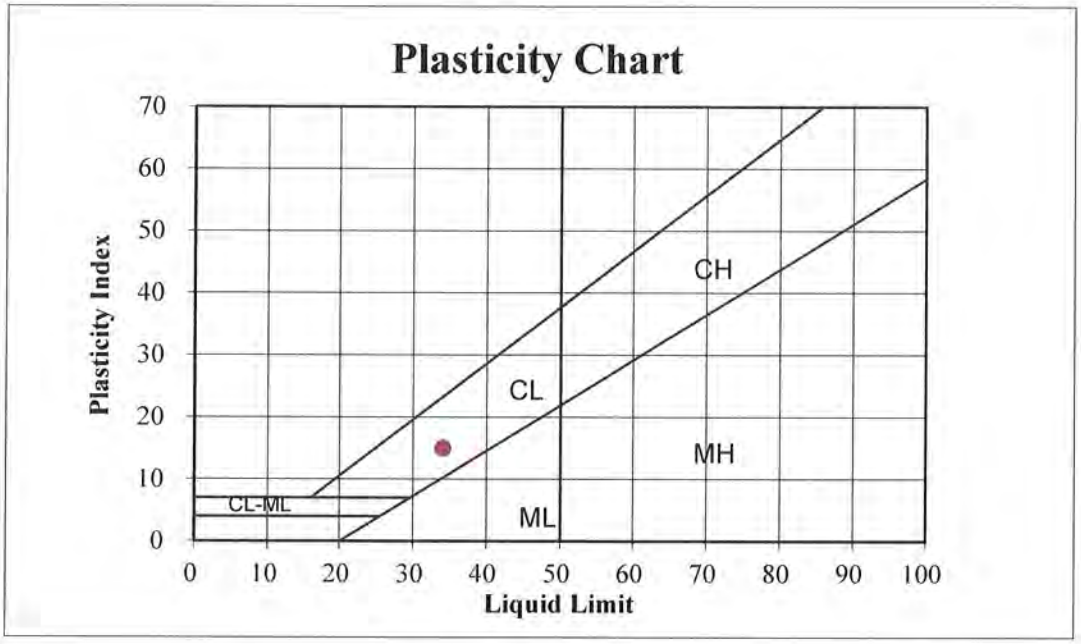
PLASTICITY INDEX

ASTM D-4318

Job Name: Doris & Patterson Middle School
Sample ID: B 12 @ 17.5'
Soil Description: CL

DATA SUMMARY				TEST RESULTS	
Number of Blows:	14	23	33	**LIQUID LIMIT**	**34**
Water Content, %	35.6	34.1	32.7	**PLASTIC LIMIT**	**19**
Plastic Limit:	19.0	18.6		**PLASTICITY INDEX**	**15**





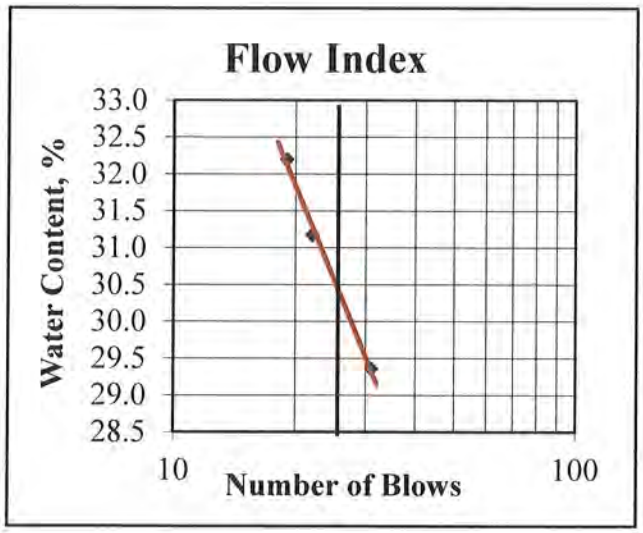
File No.: VT-24867-10 September 19, 2017

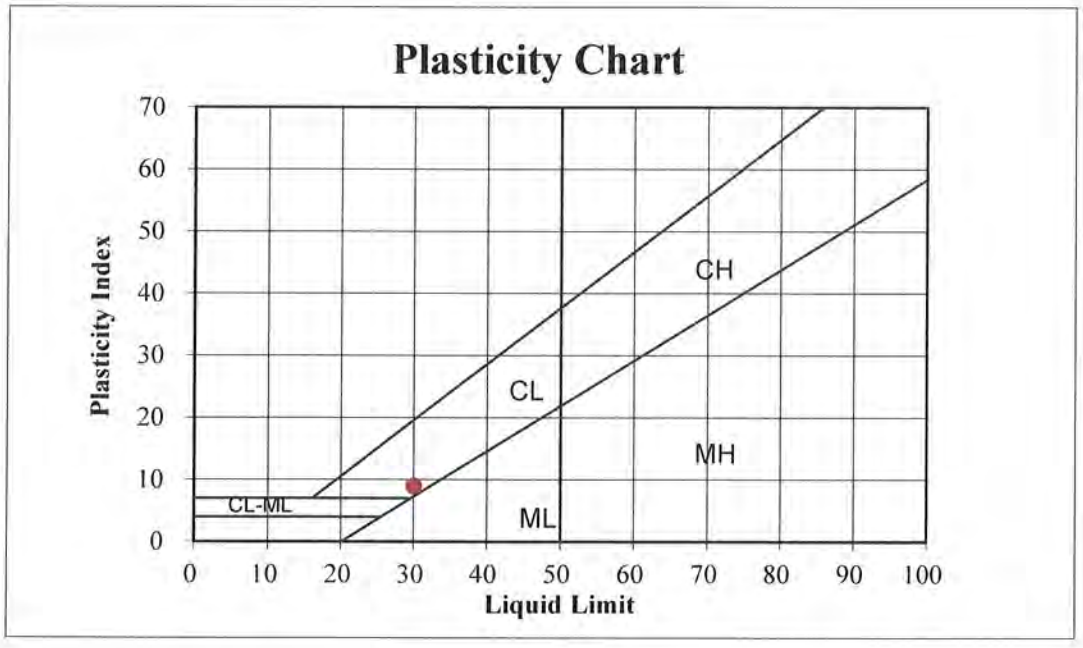
PLASTICITY INDEX

ASTM D-4318

Job Name: Doris & Patterson Middle School
Sample ID: B 12 @ 55'
Soil Description: CL

DATA SUMMARY				TEST RESULTS	
Number of Blows:	19	22	31	**LIQUID LIMIT**	**30**
Water Content, %	32.2	31.2	29.4	**PLASTIC LIMIT**	**21**
Plastic Limit:	21.0	21.3		**PLASTICITY INDEX**	**9**





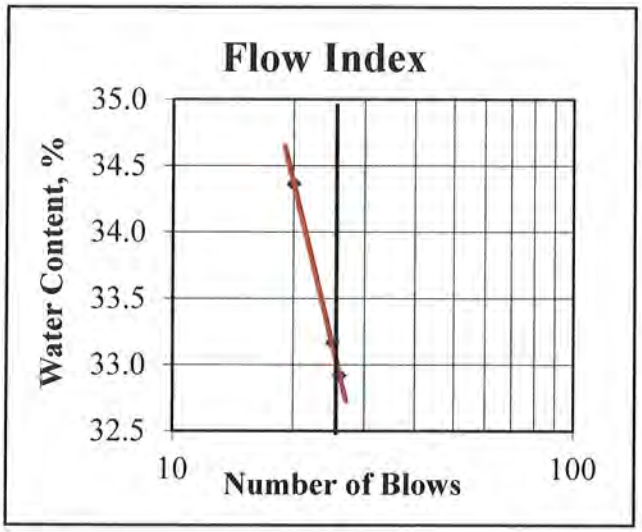
File No.: VT-24867-10 September 19, 2017

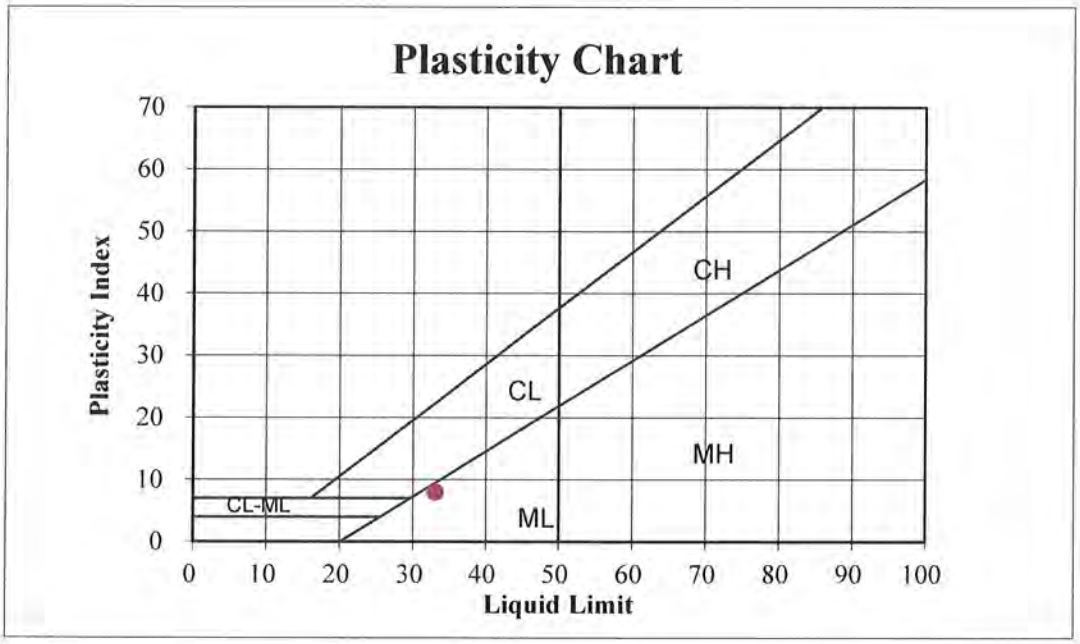
PLASTICITY INDEX

ASTM D-4318

Job Name: Doris & Patterson Middle School
Sample ID: B 13 @ 12.5'
Soil Description: ML

DATA SUMMARY				TEST RESULTS	
Number of Blows:	20	25	26	**LIQUID LIMIT**	**33**
Water Content, %	34.4	33.2	32.9	**PLASTIC LIMIT**	**25**
Plastic Limit:	24.6	24.7		**PLASTICITY INDEX**	**8**





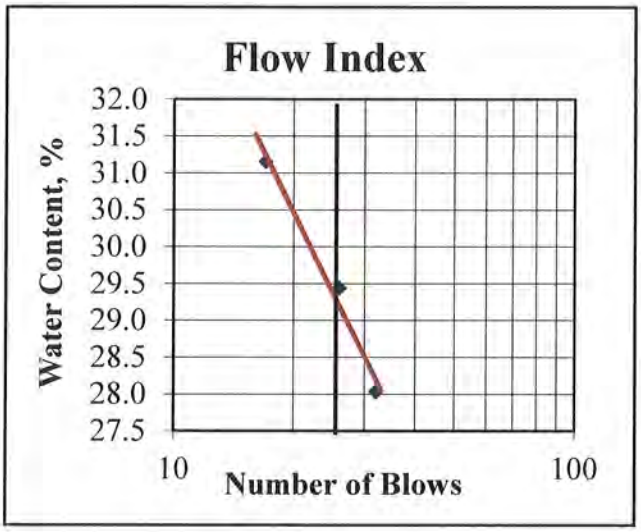
File No.: VT-24867-10 September 19, 2017

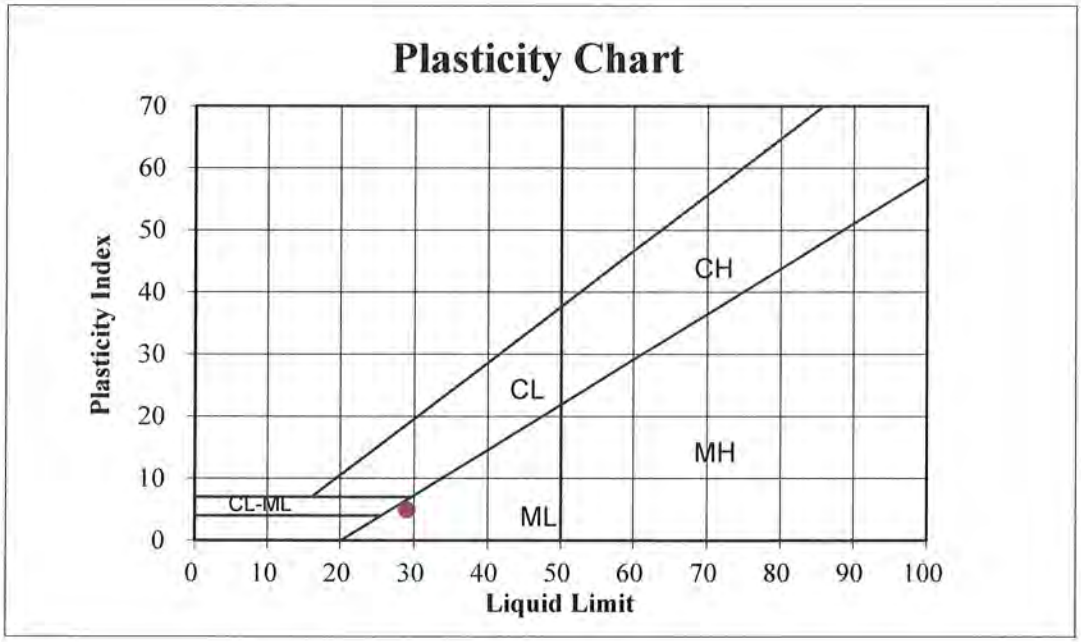
PLASTICITY INDEX

ASTM D-4318

Job Name: Doris & Patterson Middle School
Sample ID: B 13 @ 17.5'
Soil Description: SM

DATA SUMMARY				TEST RESULTS	
Number of Blows:	17	26	32	**LIQUID LIMIT**	**29**
Water Content, %	31.2	29.4	28.0	**PLASTIC LIMIT**	**24**
Plastic Limit:	24.6	24.0		**PLASTICITY INDEX**	**5**



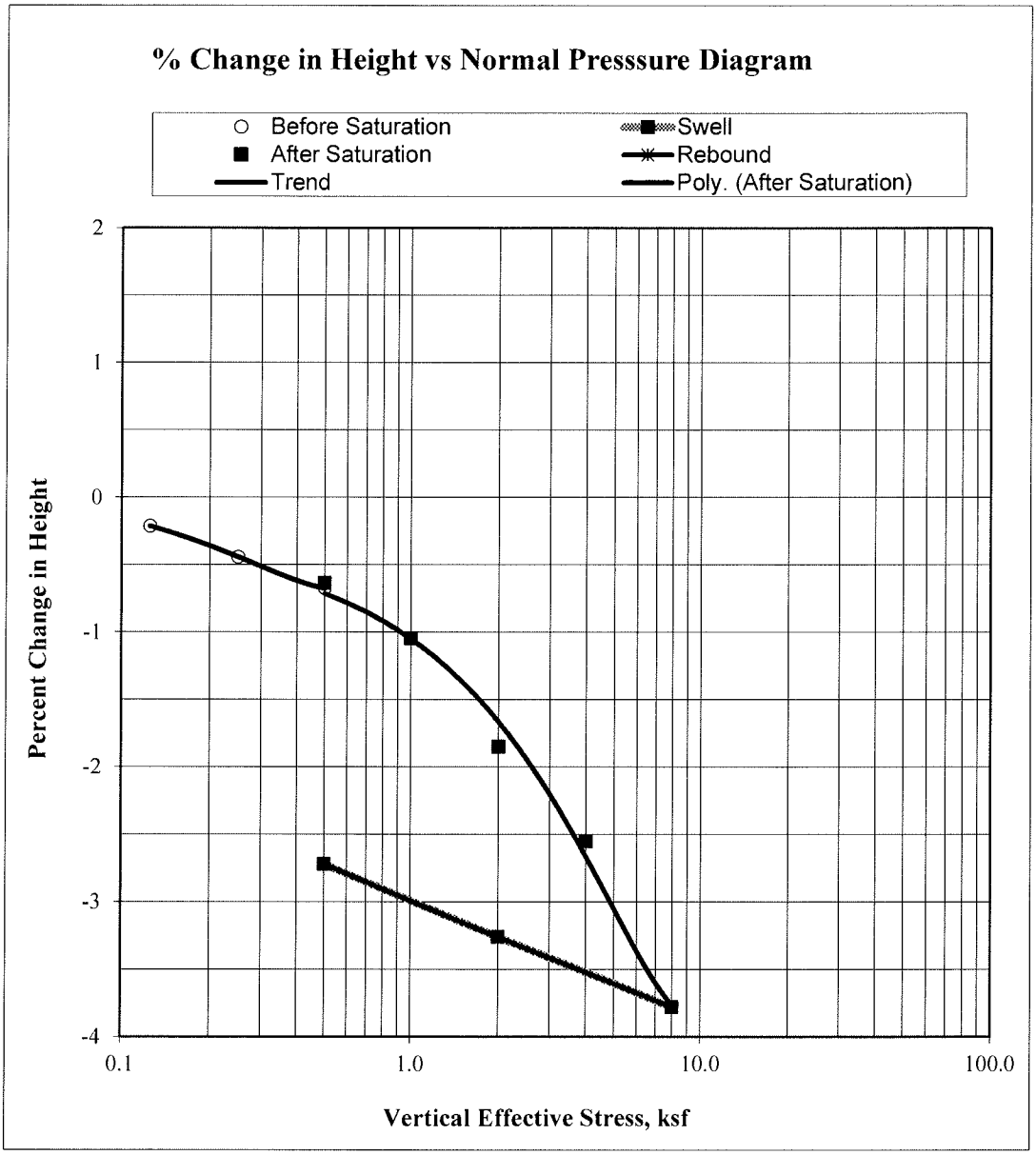


CONSOLIDATION TEST

ASTM D 2435-90

Doris & Patterson Middle School
B 2 @ 5'
SM/ML
Ring Sample

Initial Dry Density: 108.9 pcf
Initial Moisture, %: 11.8%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.531

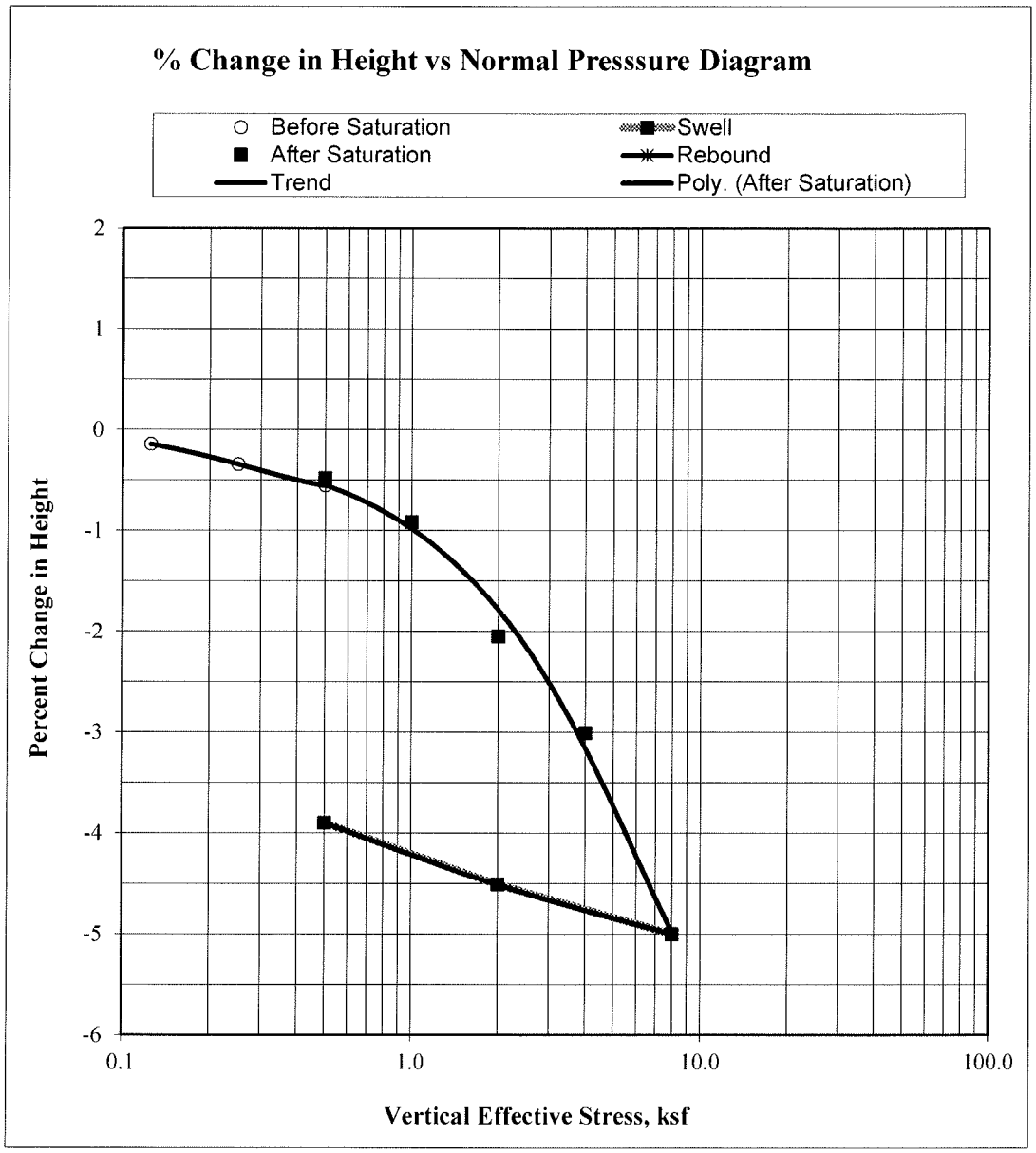


CONSOLIDATION TEST

ASTM D 2435-90

Doris & Patterson Middle School
B 3 @ 5'
SM/ML
Ring Sample

Initial Dry Density: 97.6 pcf
Initial Moisture, %: 22.5%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.707

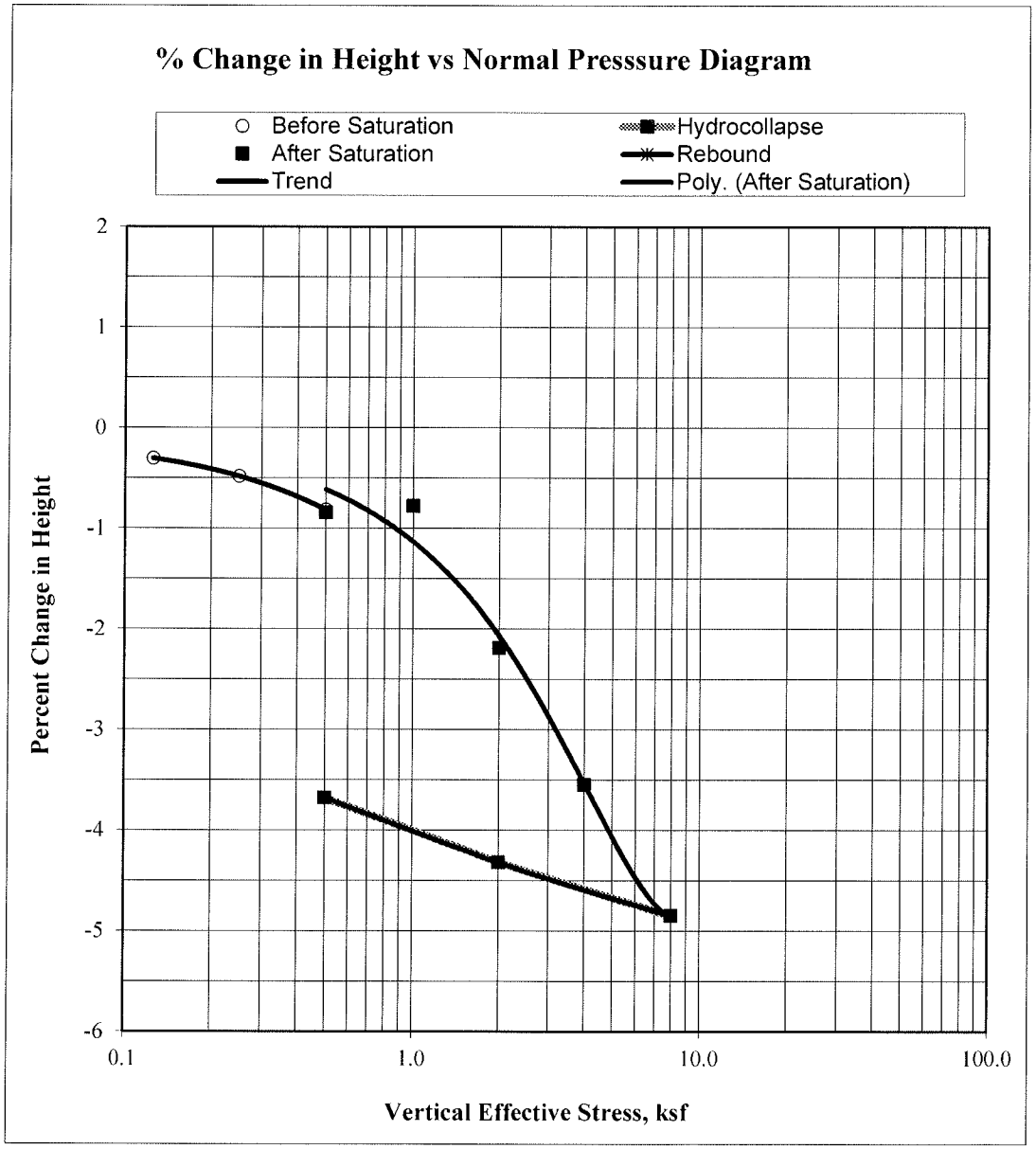


CONSOLIDATION TEST

ASTM D 2435-90

Doris & Patterson Middle School
B 5 @ 5'
ML
Ring Sample

Initial Dry Density: 102.7 pcf
Initial Moisture, %: 24.4%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.623

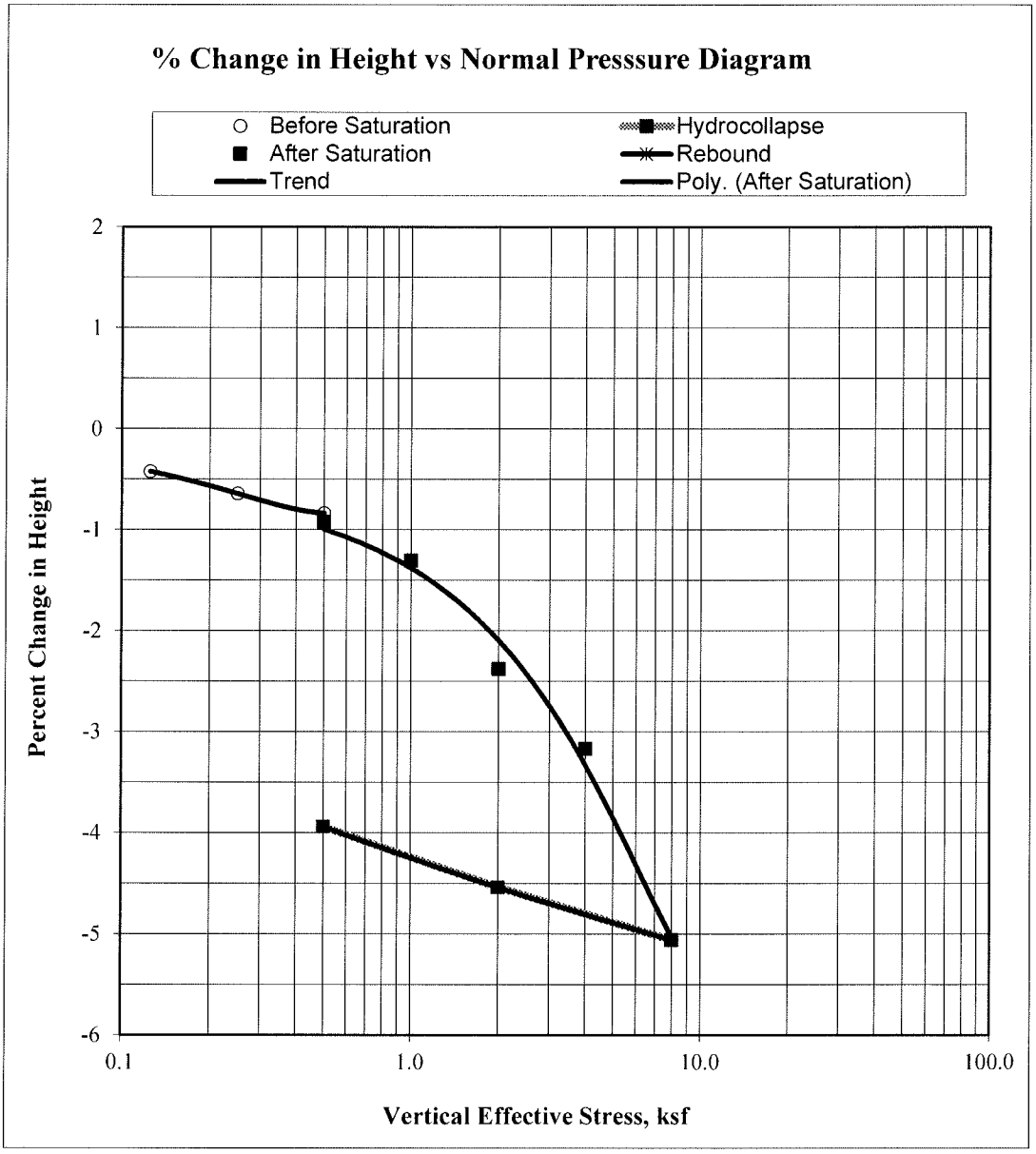


CONSOLIDATION TEST

ASTM D 2435-90

Doris & Patterson Middle School
B 6 @ 5'
ML
Ring Sample

Initial Dry Density: 101.7 pcf
Initial Moisture, %: 21.9%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.639

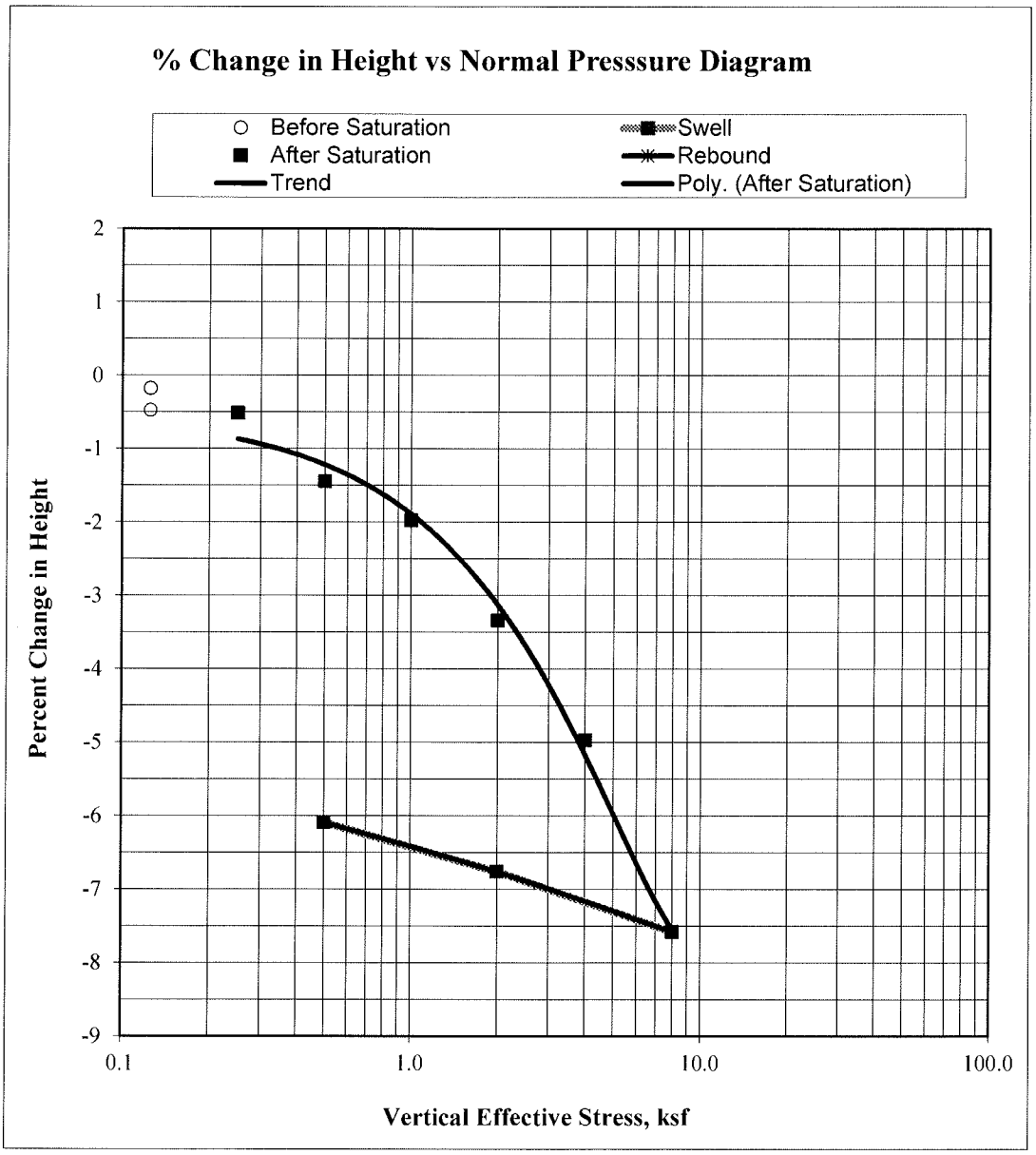


CONSOLIDATION TEST

ASTM D 2435-90

Doris & Patterson Middle School
B 8 @ 5'
ML
Ring Sample

Initial Dry Density: 102.5 pcf
Initial Moisture, %: 22.6%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.627

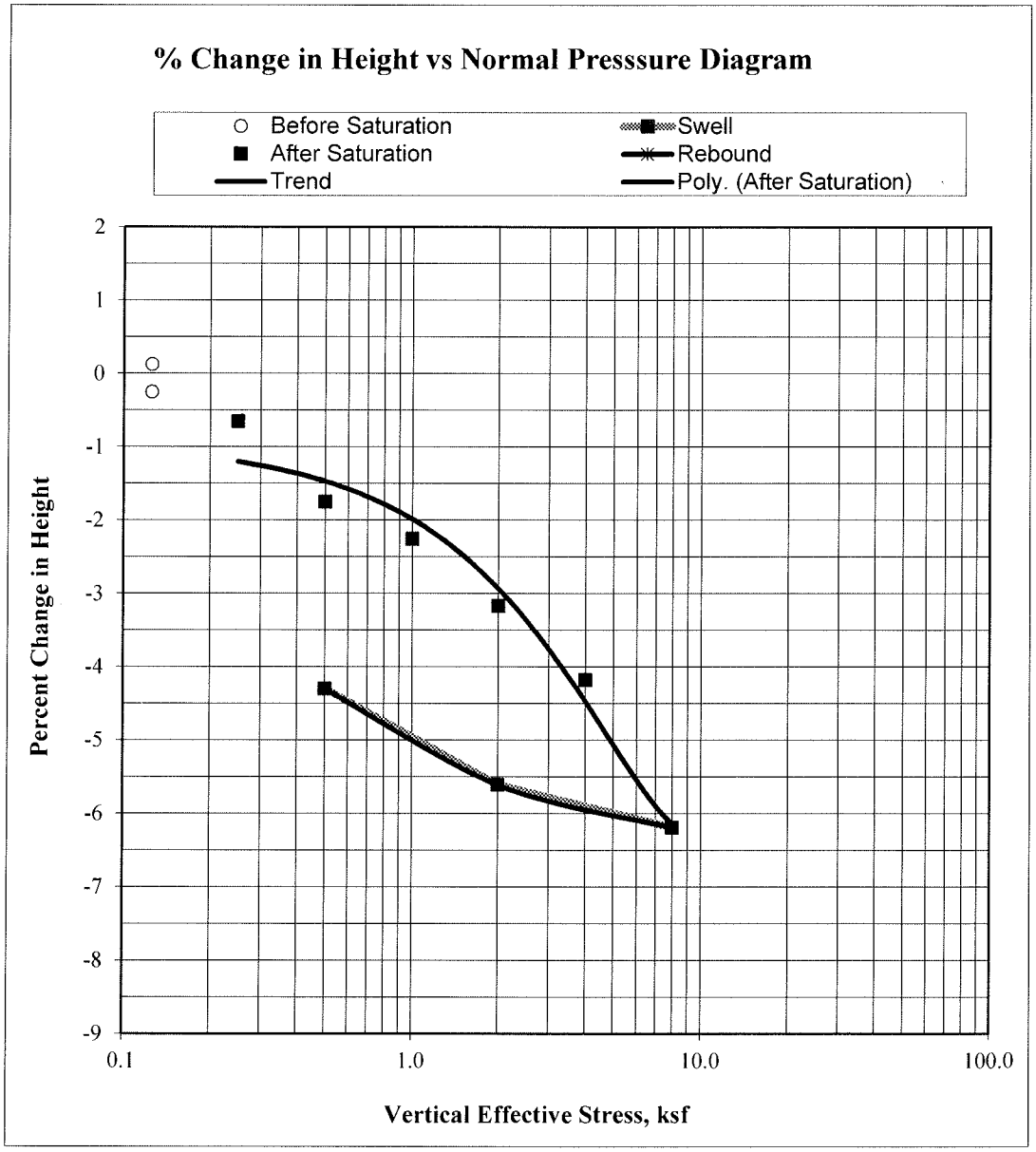


CONSOLIDATION TEST

ASTM D 2435-90

Doris & Patterson Middle School
B 9 @ 5'
ML
Ring Sample

Initial Dry Density: 102.2 pcf
Initial Moisture, %: 22.8%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.630

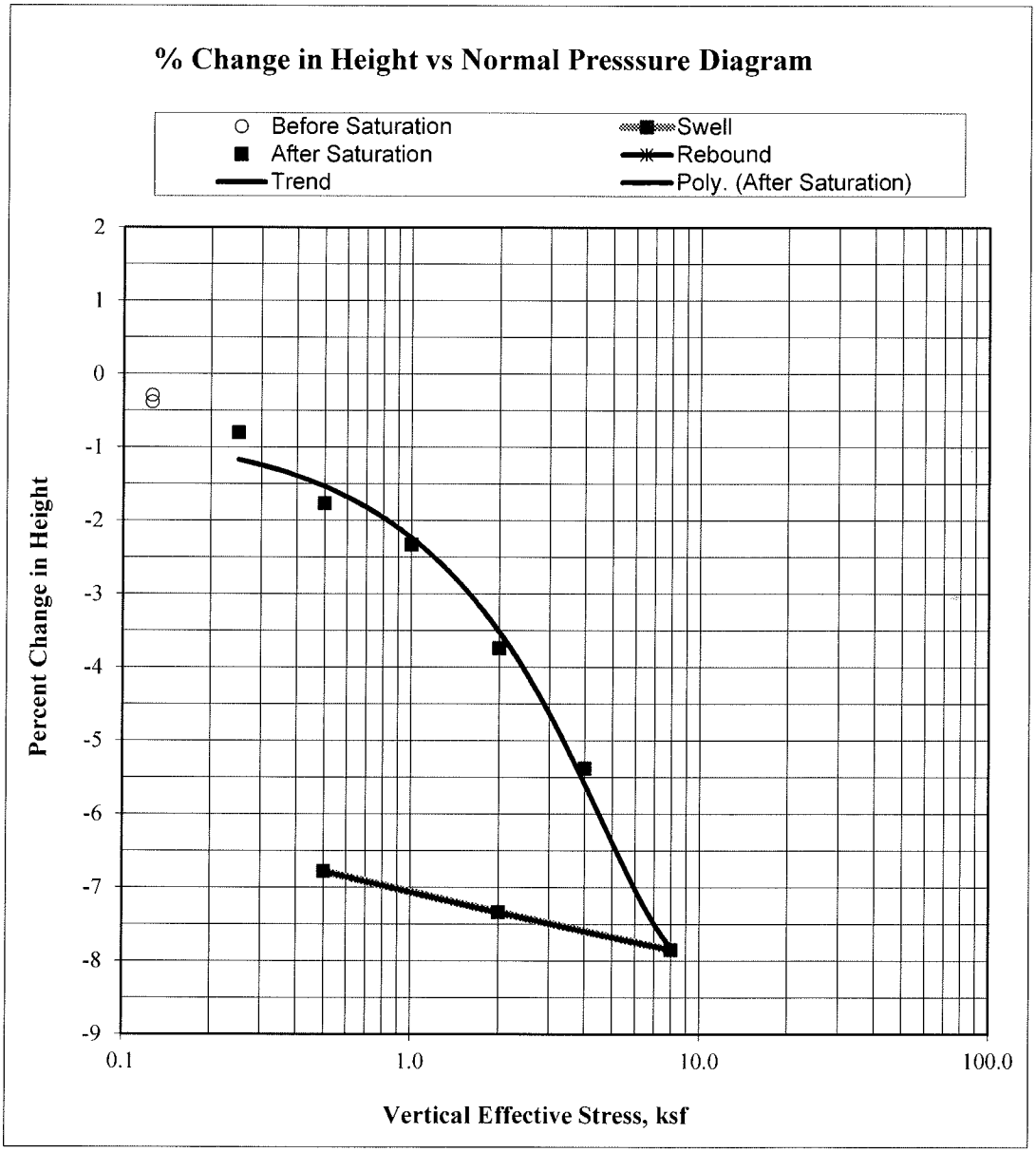


CONSOLIDATION TEST

ASTM D 2435-90

Doris & Patterson Middle School
B 9 @ 10'
ML/SM
Ring Sample

Initial Dry Density: 102.5 pcf
Initial Moisture, %: 23.6%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.626

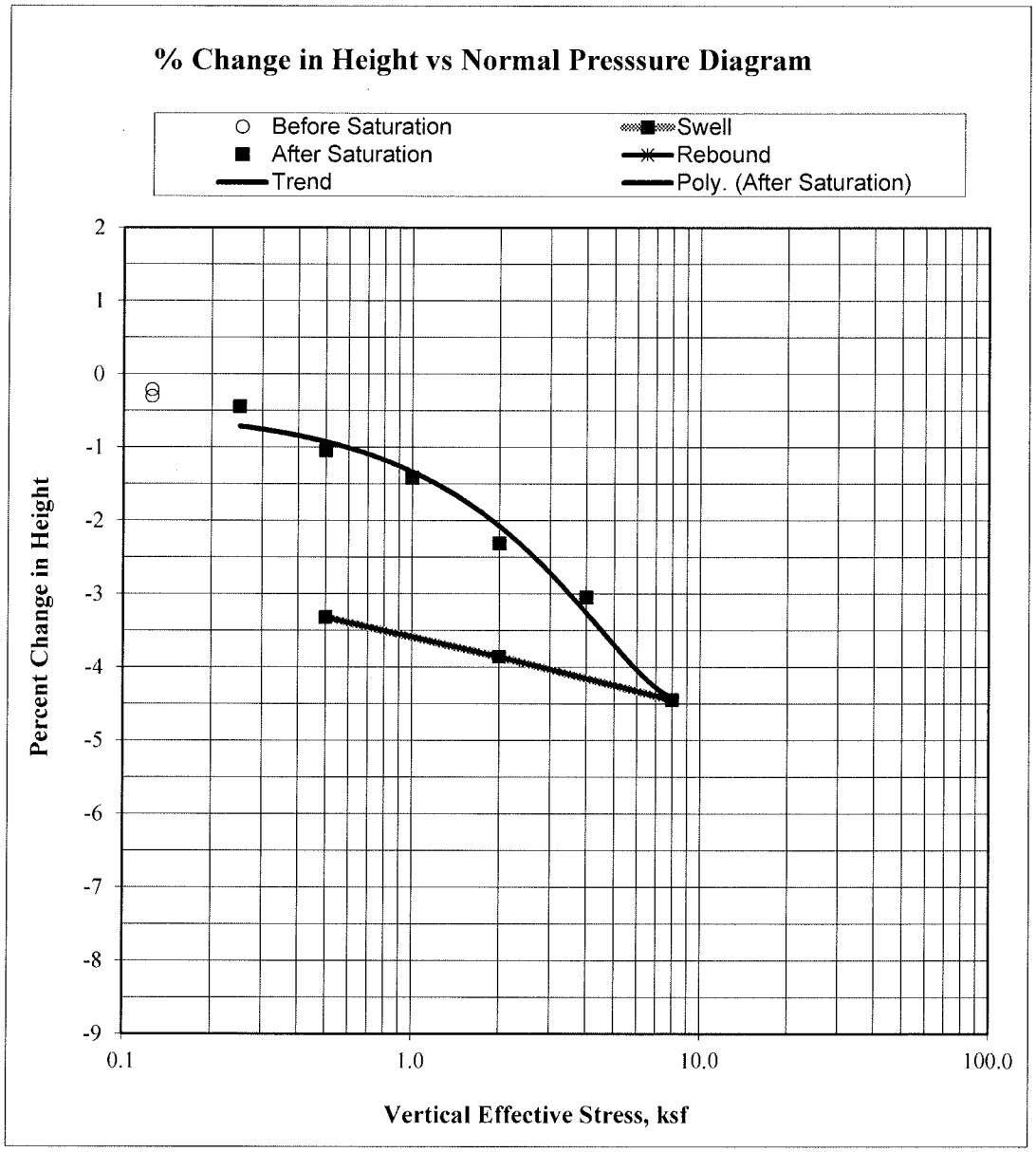


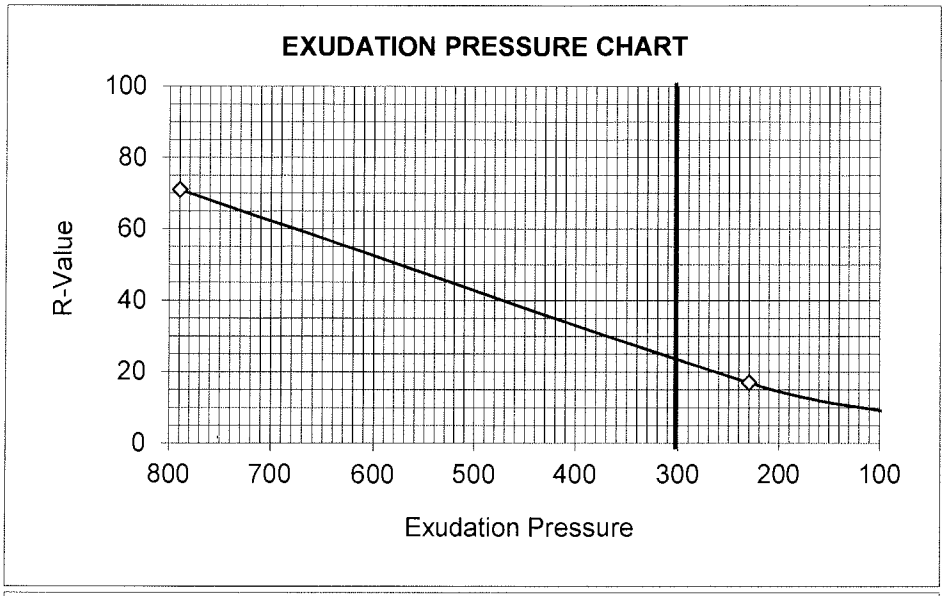
CONSOLIDATION TEST

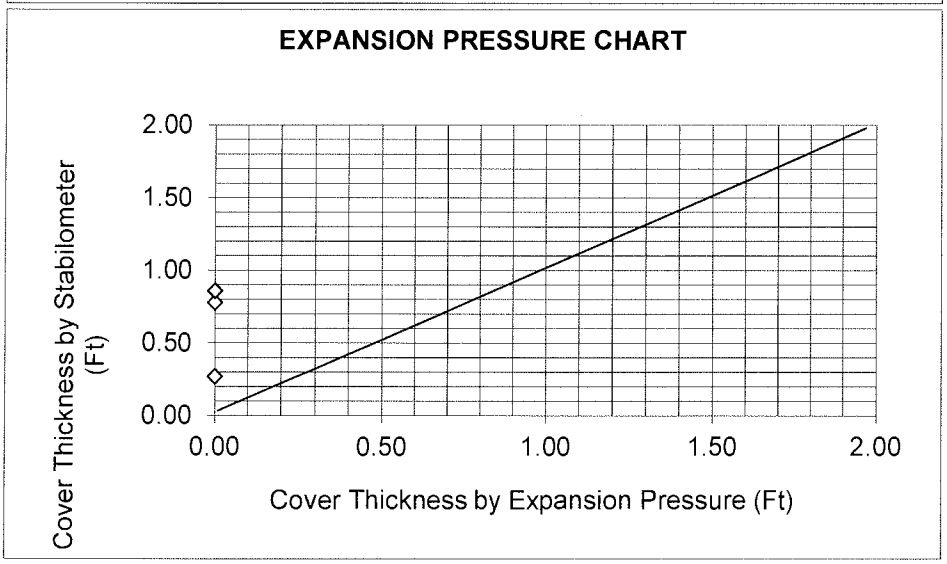
ASTM D 2435-90

Doris & Patterson Middle School
B 10 @ 5'
SM
Ring Sample

Initial Dry Density: 103.6 pcf
Initial Moisture, %: 22.9%
Specific Gravity: 2.67 (assumed
Initial Void Ratio: 0.608





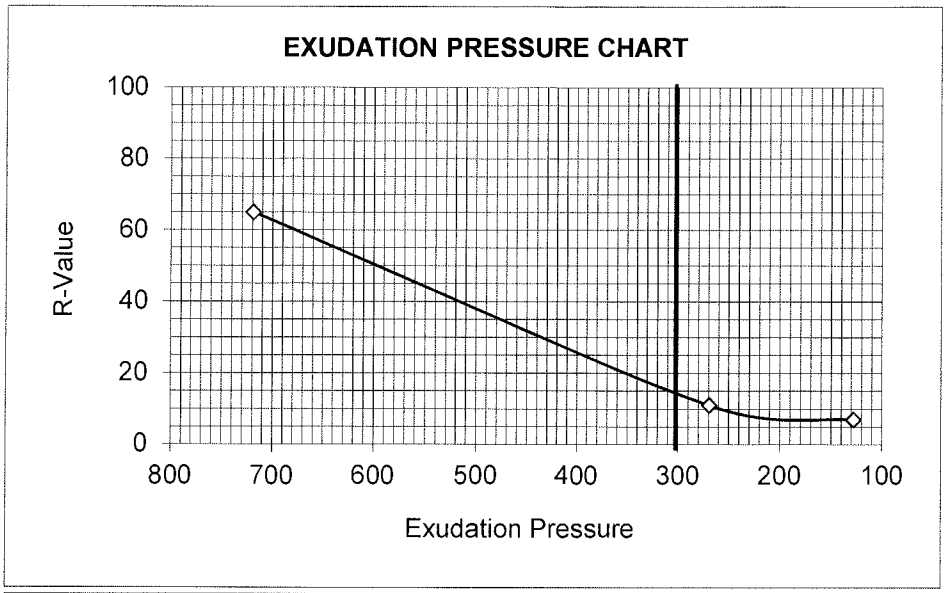


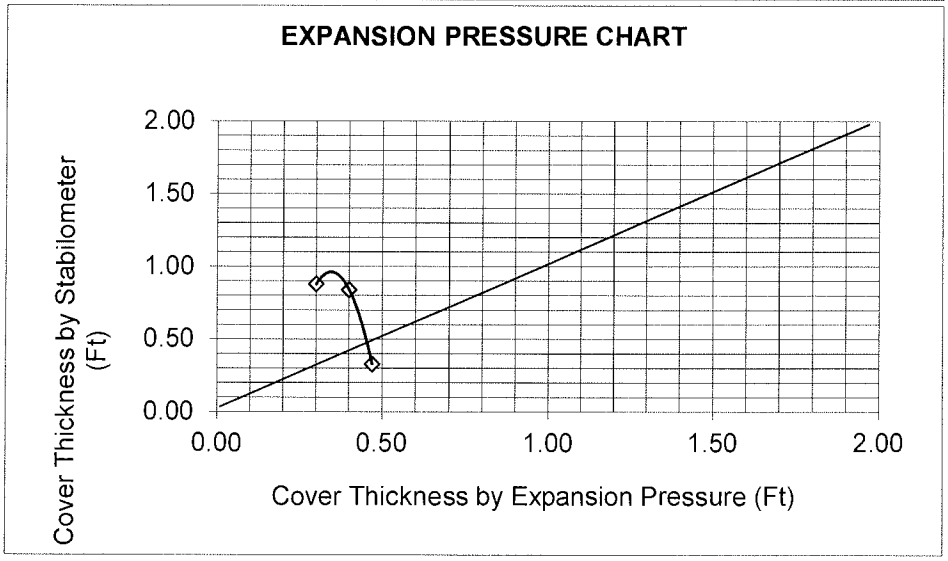
JOB NAME: Doris & Patterson Middle School
SAMPLE I. D.: Boring 1 @0-2'
SOIL DESCRIPTION: Silty Sand (SM)

SPECIMEN NUMBER	A	B	C
EXUDATION PRESSURE	790	230	95
RESISTANCE VALUE	71	17	9
EXPANSION DIAL(0.0001")	0	0	0
EXPANSION PRESSURE (PSF)	0.0	0.0	0.0
% MOISTURE AT TEST	10.5	12.5	14.2
DRY DENSITY AT TEST	122.1	120.8	118.4

R-VALUE @ 300 PSI EXUDATION	**23**
R-VALUE by Expansion Pressure*	**100**

**Based on a Traffic Index of 5.0 and a Gravel Factor of 1.70*





JOB NAME: Doris & Patterson Middle School
SAMPLE I. D.: Boring 11 @0-2.5'
SOIL DESCRIPTION: Clayey Sandy Silt (ML)

SPECIMEN NUMBER	A	B	C
EXUDATION PRESSURE	719	269	128
RESISTANCE VALUE	65	11	7
EXPANSION DIAL(0.0001")	14	12	9
EXPANSION PRESSURE (PSF)	60.6	52.0	39.0
% MOISTURE AT TEST	12.8	14.0	14.8
DRY DENSITY AT TEST	118.7	117.5	112.9

R-VALUE @ 300 PSI EXUDATION	**15**
R-VALUE by Expansion Pressure*	**100**

**Based on a Traffic Index of 5.0 and a Gravel Factor of 1.70*

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CERTIFICATE OF ANALYSIS

Client: Earth Systems Southern California
CAS LAB NO: 171672-01
Sample ID: B3@0-5'
Analyst: GP

Date Sampled: 09/01/17
Date Received: 09/05/17
Sample Matrix: Soil

WET CHEMISTRY ANALYSIS SUMMARY

COMPOUND	RESULTS	UNITS	DF	PQL	METHOD	ANALYZED
pH (Corrosivity)	7.9	S.U.	1	---	9045	09/08/17
Resistivity*	430	Ohms-cm	1	---	SM 120.1M	09/08/17
Chloride	59	mg/Kg	4	2.4	300.0M	09/08/17
Sulfate	3600	mg/Kg	5	3.0	300.0M	09/08/17

*Sample was extracted using a 1:3 ratio of soil and DI water.

DF: Dilution Factor
PQL: Practical Quantitation Limit
BQL: Below Quantitation Limit
mg/Kg: Milligrams/Kilograms(ppm)

2978 Seaborg Ave. Unit #4, Ventura, California 93003 Ph: (805)644-1095 FAX: (805)644-9947
www.capcoenv.com

CERTIFICATE OF ANALYSIS

Client: Earth Systems Southern California
CAS LAB NO: 171672-02
Sample ID: B8@0-5'
Analyst: GP

Date Sampled: 09/01/17
Date Received: 09/05/17
Sample Matrix: Soil

WET CHEMISTRY ANALYSIS SUMMARY

COMPOUND	RESULTS	UNITS	DF	PQL	METHOD	ANALYZED
pH (Corrosivity)	7.8	S.U.	1	---	9045	09/08/17
Resistivity*	390	Ohms-cm	1	---	SM 120.1M	09/08/17
Chloride	35	mg/Kg	4	2.4	300.0M	09/08/17
Sulfate	4500	mg/Kg	10	6.0	300.0M	09/09/17

*Sample was extracted using a 1:3 ratio of soil and DI water.

DF: Dilution Factor
PQL: Practical Quantitation Limit
BQL: Below Quantitation Limit
mg/Kg: Milligrams/Kilograms(ppm)

TABLE 18-I-D

MINIMUM FOUNDATION REQUIREMENTS

(Numbers within parenthesis ( ) are footnotes. Refer to the following pages footnotes (1) through (8)

WEIGHTED EXPANSION INDEX	FOUNDATIONS FOR SLAB AND RAISED FLOOR SYSTEM (4) (5)							CONCRETE SLABS		PREMOISTENING OF SOILS UNDER FOOTINGS, PIERS AND SLABS (1)	RESTRICTIONS ON PIERS UNDER RAISED FLOORS
	NUMBER OF FLOORS	STEM THICKNESS	FOOTING WIDTH	FOOTING THICKNESS	ALL PERIMETER FOOTINGS (5)	INTERIOR FOOTINGS FOR SLAB AND RAISED FLOORS (5)	REINFORCEMENT FOR CONTINUOUS FOUNDATIONS (2)	3 ½ " MINIMUM THICKNESS			
					DEPTH BELOW NATURAL SURFACE OF GROUND AND FINISH GRADE (3) (8)			REINFORCEMENT (3)	TOTAL THICKNESS OF SAND		A design by a registered structural engineer may be excepted when approved by the Building Official
		INCHES									
0-20 Very low (nonexpansive)	1 2 3	8 8 10	12 15 18	8 7 8	12 18 24	12 18 24	1-#4 top and bottom	6x6-10/10 WWF	2"	Moistening of ground recommended prior to placing concrete.	Piers allowed for single floor loads only
21-50 Low	1 2 3	8 8 10	12 15 18	6 7 8	15 18 24	12 18 24	1-#4 top and bottom	6x6-10/10 WWF	4"	120% of optimum moisture required to a depth of 21" below lowest adjacent grade. Testing required.	Piers allowed for single floor loads only.
51-90 Medium	1 2 3	8 8 10	12 15 18	8 8 8	21 21 24	12 18 24	1-#4 top and bottom #3 BARS @ 24" IN EXT. FOOTING BEND3' INTO SLAB (7)	6x6-10/10 WWF	4"	130% of optimum moisture required to a depth of 27" below lowest adjacent grade. Testing required.	Piers not allowed.
91-130 High	1 2 3	8 8 10	12 15 18	8 8 8	27 27 24	12 18 24	1-#5 top and bottom #3 BARS @ 24" IN EXT. FOOTING BEND 3' INTO SLAB (7)	6x6-10/10 or #3 @ 24' E.W.	4"	140% of optimum moisture required of a depth of 33" below lowest adjacent grade. Testing required	Piers not allowed.
Above 130 Very High	Special design by licensed engineer/architect										

APPENDIX C

2016 CBC & ASCE 7-10 Seismic Parameters
USGS Design Maps Reports
Spectral Response Values
Response Spectra Curves
Fault Parameters

2016 California Building Code (CBC) (ASCE 7-10) Seismic Design Parameters

			CBC Reference	ASCE 7-10 Reference
Seismic Design Category		**E**	Table 1613.5.6	Table 11.6-2
Site Class		**E**	Table 1613.5.2	Table 20.3-1
Latitude:		34.208 N		
Longitude:		-119.206 W		
Maximum Considered Earthquake (MCE) Ground Motion				
Short Period Spectral Reponse	S_S	**2.495 g**	Figure 1613.5	Figure 22-3
1 second Spectral Response	S_1	**0.917 g**	Figure 1613.5	Figure 22.4
Site Coefficient	F_a	0.90	Table 1613.5.3(1)	Table 11.4-1
Site Coefficient	F_v	2.40	Table 1613.5.3(2)	Table 11-4.2
	S_{MS}	2.246 g	$= F_a * S_S$	
	S_{M1}	2.201 g	$= F_v * S_1$	
Design Earthquake Ground Motion				
Short Period Spectral Reponse	S_{DS}	**1.497 g**	$= 2/3 * S_{MS}$	
1 second Spectral Response	S_{D1}	**1.467 g**	$= 2/3 * S_{M1}$	
	To	0.20 sec	$= 0.2 * S_{D1}/S_{DS}$	
	Ts	0.98 sec	$= S_{D1}/S_{DS}$	
Seismic Importance Factor	I	1.25	Table 1604.5	
	F_{PGA}	0.90		

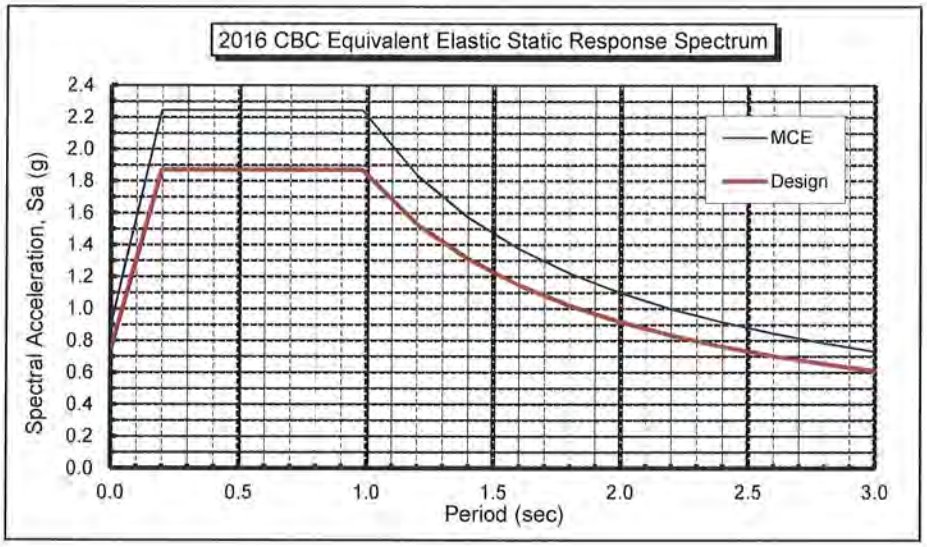


Table 11.5-1

Period T (sec)	Design Sa (g)
0.00	0.749
0.05	1.035
0.20	1.871
0.98	1.871
1.20	1.528
1.40	1.310
1.60	1.146
1.80	1.019
2.00	0.917
2.20	0.834
2.40	0.764
2.60	0.705
2.80	0.655
3.00	0.611
3.20	0.573
3.40	0.539

USGS Design Maps Summary Report

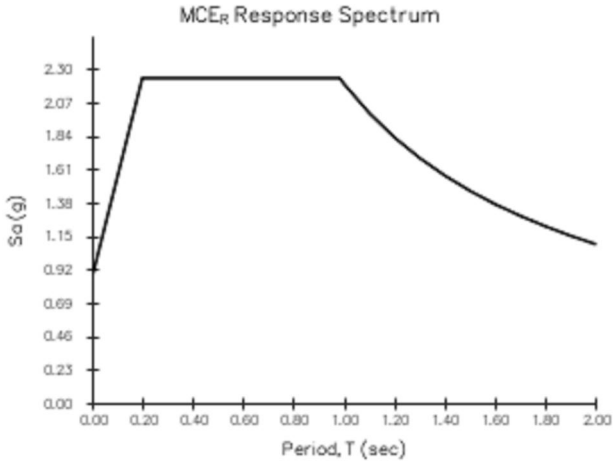
User–Specified Input

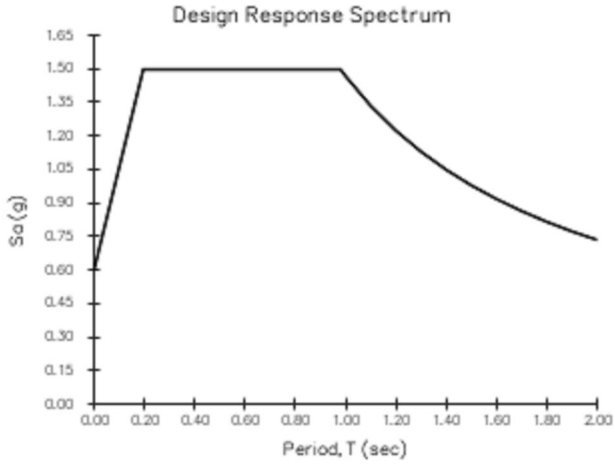
Report Title	Doris and Patterson Middle School Tue August 29, 2017 23:53:22 UTC
Building Code Reference Document	ASCE 7-10 Standard (which utilizes USGS hazard data available in 2008)
Site Coordinates	34.2075°N, 119.2055°W
Site Soil Classification	Site Class E – "Soft Clay Soil"
Risk Category	I/II/III

USGS–Provided Output

S_S =	2.495 g	S_{MS} =	2.245 g	S_{DS} =	1.497 g
S_1 =	0.917 g	S_{M1} =	2.201 g	S_{D1} =	1.467 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.





For PGA_M, T_L, C_{RS}, and C_{R1} values, please view the detailed report.

USGS Design Maps Detailed Report

ASCE 7-10 Standard (34.2075°N, 119.2055°W)

Site Class E – "Soft Clay Soil", Risk Category I/II/III

Section 11.4.1 — Mapped Acceleration Parameters

Note: Ground motion values provided below are for the direction of maximum horizontal spectral response acceleration. They have been converted from corresponding geometric mean ground motions computed by the USGS by applying factors of 1.1 (to obtain S_S) and 1.3 (to obtain S_1). Maps in the 2010 ASCE-7 Standard are provided for Site Class B. Adjustments for other Site Classes are made, as needed, in Section 11.4.3.

From Figure 22-1 [1] S_S = 2.495 g

From Figure 22-2 [2] S_1 = 0.917 g

Section 11.4.2 — Site Class

The authority having jurisdiction (not the USGS), site-specific geotechnical data, and/or the default has classified the site as Site Class E, based on the site soil properties in accordance with Chapter 20.

Table 20.3–1 Site Classification

Site Class	$\bar{v}_s$	$\bar{N}$ or $\bar{N}_{ch}$	$\bar{s}_u$
A. Hard Rock	>5,000 ft/s	N/A	N/A
B. Rock	2,500 to 5,000 ft/s	N/A	N/A
C. Very dense soil and soft rock	1,200 to 2,500 ft/s	>50	>2,000 psf
D. Stiff Soil	600 to 1,200 ft/s	15 to 50	1,000 to 2,000 psf
E. Soft clay soil	<600 ft/s	<15	<1,000 psf
	Any profile with more than 10 ft of soil having the characteristics: • Plasticity index PI > 20, • Moisture content w ≥ 40%, and • Undrained shear strength $\bar{s}_u$ < 500 psf		
F. Soils requiring site response analysis in accordance with Section 21.1	See Section 20.3.1		

For SI: 1ft/s = 0.3048 m/s 1lb/ft² = 0.0479 kN/m²

Section 11.4.3 — Site Coefficients and Risk-Targeted Maximum Considered Earthquake (MCE_R) Spectral Response Acceleration Parameters

Table 11.4-1: Site Coefficient F_a

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at Short Period				
	$S_S \leq 0.25$	$S_S = 0.50$	$S_S = 0.75$	$S_S = 1.00$	$S_S \geq 1.25$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_S

For Site Class = E and S_S = 2.495 g, F_a = 0.900

Table 11.4-2: Site Coefficient F_v

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at 1-s Period				
	$S_1 \leq 0.10$	$S_1 = 0.20$	$S_1 = 0.30$	$S_1 = 0.40$	$S_1 \geq 0.50$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_1

For Site Class = E and S_1 = 0.917 g, F_v = 2.400

Equation (11.4–1): $S_{MS} = F_a S_S = 0.900 \times 2.495 = 2.245$ g

Equation (11.4–2): $S_{M1} = F_v S_1 = 2.400 \times 0.917 = 2.201$ g

Section 11.4.4 — Design Spectral Acceleration Parameters

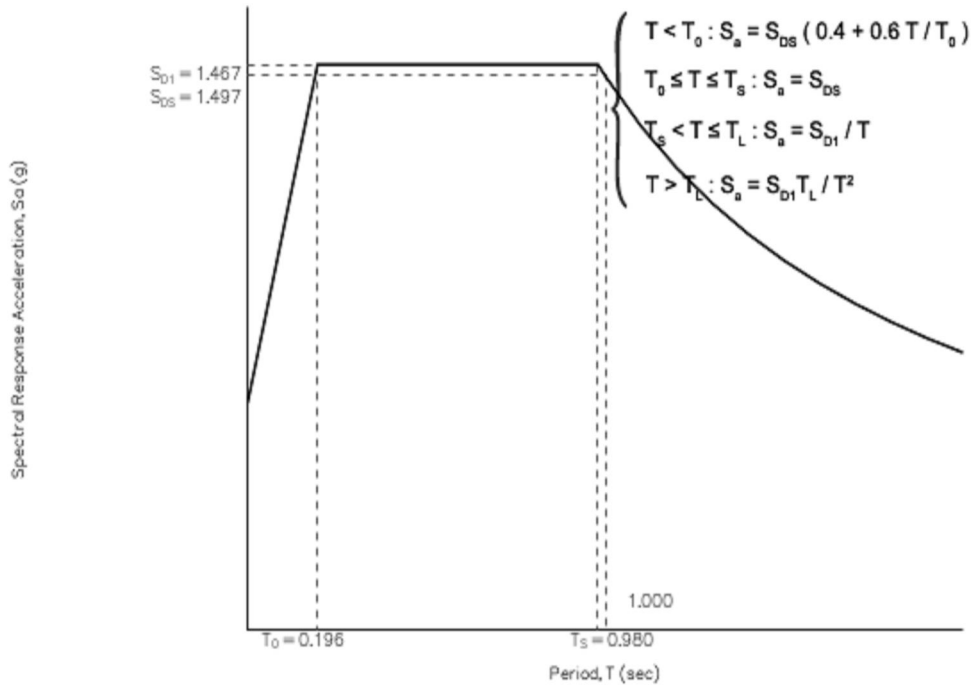
Equation (11.4–3): $S_{DS} = \frac{2}{3} S_{MS} = \frac{2}{3} \times 2.245 = 1.497$ g

Equation (11.4–4): $S_{D1} = \frac{2}{3} S_{M1} = \frac{2}{3} \times 2.201 = 1.467$ g

Section 11.4.5 — Design Response Spectrum

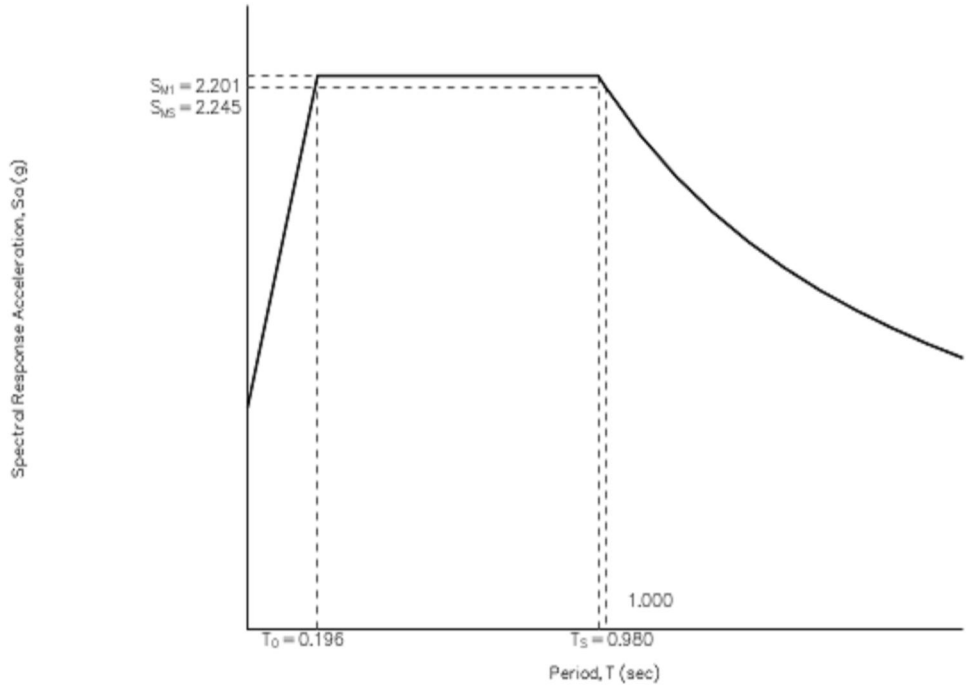
From Figure 22-12 [3] $T_L = 8$ seconds

Figure 11.4–1: Design Response Spectrum



Section 11.4.6 — Risk-Targeted Maximum Considered Earthquake (MCE_R) Response Spectrum

The MCE_R Response Spectrum is determined by multiplying the design response spectrum above by 1.5.



Section 11.8.3 — Additional Geotechnical Investigation Report Requirements for Seismic Design Categories D through F

From Figure 22-7 [4] PGA = 0.970

Equation (11.8–1): $PGA_M = F_{PGA}PGA = 0.900 \times 0.970 = 0.873$ g

Table 11.8–1: Site Coefficient F_{PGA}

Site Class	Mapped MCE Geometric Mean Peak Ground Acceleration, PGA				
	PGA ≤ 0.10	PGA = 0.20	PGA = 0.30	PGA = 0.40	PGA ≥ 0.50
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight–line interpolation for intermediate values of PGA

For Site Class = E and PGA = 0.970 g, F_{PGA} = 0.900

Section 21.2.1.1 — Method 1 (from Chapter 21 – Site-Specific Ground Motion Procedures for Seismic Design)

From Figure 22-17 [5] C_{RS} = 0.918

From Figure 22-18 [6] C_{R1} = 0.913

Section 11.6 — Seismic Design Category

Table 11.6-1 Seismic Design Category Based on Short Period Response Acceleration Parameter

VALUE OF S_{DS}	RISK CATEGORY		
	I or II	III	IV
$S_{DS} < 0.167g$	A	A	A
$0.167g \le S_{DS} < 0.33g$	B	B	C
$0.33g \le S_{DS} < 0.50g$	C	C	D
$0.50g \le S_{DS}$	D	D	D

For Risk Category = I and S_{DS} = 1.497 g, Seismic Design Category = D

Table 11.6-2 Seismic Design Category Based on 1-S Period Response Acceleration Parameter

VALUE OF S_{D1}	RISK CATEGORY		
	I or II	III	IV
$S_{D1} < 0.067g$	A	A	A
$0.067g \le S_{D1} < 0.133g$	B	B	C
$0.133g \le S_{D1} < 0.20g$	C	C	D
$0.20g \le S_{D1}$	D	D	D

For Risk Category = I and S_{D1} = 1.467 g, Seismic Design Category = D

Note: When S_1 is greater than or equal to 0.75g, the Seismic Design Category is **E** for buildings in Risk Categories I, II, and III, and **F** for those in Risk Category IV, irrespective of the above.

Seismic Design Category ≡ "the more severe design category in accordance with Table 11.6-1 or 11.6-2" = E

Note: See Section 11.6 for alternative approaches to calculating Seismic Design Category.

References

1. *Figure 22-1*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-1.pdf
2. *Figure 22-2*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-2.pdf
3. *Figure 22-12*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-12.pdf
4. *Figure 22-7*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-7.pdf
5. *Figure 22-17*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-17.pdf
6. *Figure 22-18*: https://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-18.pdf

Table 3 - Spectral Response Values

Probabilistic and Deterministic Response Spectra for MCE compared to Code Spectra

for 5% Viscous Damping Ratio

Natural Period T (seconds)	GeoMean Probab. 2% in 50 yr MCE Spectrum (1) 2475-yr	Rotated Probab. 2% in 50 yr MCEr Spectrum (2) 2475-yr	Max 84th Percentile Determ. MCE Spectrum (3)	Determ. Lower Limit MCE Spectrum (4)	Determ. MCE Spectrum (5) max(3,4)	**Site Specific MCE Spectrum** (6) min(2.5)	**2016 CBC MCE Spectrum** (7)	Site Specific Design Spectrum (8) 2/3*(6)*	2016 CBC Design Spectrum (9) 2/3*(7)
0.00	0.719	0.726	0.649	0.540	0.649	**0.649**	**0.898**	0.479	0.599
0.05	0.908	0.917	0.726	0.730	0.730	**0.730**	**1.242**	0.662	0.828
0.10	1.097	1.108	0.951	0.920	0.951	**0.951**	**1.586**	0.846	1.057
0.15	1.283	1.295	1.152	1.110	1.152	**1.152**	**1.929**	1.029	1.286
0.20	1.468	1.482	1.195	1.299	1.299	**1.299**	**2.246**	1.198	1.497
0.30	1.579	1.593	1.289	1.350	1.350	**1.350**	**2.246**	1.198	1.497
0.40	1.578	1.664	1.339	1.350	1.350	**1.350**	**2.246**	1.198	1.497
0.50	1.577	1.734	1.458	1.350	1.458	**1.458**	**2.246**	1.198	1.497
0.75	1.427	1.631	1.647	1.350	1.647	**1.631**	**2.246**	1.198	1.497
1.00	1.276	1.514	1.647	1.350	1.647	**1.514**	**2.201**	1.174	1.467
1.50	1.053	1.249	1.602	0.960	1.602	**1.249**	**1.467**	0.833	0.978
2.00	0.829	0.984	1.470	0.720	1.470	**0.984**	**1.100**	0.656	0.734
	Crs:	0.918						* > 80% of (9)	
	Cr1:	0.913							

Probabilistic Spectrum from 2008 USGS Ground Motion Mapping Program adjusted for site conditions and maximum rotated component of ground motion using NGA, Column 2 has risk coefficients Cr applied.

Reference: ASCE 7-10, Chapters 21.2, 21.3, 21.4 and 11.4

Mapped MCE Acceleration Values			Site Coefficients		**Site-Specific Design Acceleration Values**		
PGA	0.970	g	F_{PGA}	0.90	**PGA_M**	**0.873**	**g**
Ss	2.495	g	F_a	0.90	**S_{DS}**	**1.198**	**g**
S_1	0.917	g	F_v	2.40	**S_{D1}**	**1.312**	**g**

Spectral Amplification Factor for different viscous damping, D (%):

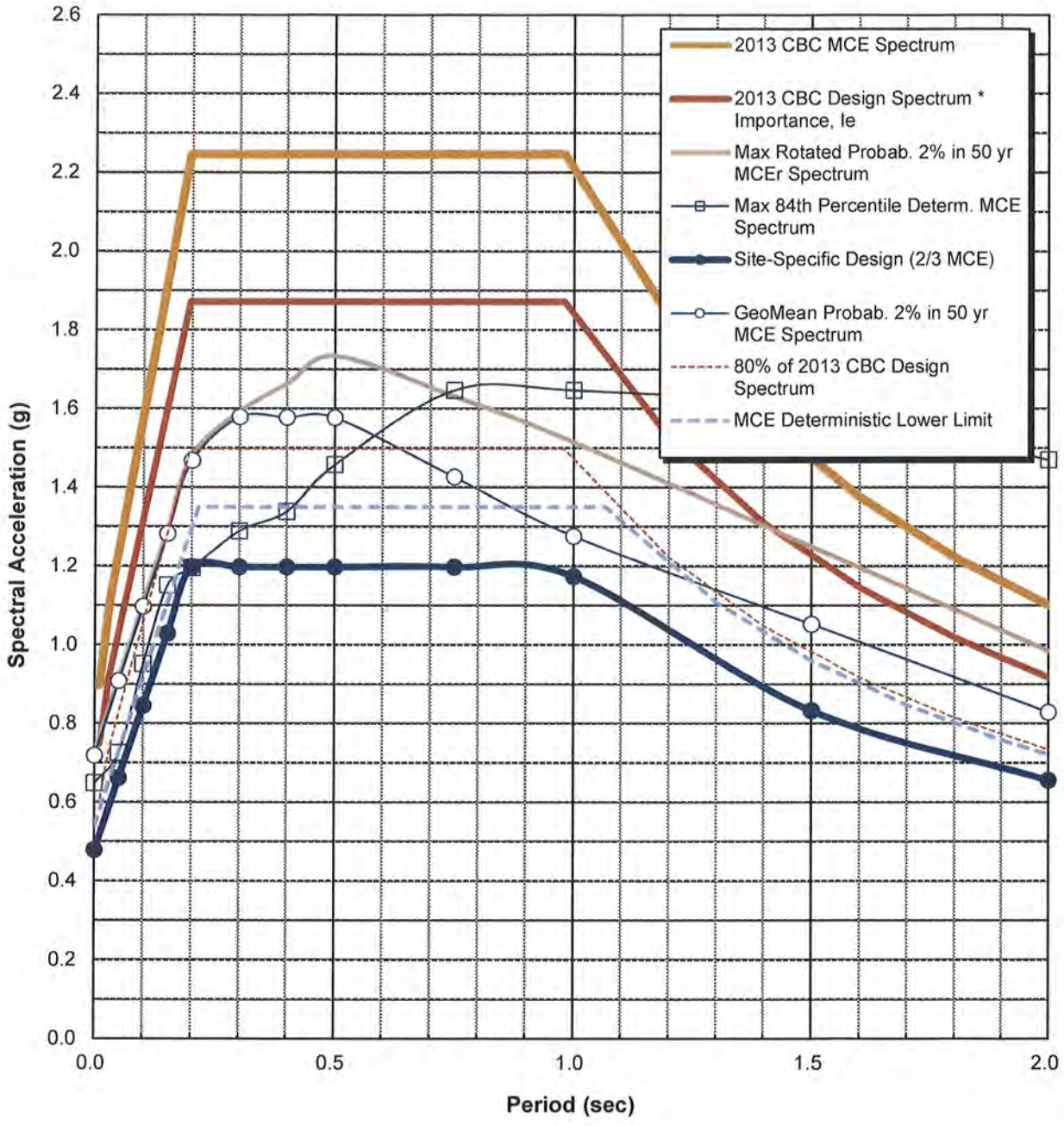
0.5%	2%	10%	20%
1.50	1.23	0.83	0.67

1 g = 980.6 cm/sec^2 =32.2 ft/sec^2

PSV (ft/sec) = 32.2(Sa)T/(2π)

Key: Probab. = Probabilistic, Determ. = Deterministic, MCE = Maximum Considered Earthquake

RESPONSE SPECTRA



Based on USGS National Strong Ground Motion Interactive Deaggregation Website using 2008 Parameters

Site Class: E
Latitude: 34.2075
Longitude: -119.2055

Figure 3 - Response Spectra

Doris and Patterson Middle School
File No.: VT-24867-10

Earth Systems
Southern California

Table 1
Fault Parameters

Fault Section Name	Distance (miles)	Distance (km)	Avg Dip Angle (deg.)	Avg Dip Direction (deg.)	Avg Rake (deg.)	Trace Length (km)	Fault Type	**Mean Mag**	Mean Return Interval (years)	Slip Rate (mm/yr)
Oak Ridge (Onshore)	2.8	4.5	65	159	90	49	B	**7.2**		4
Oak Ridge (Offshore)	4.9	7.9	32	180	90	38	B	**6.9**		3
Ventura-Pitas Point	5.9	9.4	64	353	60	44	B	**6.9**		1
Simi-Santa Rosa	6.1	9.7	60	346	30	39	B	**6.8**		1
Malibu Coast (Extension), alt 1	9.6	15.5	74	4	30	35	B'	**6.5**		
Malibu Coast (Extension), alt 2	9.6	15.5	74	4	30	35	B'	**6.9**		
Red Mountain	10.7	17.1	56	2	90	101	B	**7.4**		2
Channel Islands Thrust	13.0	20.9	20	354	90	59	B	**7.3**		1.5
Sisar	13.9	22.3	29	168	na	20	B'	**7.0**		
North Channel	14.7	23.7	26	10	90	51	B	**6.7**		1
Channel Islands Western Deep Ramp	15.0	24.1	21	204	90	62	B'	**7.3**		
Pitas Point (Lower)-Montalvo	15.7	25.3	16	359	90	30	B	**7.3**		2.5
Santa Cruz Island	15.8	25.5	90	188	30	69	B	**7.1**		1
Mission Ridge-Arroyo Parida-Santa Ana	16.1	25.8	70	176	90	69	B	**6.8**		0.4
Anacapa-Dume, alt 1	16.4	26.5	45	354	60	51	B	**7.2**		3
Anacapa-Dume, alt 2	16.4	26.5	41	352	60	65	B	**7.2**		3
San Cayetano	16.6	26.7	42	3	90	42	B	**7.2**		6
Malibu Coast, alt 1	19.1	30.8	75	3	30	38	B	**6.6**		0.3
Malibu Coast, alt 2	19.1	30.8	74	3	30	38	B	**6.9**		0.3
Shelf (Projection)	21.5	34.6	17	21	na	70	B'	**7.8**		
Santa Ynez (East)	21.7	34.9	70	172	0	68	B	**7.2**		2
Santa Cruz Catalina Ridge	22.6	36.3	90	38	na	137	B'	**7.3**		
Pitas Point (Upper)	22.7	36.5	42	15	90	35	B	**6.8**		I
Pine Mtn	25.9	41.7	45	5	na	62	B'	**7.3**		
Oak Ridge (Offshore), west extension	27.1	43.6	67	195	na	28	B'	**6.1**		
Santa Susana, alt 1	27.1	43.6	55	9	90	27	B	**6.8**		5
Santa Susana, alt 2	27.3	43.9	53	10	90	43	B'	**6.8**		
Santa Monica Bay	28.4	45.7	20	44	na	17	B'	**7.0**		
Northridge Hills	29.2	47.1	31	19	90	25	B'	**7.0**		
San Pedro Basin	29.7	47.9	88	51	na	69	B'	**7.0**		
Del Valle	30.0	48.3	73	195	90	9	B'	**6.3**		
Holser, alt 1	30.3	48.8	58	187	90	20	B	**6.7**		0.4
Holser, alt 2	30.3	48.8	58	182	90	17	B'	**6.7**		
Northridge	31.7	50.9	35	201	90	33	B	**6.8**		1.5
Santa Ynez (West)	31.7	51.1	70	182	0	63	B	**6.9**		2
Pitas Point (Lower, West)	32.6	52.5	13	3	90	35	B	**7.2**		2.5
Big Pine (Central)	32.9	53.0	76	167	na	23	B'	**6.3**		
Big Pine (West)	34.0	54.8	50	2	na	18	B'	**6.5**		
Compton	36.1	58.1	20	34	90	65	B'	**7.5**		
Big Pine (East)	36.4	58.6	73	338	na	23	B'	**6.6**		

Reference: USGS OFR 2007-1437 (CGS SP 203) Based on Site Coordinates of 34.2075 Latitude, -119.2055 Longitude

Mean Magnitude for Type A Faults based on 0.1 weight for unsegmented section, 0.9 weight for segmented model (weighted by probability of each scenario with section listed as given on Table 3 of Appendix G in OFR 2007-1437). Mean magntude is average of Ellworths-B and Hanks & Bakun moment area relationship.

APPENDIX D

Liquefaction Analysis Printouts
Lateral Spreading Analysis Printouts

Liquefaction Analyses with Groundwater at a Depth of 6 Feet

CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-1

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
15.3
Total Induced Subsidence (inches)
3.4

EARTHQUAKE INFORMATION:
Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT, feet: 22.5
Calc GWT, feet: 6.0

Plot: 1
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m — Ignore 1st/last increment into sand/silt soils: 1 yes — Use Moss @ P_L: 15%
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF — Ignore/remediate upper: 1.5 m — Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Clean Sand Qc1n = C_Q*K_C*K_H*Qc — Unit Weight of unsaturated soils: 115 pcf — Required SF: 1.50 — Max $\Delta N_{1(60)}$ - post liquefied: 5.5
SF = $CRR_{7.5}$*Kσ/CSR — Unit Weight of saturated soils: 130 pcf — **Min SF of Liquefiable Layers:** 0.17 — Max $\Delta N_{1(60)}$ - non liquefied: 10.0
Limiting Ic for liquefiable soils: 2.75 — Limiting Ic for K_H: 2.8 — **Avg SF of Liquefiable Layers:** 0.26

Depth (feet)	(m)	Tip Qc (tsf)	Friction Fs (tsf)	Friction Ratio Rf %	qc MPa	Total Unit Wt. (pcf)	Total Stress po (tsf)	Eff. Stress p'o (tsf)	rd	F %	n	Max 1.70 Cq	Q	Moss qc1 MPa	Moss Δqc MPa	Moss qc_{1med} MPa	Moss eff K_C	Qc1n	Ic	Override	Liquef. Suscept. (0 or 1)	Rel. Dens. Dr (%)	K_C	K_H	Clean Sand Qc1n	1.0 Kσ	CRR	Induced M=7.5 CSR	Liquefac. Safety Factor	Qc1n $N_{1(60)}$ Ratio	Equiv. $N_{1(60)}$	FC Adj. $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	*Volumetric Strain (%)*
0.49	0.15	37.20	0.05	0.13	3.56	115	0.028	0.028	1.000	0.13	0.53	1.70	59.73	6.06	0.00	6.06		59.77	1.73		0			1.00		1.00		0.341	Non-Liq.	5.6	10.7			0.00
0.98	0.30	31.40	0.04	0.12	3.01	115	0.057	0.057	1.000	0.12	0.55	1.70	50.36	5.11	0.00	5.11		50.45	1.80		0			1.00		1.00		0.341	Non-Liq.	5.5	9.2			0.00
1.48	0.45	43.43	0.10	0.23	4.16	115	0.085	0.085	0.999	0.23	0.53	1.70	69.65	7.07	0.00	7.07		69.79	1.73		0			1.00		1.00		0.340	Non-Liq.	5.6	12.4			0.00
1.97	0.60	61.87	0.24	0.38	5.92	115	0.113	0.113	0.997	0.38	0.51	1.70	99.23	10.07	0.00	10.07		99.41	1.68		0			1.00		1.00		0.340	Non-Liq.	5.7	17.4			0.00
2.46	0.75	42.93	0.55	1.28	4.11	115	0.141	0.141	0.996	1.29	0.64	1.70	68.76	6.99	0.82	7.81		68.99	2.11		0			1.00		1.00		0.340	Non-Liq.	4.9	14.1			0.00
2.95	0.90	28.83	0.72	2.51	2.76	115	0.170	0.170	0.995	2.52	0.74	1.70	46.06	4.69	2.11	6.80		46.33	2.43		0			1.00		1.00		0.339	Non-Liq.	4.2	10.9			0.00
3.44	1.05	22.23	0.71	3.19	2.13	130	0.202	0.202	0.994	3.22	0.78	1.70	35.40	3.62	2.82	6.44		35.72	2.58		0			1.00		1.00		0.339	Non-Liq.	3.9	9.1			0.00
3.94	1.20	21.70	0.71	3.26	2.08	130	0.234	0.234	0.993	3.30	0.79	1.70	34.49	3.53	2.90	6.43		34.87	2.60		0			1.00		1.00		0.338	Non-Liq.	3.9	8.9			0.00
4.43	1.35	27.60	0.53	1.90	2.64	130	0.266	0.266	0.992	1.92	0.72	1.70	43.92	4.49	1.47	5.96		44.35	2.37		0			1.00		1.00		0.338	Non-Liq.	4.4	10.2			0.00
4.92	1.50	28.90	0.29	0.99	2.77	130	0.298	0.298	0.990	1.00	0.66	1.70	45.96	4.70	0.52	5.22	1.11	46.44	2.18		1	45	1.62	1.00	75.3	1.00	0.120	0.338	Non-Liq.	4.7	9.8	5.2	15.1	0.36
5.41	1.65	23.30	0.29	1.24	2.23	130	0.330	0.330	0.989	1.26	0.70	1.70	36.91	3.79	0.78	4.57	1.21	37.44	2.32		1	36	2.00	1.00	75.0	1.00	0.119	0.337	Non-Liq.	4.5	8.4	6.6	15.0	0.37
5.91	1.80	14.90	0.41	2.72	1.43	130	0.362	0.362	0.988	2.79	0.81	1.70	23.36	2.43	2.32	4.75	1.96	23.94	2.68		1	18	3.86	1.00	92.4	1.00	0.153	0.337	Non-Liq.	3.8	6.4	10.0	16.4	0.30
6.40	1.95	13.83	0.37	2.67	1.32	130	0.394	0.394	0.987	2.75	0.82	1.70	21.59	2.25	2.62	4.87	2.16	22.23	2.70		1	14	4.03	1.00	89.6	1.00	0.147	0.511	**0.29**	3.7	6.0	5.5	11.5	2.31
6.89	2.10	11.50	0.28	2.41	1.10	130	0.426	0.426	0.986	2.50	0.84	1.70	17.79	1.87	2.32	4.19		18.48	2.75		0			1.00		1.00		0.529	Non-Liq.	3.6	5.1			0.00
7.38	2.25	7.23	0.21	2.86	0.69	130	0.458	0.458	0.985	3.05	0.91	1.70	10.89	1.18	2.90	4.08		11.62	2.97		0			1.00		1.00		0.546	Non-Liq.	3.2	3.6			0.00
7.87	2.40	7.87	0.16	1.97	0.75	130	0.490	0.490	0.984	2.10	0.88	1.70	11.85	1.28	1.82	3.10		12.64	2.85		0			1.00		1.00		0.561	Non-Liq.	3.4	3.7			0.00
8.37	2.55	10.47	0.20	1.89	1.00	130	0.522	0.522	0.983	1.99	0.85	1.70	15.98	1.66	1.74	3.40		16.88	2.73		0			1.00		1.00		0.575	Non-Liq.	3.7	4.6			0.00
8.86	2.70	15.20	0.37	2.41	1.46	130	0.554	0.554	0.982	2.50	0.82	1.70	23.53	2.12	2.41	4.53	2.13	24.42	2.65		1	18	3.65	1.00	89.1	1.00	0.146	0.589	**0.25**	3.8	6.4	5.5	11.9	2.28
9.35	2.85	29.37	0.53	1.79	2.81	130	0.586	0.586	0.981	1.83	0.73	1.54	41.96	3.76	1.64	5.40	1.44	42.81	2.37		1	42	2.19	1.00	93.7	1.00	0.156	0.601	**0.26**	4.4	9.8	5.5	15.3	1.89
9.84	3.00	39.83	0.52	1.30	3.81	130	0.618	0.618	0.979	1.32	0.68	1.44	53.38	4.96	1.02	5.98	1.21	54.22	2.20		1	51	1.66	1.00	90.2	1.00	0.148	0.612	**0.24**	4.7	11.6	5.5	17.1	1.74
10.33	3.15	28.73	0.44	1.54	2.75	130	0.650	0.650	0.978	1.58	0.73	1.43	37.88	3.54	1.33	4.87	1.38	38.75	2.36		1	37	2.17	1.00	84.2	1.00	0.135	0.623	**0.22**	4.4	8.9	5.5	14.4	2.00
10.83	3.30	17.40	0.44	2.50	1.67	130	0.682	0.682	0.977	2.60	0.82	1.44	22.71	2.12	2.57	4.69	2.21	23.63	2.67		1	17	3.80	1.00	89.8	1.00	0.147	0.632	**0.23**	3.8	6.3	5.5	11.8	2.30
11.32	3.45	17.27	0.42	2.44	1.65	130	0.714	0.714	0.976	2.55	0.83	1.38	21.66	2.05	2.51	4.56		22.60	2.68		0			1.00		1.00		0.642	Non-Liq.	3.7	6.0			0.00
11.81	3.60	14.20	0.41	2.91	1.36	130	0.746	0.746	0.975	3.07	0.86	1.35	17.21	1.66	3.13	4.79		18.17	2.81		0			1.00		1.00		0.650	Non-Liq.	3.5	5.2			0.00
12.30	3.75	18.97	0.50	2.64	1.82	130	0.778	0.778	0.974	2.75	0.83	1.29	22.18	2.14	2.78	4.92		23.21	2.70		0			1.00		1.00		0.658	Non-Liq.	3.7	6.2			0.00
12.80	3.90	22.93	0.63	2.75	2.20	130	0.810	0.810	0.973	2.86	0.81	1.24	25.99	2.50	2.94	5.44	2.18	26.94	2.65		1	22	3.66	1.00	98.6	1.00	0.169	0.666	**0.25**	3.8	7.1	5.5	12.6	2.21
13.29	4.05	23.90	0.81	3.38	2.29	130	0.842	0.842	0.972	3.51	0.83	1.21	26.34	2.54	3.77	6.31	2.49	27.30	2.70		1	23	4.03	1.00	110.0	1.00	0.204	0.673	**0.30**	3.7	7.4	5.5	12.9	2.17
13.78	4.20	38.17	0.93	2.43	3.65	130	0.874	0.874	0.971	2.49	0.75	1.15	40.71	3.95	2.54	6.49	1.64	41.67	2.46		1	40	2.59	1.00	108.1	1.00	0.197	0.679	**0.29**	4.2	10.0	5.5	15.5	1.89
14.27	4.35	44.43	0.93	2.10	4.25	130	0.906	0.906	0.970	2.14	0.73	1.12	46.06	4.53	2.10	6.64	1.46	47.02	2.38		1	46	2.24	1.00	105.1	1.00	0.188	0.686	**0.27**	4.3	10.8	5.5	16.3	1.81
14.76	4.50	78.67	0.96	1.22	7.53	130	0.938	0.938	0.969	1.24	0.62	1.08	79.22	7.92	0.95	8.87	1.12	80.18	2.05		1	68	1.37	1.00	109.6	1.00	0.202	0.692	**0.29**	5.0	16.1	5.5	21.6	1.41
15.26	4.65	64.47	0.93	1.44	6.17	130	0.969	0.969	0.968	1.46	0.66	1.06	63.58	6.40	1.25	7.65	1.19	64.55	2.17		1	59	1.59	1.00	102.7	1.00	0.181	0.697	**0.26**	4.8	13.6	5.5	19.1	1.59
15.75	4.80	45.83	0.85	1.86	4.39	130	1.001	1.001	0.967	1.90	0.72	1.04	44.08	4.49	1.80	6.29	1.40	45.06	2.36		1	44	2.16	1.00	97.5	1.00	0.166	0.702	**0.24**	4.4	10.3	5.5	15.8	1.87
16.24	4.95	46.90	0.97	2.08	4.49	130	1.033	1.033	0.966	2.12	0.73	1.02	44.10	4.53	2.09	6.63		45.09	2.39		0			1.00		1.00		0.707	Non-Liq.	4.3	10.4			0.00
16.73	5.10	11.53	0.79	6.81	1.10	130	1.065	1.065	0.965	7.50	0.98	0.99	9.83	1.10	5.99	7.09		10.83	3.24		0			1.00		1.00		0.712	Non-Liq.	2.6	4.1			0.00
17.22	5.25	10.00	0.42	4.17	0.96	130	1.097	1.097	0.964	4.68	0.96	0.97	8.12	0.94	4.89	5.82		9.13	3.18		0			1.00		1.00		0.716	Non-Liq.	2.8	3.3			0.00
17.72	5.40	10.37	0.36	3.47	0.99	130	1.129	1.129	0.962	3.90	0.94	0.94	8.21	0.95	3.97	4.92		9.21	3.13		0			1.00		1.00		0.720	Non-Liq.	2.9	3.2			0.00
18.21	5.55	8.73	0.32	3.68	0.84	130	1.161	1.161	0.961	4.25	0.97	0.91	6.54	0.78	4.26	5.04		7.54	3.23		0			1.00		1.00		0.724	Non-Liq.	2.7	2.8			0.00
18.70	5.70	10.37	0.29	2.80	0.99	130	1.193	1.193	0.960	3.16	0.93	0.89	7.75	0.92	3.08	3.99		8.76	3.10		0			1.00		1.00		0.728	Non-Liq.	2.9	3.0			0.00
19.19	5.85	10.03	0.29	2.92	0.96	130	1.225	1.225	0.959	3.33	0.94	0.87	7.25	0.87	3.25	4.12		8.26	3.14		0			1.00		1.00		0.731	Non-Liq.	2.9	2.9			0.00
19.69	6.00	11.03	0.27	2.43	1.06	130	1.257	1.257	0.958	2.74	0.92	0.85	7.89	0.94	2.59	3.54		8.90	3.06		0			1.00		1.00		0.735	Non-Liq.	3.0	3.0			0.00
20.18	6.15	10.10	0.22	2.18	0.97	130	1.289	1.289	0.956	2.50	0.92	0.83	6.94	0.84	2.26	3.10		7.95	3.09		0			1.00		1.00		0.738	Non-Liq.	3.0	2.7			0.00
20.67	6.30	11.03	0.20	1.81	1.06	130	1.321	1.321	0.955	2.06	0.90	0.82	7.51	0.91	1.77	2.67		8.53	3.01		0			1.00		1.00		0.741	Non-Liq.	3.1	2.8			0.00
21.16	6.45	14.93	0.35	2.37	1.43	130	1.353	1.353	0.954	2.60	0.88	0.80	10.33	1.24	2.51	3.75		11.36	2.95		0			1.00		1.00		0.743	Non-Liq.	3.2	3.5			0.00
21.65	6.60	21.70	0.74	3.41	2.08	130	1.385	1.385	0.952	3.64	0.87	0.79	15.20	1.83	3.92	5.76		16.23	2.90		0			1.00		1.00		0.746	Non-Liq.	3.3	4.9			0.00
22.15	6.75	25.20	1.11	4.38	2.41	130	1.417	1.417	0.951	4.65	0.87	0.77	17.41	2.14	5.24	7.38		18.45	2.92		0			1.00		1.00		0.748	Non-Liq.	3.3	5.6			0.00
22.64	6.90	33.70	1.30	3.84	3.23	130	1.449	1.449	0.950	4.02	0.83	0.77	23.46	2.86	4.52	7.38		24.51	2.78		0			1.00		1.00		0.750	Non-Liq.	3.6	6.9			0.00
23.13	7.05	37.97	1.22	3.22	3.64	130	1.481	1.469	0.948	3.35	0.81	0.77	26.48	3.70	3.68	7.38		31.75	2.69		0			1.15		1.00		0.752	Non-Liq.	3.7	8.5			0.00
23.62	7.20	23.80	1.03	4.33	2.28	130	1.513	1.486	0.946	4.62	0.88	0.74	15.63	1.97	5.19	7.16		16.67	2.96		0			1.00		1.00		0.754	Non-Liq.	3.2	5.2			0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Override	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_C	Qc1n	Ic		(0 or 1)	Dr (%)	K_C	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
24.11	7.35	11.53	0.71	6.11	1.10	130	1.545	1.503	0.945	7.03	1.00	0.70	6.68	0.91	6.09	7.00		7.68	3.36		0			1.00		1.00		0.756	Non-Liq.	2.4	3.2			0.00
24.61	7.50	32.03	0.48	1.49	3.07	130	1.577	1.519	0.943	1.57	0.76	0.76	21.87	2.57	1.35	3.91		23.04	2.56		0			1.00		1.00		0.757	Non-Liq.	4.0	5.8			0.00
25.10	7.65	148.87	0.75	0.50	14.26	130	1.609	1.536	0.941	0.51	0.51	0.83	115.01	11.92	0.00	11.92	1.00	116.20	1.69		1	83	1.03	1.00	119.5	1.00	0.239	0.759	0.31	5.7	20.4	3.5	23.9	1.26
25.59	7.80	158.20	1.13	0.72	15.15	130	1.641	1.552	0.940	0.72	0.53	0.81	120.64	12.91	0.29	13.20	1.02	121.83	1.76		1	85	1.08	1.00	131.2	1.00	0.290	0.760	0.38	5.6	21.9	4.3	26.2	1.12
26.08	7.95	171.13	1.38	0.80	16.39	130	1.673	1.569	0.938	0.81	0.54	0.81	129.74	14.03	0.41	14.45	1.03	130.94	1.77		1	88	1.08	1.00	141.7	1.00	0.344	0.761	0.45	5.5	23.6	4.7	28.3	1.01
26.57	8.10	102.27	1.55	1.51	9.79	130	1.705	1.586	0.936	1.54	0.64	0.77	73.37	8.48	1.38	9.86	1.16	74.53	2.13		1	65	1.52	1.00	113.3	1.00	0.215	0.762	0.28	4.8	15.5	5.5	21.0	1.46
27.07	8.25	47.77	1.54	3.22	4.57	130	1.737	1.602	0.934	3.33	0.79	0.72	31.49	3.95	3.69	7.64	1.93	32.58	2.63		1	30	3.52	1.00	114.8	0.99	0.221	0.763	0.29	3.8	8.5	5.5	14.0	2.06
27.56	8.40	93.00	1.23	1.32	8.91	130	1.769	1.619	0.932	1.34	0.64	0.76	65.74	7.57	1.11	8.69	1.15	66.90	2.13		1	60	1.52	1.00	101.5	0.99	0.177	0.763	0.23	4.8	13.9	5.5	19.4	1.58
28.05	8.55	35.83	0.96	2.67	3.43	130	1.801	1.636	0.930	2.80	0.80	0.71	22.79	2.87	2.95	5.82	2.03	23.88	2.69		1	17	3.93	1.00	93.9	0.99	0.157	0.764	0.20	3.7	6.4	5.5	11.9	2.32
28.54	8.70	93.27	0.86	0.92	8.93	130	1.833	1.652	0.928	0.94	0.61	0.76	65.87	7.37	0.57	7.94	1.08	67.06	2.04		1	60	1.35	1.00	90.6	0.98	0.149	0.764	0.19	5.0	13.4	4.7	18.1	1.68

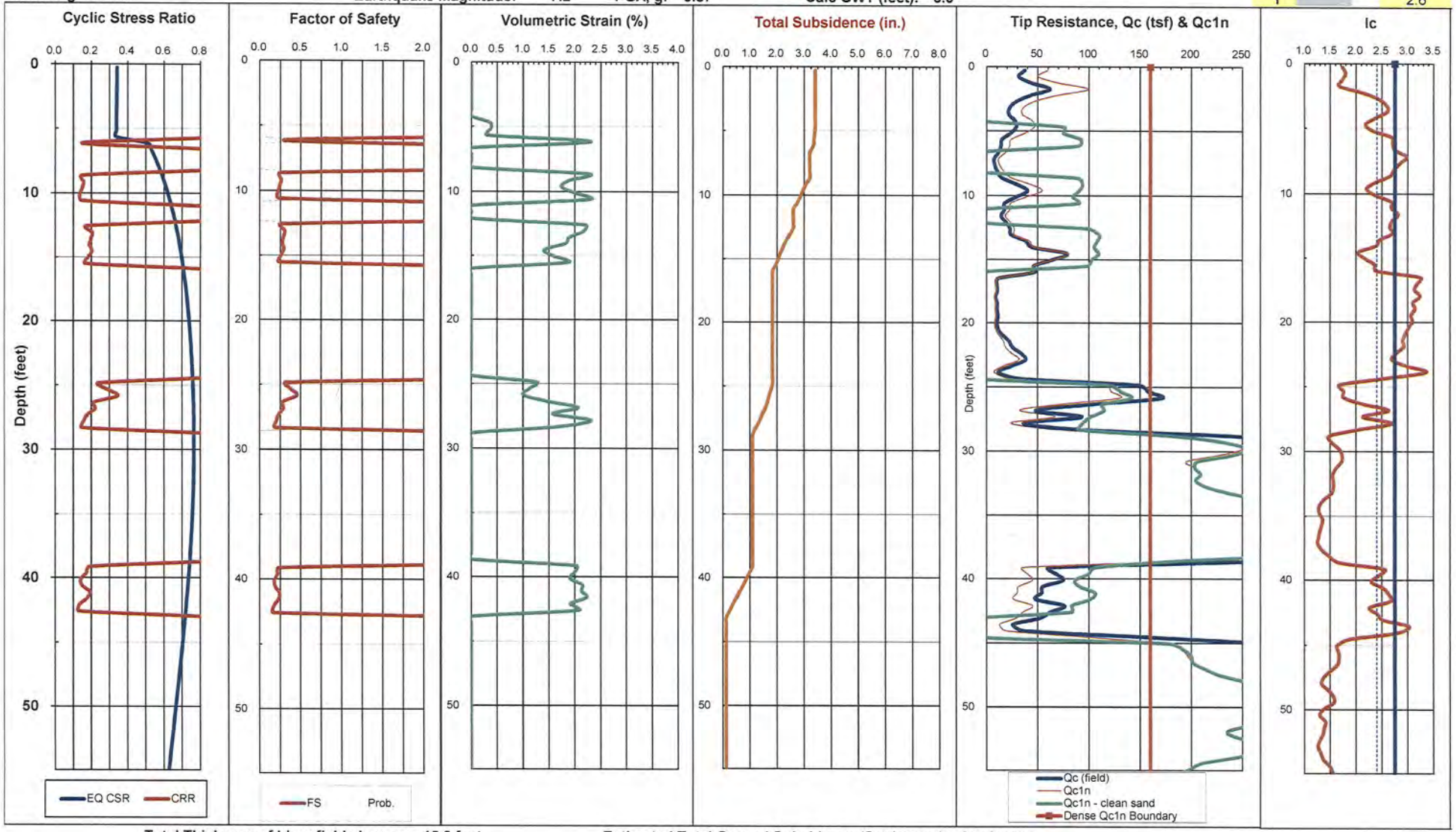
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-1 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 6.0

Plot 1 Limiting Ic: 2.6



Total Thickness of Liquefiable Layers: 15.3 feet Estimated Total Ground Subsidence (Settlement): 3.4 inches

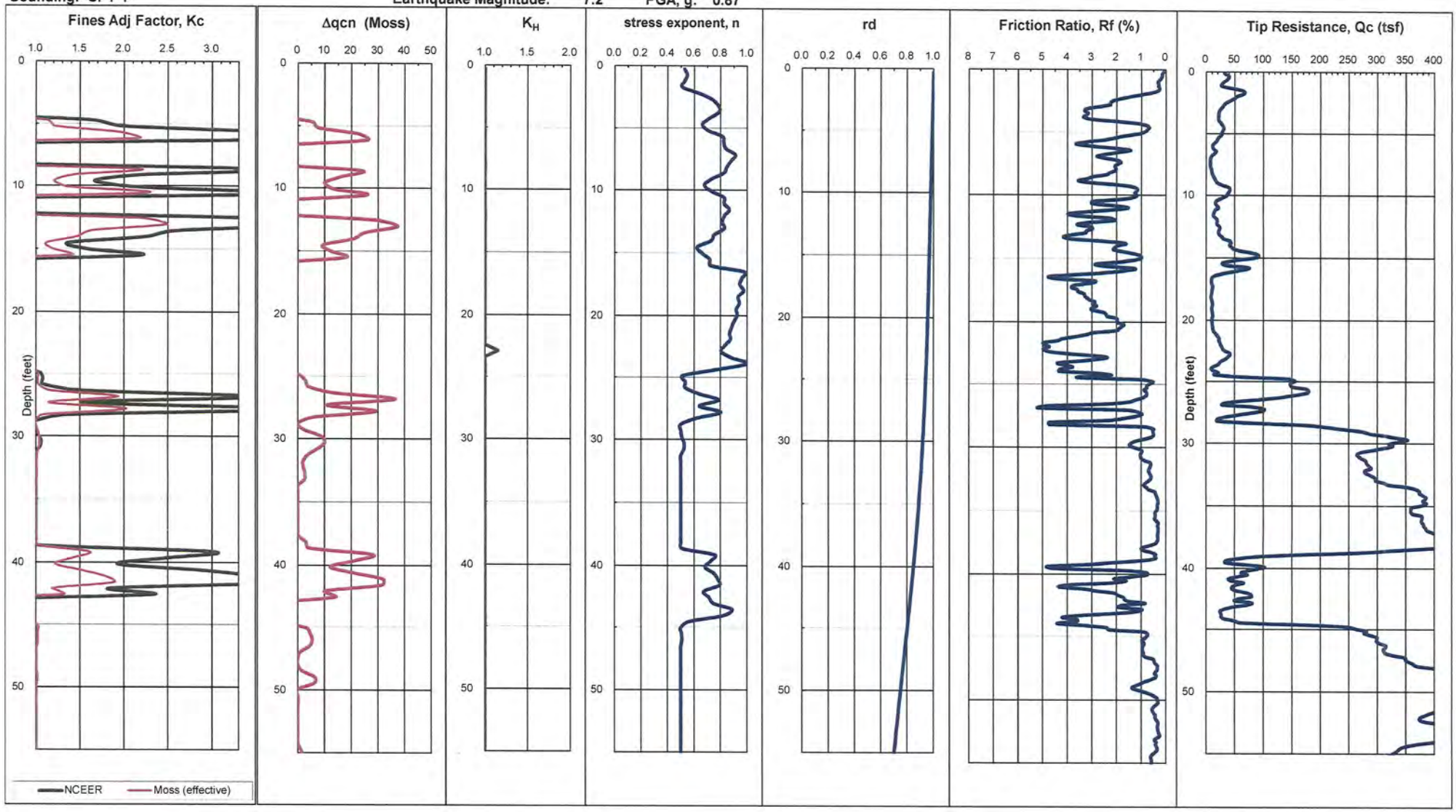
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5

Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-1 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-12 Data Set: 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT: 22.5 feet
Calc GWT: 6.0 feet
Remediate to: 5.0 feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E): 1.33 Automatic Hammer
Drive Rod Corr. (C_R): 1 Default
Rod Length above ground (feet): 3.0
Borehole Dia. Corr. (C_B): 1.00
Sampler Liner Correction for SPT?: 1 Yes
Cal Mod/ SPT Ratio: 0.63

Total (ft) Liquefied Thickness	Total (in.) Induced Subsidence
12.5	3.4

Required SF: 1.30
Threshold Acceler., g: 0.18 **Minimum Calculated SF:** 0.21

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

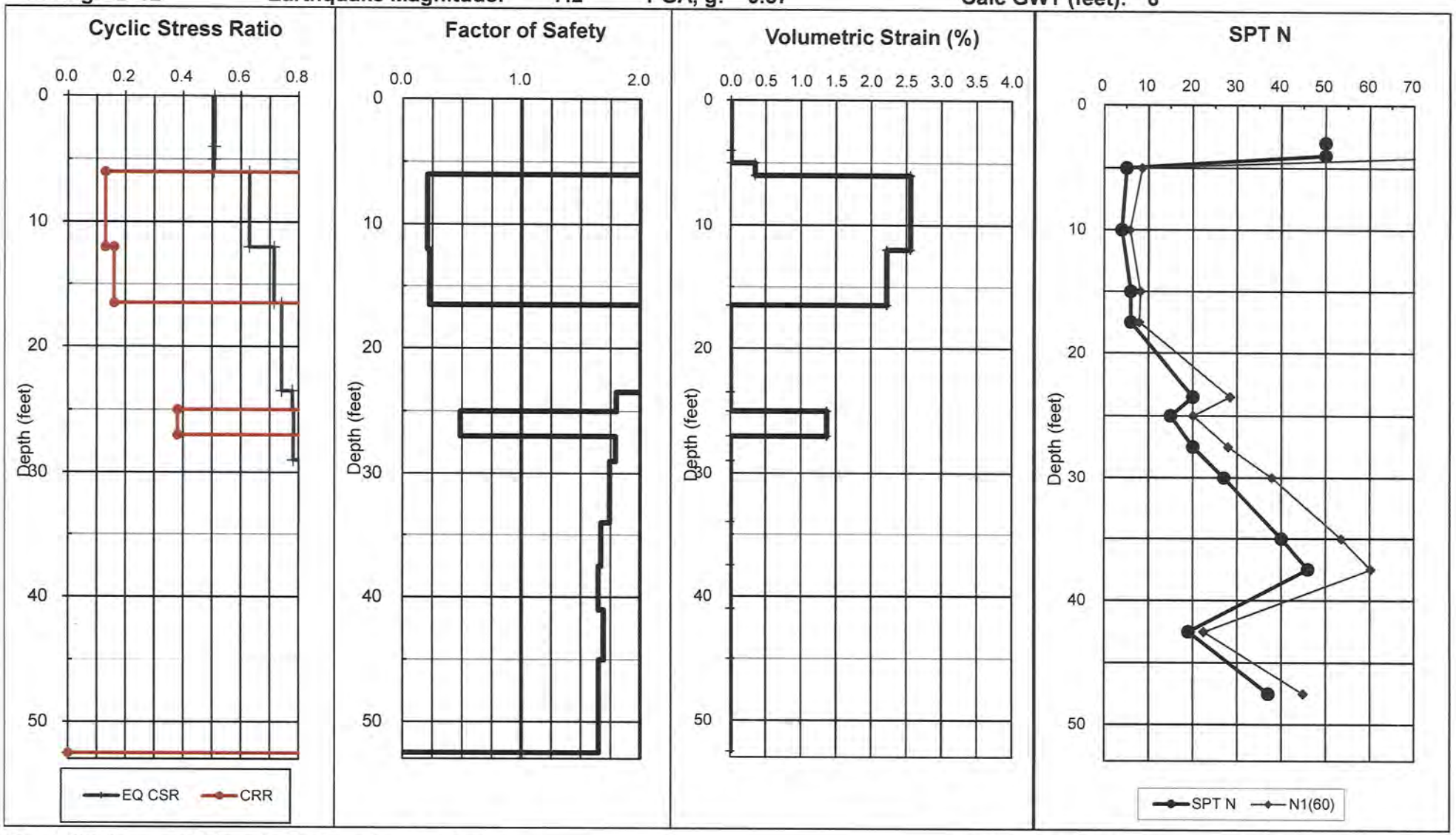
Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot Stress at SPT po (tsf)	Eff Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel Dens. Dr (%)	Trigger FC Adj. $\Delta N_{1(60)}$	Equiv. Sand $N_{1(60)CS}$	Kσ	M = 7.5 Available CRR	M =7.5 Induced CSR*	Liquefac. Safety Factor	Post FC Adj $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric Strain (%)	Induced Subsidence (in.)	p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{1S}	Strain Enc	Dry Sand Subsidence (in.)
								0.000																											
4.0	13	50	1	122	45	3.0	6.0	0.183	0.183	0.99	1.70	0.75	1.00	85.0	100	10.0	95.0	1.00	1.400	0.509	Non-Liq.	10.0	95.0	0.01	0.00	0.123	714	0.069	0.0001	0.129	22,546	1.8E-04	2.8E-05	2.6E-05	0.00
5.0	8	50	1	122	45	4.0	7.0	0.244	0.244	0.99	1.70	0.75	1.00	85.0	100	10.0	95.0	1.00	1.400	0.508	Non-Liq.	10.0	95.0	0.01	0.00	0.163	825	0.092	0.0001	0.130	18,971	2.0E-04	3.1E-05	2.9E-05	0.00
6.0	8	5	1	122	45	5.0	8.0	0.305	0.305	0.99	1.70	0.75	1.00	8.6	35	6.7	15.3	1.00	0.165	0.506	Non-Liq.	6.7	15.3	0.35	0.04	0.204	501	0.114	0.0002	0.132	16,594	1.4E-03	1.9E-03	1.7E-03	0.04
12.0		4	1	122	63	10.0	13.0	0.610	0.610	0.98	1.32	0.76	1.10	5.9	29	6.2	12.0	1.00	0.130	0.629	0.21	4.5	10.4	2.56	1.84	0.409	655	0.226	0.0003	0.140	10,948	2.2E-03			
16.5		6	1	122	63	15.0	18.0	0.915	0.915	0.97	1.08	0.86	1.10	8.2	34	6.6	14.8	1.00	0.160	0.715	0.22	4.5	12.7	2.22	1.20	0.613	860	0.335	0.0004	0.148	8,584	1.8E-03			
23.5		6		125	79	17.5	20.5	1.069	1.069	0.96	1.00	0.90	1.10	7.9				1.00	Infin.	0.741	Non-Liq.		7.9	0.00	0.00	0.716				0.152	7,819				
25.0		20	1	125	37	23.5	26.5	1.444	1.413	0.95	0.87	0.97	1.27	28.4	64	10.0	38.4	1.00	1.400	0.779	1.80	10.0	38.4	0.00	0.00	0.967	1,483	0.517	0.0003	0.162	6,528	7.7E-04			
27.0		15	1	125	37	25.0	28.0	1.538	1.460	0.94	0.85	0.98	1.20	20.1	54	9.0	29.1	1.00	0.380	0.784	0.49	3.0	23.1	1.37	0.33	1.030	1,396	0.548	0.0004	0.164	6,286	9.9E-04			
29.0		20	1	125	37	27.5	30.5	1.694	1.538	0.93	0.83	1.00	1.27	28.0	63	10.0	38.0	1.01	1.400	0.781	1.79	10.0	38.0	0.00	0.00	1.135	1,601	0.597	0.0004	0.168	5,932	8.1E-04			
34.0		27	1	125	37	30.0	33.0	1.850	1.616	0.92	0.81	1.00	1.30	37.9	74	10.0	47.9	0.98	1.400	0.804	1.74	10.0	47.9	0.00	0.00	1.240	1,807	0.644	0.0004	0.172	5,626	6.9E-04			
37.5		40	1	125	37	35.0	38.0	2.163	1.773	0.89	0.77	1.00	1.30	53.6	87	10.0	63.6	0.93	1.400	0.839	1.67	10.0	63.6	0.00	0.00	1.449	2,147	0.729	0.0003	0.180	5,123	5.8E-04			
41.0		46	1	125	5	37.5	40.5	2.319	1.851	0.87	0.76	1.00	1.30	60.3	93	0.0	60.3	0.91	1.400	0.850	1.65	0.0	60.3	0.00	0.00	1.554	2,185	0.765	0.0004	0.184	4,913	6.0E-04			
45.0		19	1	125	49	42.5	45.5	2.632	2.008	0.83	0.73	1.00	1.22	22.4	57	9.5	31.9	0.90	1.400	0.828	1.69	9.5	31.9	0.00	0.00	1.763	1,883	0.824	0.0004	0.193	4,554	8.9E-04			
52.5		37	1	125	35	47.5	50.5	2.944	2.164	0.78	0.70	1.00	1.30	44.8	80	10.0	54.8	0.84	1.400	0.848	1.65	10.0	54.8	0.00	0.00	1.972	2,385	0.867	0.0004	0.201	4,258	5.9E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-12 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 6**



Total Thickness of Liquefiable Layers: 12.5 feet

Estimated Total Ground Subsidence: 3.4 inches

CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-4

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
15.7
Total Induced Subsidence (inches)
2.9

EARTHQUAKE INFORMATION:
Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT, feet: 22.5
Calc GWT, feet: 6.0

Plot: 4
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF
Clean Sand Qc1n = C_Q*K_C*K_H*Qc
SF = $CRR_{7.5}$*Kσ/CSR

Ignore 1st/last increment into sand/silt soils: 1 yes
Ignore/remediate upper: 1.5 m
Unit Weight of unsaturated soils: 115 pcf
Unit Weight of saturated soils: 130 pcf
Limiting Ic for liquefiable soils: 2.75 Limiting Ic for K_H: 2.8

Use Moss @ P_L: 15%
Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Required SF: 1.50 Max $\Delta N_{1(60)}$ - post liquefied 5.5
Min SF of Liquefiable Layers: 0.20 Max $\Delta N_{1(60)}$ - non liquefied 10.0
Avg SF of Liquefiable Layers: 0.37

Depth (feet)	(m)	Tip Qc (tsf)	Friction Fs (tsf)	Friction Ratio Rf %	qc MPa	Total Unit Wt. (pcf)	Total Stress po (tsf)	Eff. Stress p'o (tsf)	rd	F %	n	Max 1.70 Cq	Q	Moss qc1 MPa	Moss Δqc MPa	Moss qc_{1mod} MPa	Moss eff K_C	Qc1n	Ic	Override	Liquef. Suscept. (0 or 1)	Rel. Dens. Dr (%)	K_C	K_H	Clean Sand Qc1n	1.0 Kσ	CRR	Induced M=7.5 CSR	Liquefac. Safety Factor	Qc1n $N_{1(60)}$ Ratio	Equiv. $N_{1(60)}$	FC Adj. $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	Volumetric Strain (%)
0.49	0.15	10.27	0.19	1.88	0.98	115	0.028	0.028	1.000	1.89	0.82	1.70	16.45	1.67	1.45	3.13		16.50	2.71		0			1.00		1.00		0.341	Non-Liq.	3.7	4.5			0.00
0.98	0.30	25.77	0.12	0.45	2.47	115	0.057	0.057	1.000	0.46	0.62	1.70	41.31	4.19	0.00	4.19		41.40	2.05		0			1.00		1.00		0.341	Non-Liq.	5.0	8.3			0.00
1.48	0.45	25.87	0.20	0.75	2.48	115	0.085	0.085	0.999	0.76	0.65	1.70	41.43	4.21	0.27	4.48		41.56	2.15		0			1.00		1.00		0.340	Non-Liq.	4.8	8.7			0.00
1.97	0.60	33.37	0.24	0.73	3.20	115	0.113	0.113	0.997	0.73	0.62	1.70	53.43	5.43	0.24	5.67		53.61	2.05		0			1.00		1.00		0.340	Non-Liq.	5.0	10.8			0.00
2.46	0.75	26.80	0.19	0.72	2.57	115	0.141	0.141	0.996	0.72	0.65	1.70	42.84	4.36	0.23	4.59		43.06	2.13		0			1.00		1.00		0.340	Non-Liq.	4.8	8.9			0.00
2.95	0.90	24.30	0.13	0.54	2.33	115	0.170	0.170	0.995	0.55	0.64	1.70	38.77	3.96	0.04	4.00		39.05	2.11		0			1.00		1.00		0.339	Non-Liq.	4.9	8.0			0.00
3.44	1.05	18.80	0.45	2.39	1.80	130	0.202	0.202	0.994	2.42	0.78	1.70	29.88	3.06	1.99	5.05		30.21	2.56		0			1.00		1.00		0.339	Non-Liq.	4.0	7.6			0.00
3.94	1.20	19.40	0.82	4.22	1.86	130	0.234	0.234	0.993	4.27	0.82	1.70	30.80	3.16	3.90	7.06		31.17	2.71		0			1.00		1.00		0.338	Non-Liq.	3.7	8.4			0.00
4.43	1.35	21.17	0.91	4.28	2.03	130	0.266	0.266	0.992	4.33	0.81	1.70	33.58	3.45	3.96	7.40		34.01	2.69		0			1.00		1.00		0.338	Non-Liq.	3.7	9.1			0.00
4.92	1.50	31.77	1.13	3.57	3.04	130	0.298	0.298	0.990	3.60	0.76	1.70	50.56	5.02	3.21	8.24	1.64	51.04	2.51		1	49	2.79	1.00	142.6	1.00	0.350	0.338	Non-Liq.	4.1	12.5	10.0	22.5	0.13
5.41	1.65	54.57	1.79	3.28	5.23	130	0.330	0.330	0.989	3.30	0.70	1.70	87.15	7.70	2.91	10.61	1.38	87.68	2.32		1	71	2.00	1.00	175.3	1.00	Infin.	0.337	Non-Liq.	4.5	19.6	10.0	29.6	0.07
5.91	1.80	52.40	1.75	3.33	5.02	130	0.362	0.362	0.988	3.36	0.71	1.70	83.62	7.20	2.97	10.16	1.41	84.20	2.33		1	70	2.06	1.00	173.4	1.00	Infin.	0.337	Non-Liq.	4.4	19.0	10.0	29.0	0.08
6.40	1.95	22.07	0.90	4.09	2.11	130	0.394	0.394	0.987	4.17	0.81	1.70	34.82	3.27	4.33	7.60		35.46	2.67		0			1.00		1.00		0.511	Non-Liq.	3.8	9.4			0.00
6.89	2.10	11.90	0.50	4.16	1.14	130	0.426	0.426	0.986	4.31	0.88	1.70	18.44	1.93	4.46	6.39		19.12	2.88		0			1.00		1.00		0.529	Non-Liq.	3.4	5.7			0.00
7.38	2.25	14.00	0.43	3.04	1.34	130	0.458	0.458	0.985	3.14	0.84	1.70	21.76	2.32	3.12	5.44		24.10	2.74		0			1.07		1.00		0.546	Non-Liq.	3.6	6.6			0.00
7.87	2.40	8.27	0.35	4.27	0.79	130	0.490	0.490	0.984	4.54	0.93	1.70	12.50	1.35	4.68	6.03		13.28	3.03		0			1.00		1.00		0.561	Non-Liq.	3.1	4.3			0.00
8.37	2.55	14.20	0.39	2.75	1.36	130	0.522	0.522	0.983	2.85	0.84	1.70	21.98	2.06	2.81	4.87		22.90	2.71		0			1.00		1.00		0.575	Non-Liq.	3.7	6.2			0.00
8.86	2.70	21.90	0.58	2.64	2.10	130	0.554	0.554	0.982	2.71	0.79	1.67	33.70	2.89	2.69	5.58	1.93	34.57	2.55		1	33	3.04	1.00	105.0	1.00	0.188	0.589	**0.32**	4.0	8.6	5.5	14.1	2.01
9.35	2.85	24.57	0.76	3.09	2.35	130	0.586	0.586	0.981	3.16	0.80	1.60	36.30	3.08	3.28	6.35	2.06	37.19	2.57		1	36	3.15	1.00	117.1	1.00	0.229	0.601	**0.38**	4.0	9.4	5.5	14.9	2.00
9.84	3.00	23.03	0.80	3.47	2.21	130	0.618	0.618	0.979	3.57	0.82	1.55	32.87	2.81	3.79	6.60	2.35	33.77	2.64		1	32	3.56	1.00	120.4	1.00	0.242	0.612	**0.40**	3.8	8.8	5.5	14.3	2.00
10.33	3.15	32.80	0.79	2.41	3.14	130	0.650	0.650	0.978	2.46	0.75	1.44	43.83	3.88	2.45	6.33	1.63	44.72	2.44		1	43	2.47	1.00	110.4	1.00	0.205	0.623	**0.33**	4.2	10.6	5.5	16.1	1.83
10.83	3.30	50.03	0.68	1.36	4.79	130	0.682	0.682	0.977	1.37	0.66	1.34	62.41	5.84	1.10	6.94	1.19	63.27	2.16		1	58	1.57	1.00	99.1	1.00	0.170	0.632	**0.27**	4.8	13.2	5.5	18.7	1.60
11.32	3.45	65.77	0.61	0.92	6.30	130	0.714	0.714	0.976	0.93	0.61	1.27	78.03	7.58	0.55	8.12	1.07	78.89	1.98		1	67	1.27	1.00	100.2	1.00	0.174	0.642	**0.27**	5.1	15.4	4.7	20.0	1.51
11.81	3.60	43.60	0.70	1.60	4.18	130	0.746	0.746	0.975	1.63	0.69	1.28	51.65	4.88	1.42	6.30	1.29	52.55	2.27		1	50	1.84	1.00	96.9	1.00	0.165	0.650	**0.25**	4.6	11.5	5.5	17.0	1.75
12.30	3.75	37.57	0.80	2.13	3.60	130	0.778	0.778	0.974	2.17	0.74	1.25	43.62	4.11	2.11	6.22	1.51	44.54	2.40		1	43	2.32	1.00	103.5	1.00	0.183	0.658	**0.28**	4.3	10.4	5.5	15.9	1.85
12.80	3.90	60.10	0.92	1.52	5.76	130	0.810	0.810	0.973	1.54	0.66	1.19	66.90	6.42	1.33	7.76	1.21	67.82	2.17		1	61	1.59	1.00	107.5	1.00	0.196	0.666	**0.29**	4.8	14.2	5.5	19.7	1.53
13.29	4.05	40.20	0.99	2.45	3.85	130	0.842	0.842	0.972	2.50	0.75	1.19	44.12	4.22	2.55	6.78		45.06	2.44		0			1.00		1.00		0.673	Non-Liq.	4.2	10.7			0.00
13.78	4.20	14.63	0.82	5.60	1.40	130	0.874	0.874	0.971	5.96	0.92	1.19	15.53	1.54	5.91	7.45		16.51	3.03		0			1.00		1.00		0.679	Non-Liq.	3.1	5.4			0.00
14.27	4.35	14.37	0.61	4.22	1.38	130	0.906	0.906	0.970	4.51	0.91	1.15	14.65	1.49	4.90	6.40		15.63	2.97		0			1.00		1.00		0.686	Non-Liq.	3.2	4.9			0.00
14.76	4.50	12.43	0.54	4.30	1.19	130	0.938	0.938	0.969	4.65	0.93	1.12	12.15	1.27	5.02	6.29		13.14	3.04		0			1.00		1.00		0.692	Non-Liq.	3.0	4.3			0.00
15.26	4.65	17.77	0.50	2.80	1.70	130	0.969	0.969	0.968	2.97	0.85	1.08	17.10	1.78	3.05	4.83		18.09	2.80		0			1.00		1.00		0.697	Non-Liq.	3.5	5.2			0.00
15.75	4.80	14.23	0.56	3.91	1.36	130	1.001	1.001	0.967	4.21	0.91	1.05	13.14	1.40	4.52	5.93		14.14	2.99		0			1.00		1.00		0.702	Non-Liq.	3.2	4.5			0.00
16.24	4.95	41.03	0.55	1.34	3.93	130	1.033	1.033	0.966	1.38	0.71	1.02	38.44	5.59	1.12	6.71		55.47	2.32		0			1.41		1.00		0.707	Non-Liq.	4.4	12.5			0.00
16.73	5.10	20.97	0.45	2.16	2.01	130	1.065	1.065	0.965	2.28	0.82	0.99	18.70	2.81	2.21	5.03		27.72	2.71		0			1.41		1.00		0.712	Non-Liq.	3.7	7.5			0.00
17.22	5.25	10.07	0.35	3.49	0.96	130	1.097	1.097	0.964	3.92	0.95	0.97	8.19	0.94	3.99	4.93		9.19	3.13		0			1.00		1.00		0.716	Non-Liq.	2.9	3.2			0.00
17.72	5.40	7.53	0.22	2.85	0.72	130	1.129	1.129	0.962	3.36	0.97	0.94	5.68	0.69	3.14	3.83		6.68	3.23		0			1.00		1.00		0.720	Non-Liq.	2.7	2.5			0.00
18.21	5.55	8.30	0.15	1.81	0.79	130	1.161	1.161	0.961	2.10	0.93	0.92	6.19	0.74	1.75	2.49		7.19	3.09		0			1.00		1.00		0.724	Non-Liq.	3.0	2.4			0.00
18.70	5.70	8.50	0.15	1.75	0.81	130	1.193	1.193	0.960	2.03	0.93	0.89	6.18	0.74	1.67	2.41		7.19	3.08		0			1.00		1.00		0.728	Non-Liq.	3.0	2.4			0.00
19.19	5.85	9.80	0.14	1.43	0.94	130	1.225	1.225	0.959	1.63	0.90	0.88	7.10	0.84	1.25	2.09		8.12	2.98		0			1.00		1.00		0.731	Non-Liq.	3.2	2.6			0.00
19.69	6.00	20.70	0.43	2.09	1.98	130	1.257	1.257	0.958	2.22	0.83	0.87	15.93	1.81	2.13	3.94		16.96	2.76		0			1.00		1.00		0.735	Non-Liq.	3.6	4.7			0.00
20.18	6.15	43.07	1.10	2.55	4.12	130	1.289	1.289	0.956	2.63	0.76	0.86	33.95	3.83	2.75	6.58		35.12	2.54		0			1.00		1.00		0.738	Non-Liq.	4.0	8.7			0.00
20.67	6.30	63.47	1.72	2.71	6.08	130	1.321	1.321	0.955	2.77	0.73	0.85	49.92	5.64	2.98	8.62	1.53	50.98	2.43		1	49	2.44	1.00	124.3	1.00	0.258	0.741	**0.35**	4.2	12.0	5.5	17.5	1.72
21.16	6.45	62.73	2.14	3.41	6.01	130	1.353	1.353	0.954	3.48	0.76	0.83	48.17	5.56	3.92	9.48	1.70	49.23	2.51		1	47	2.82	1.00	138.8	1.00	0.328	0.743	**0.44**	4.1	12.0	5.5	17.5	1.72
21.65	6.60	72.00	2.34	3.25	6.89	130	1.385	1.385	0.952	3.32	0.74	0.82	54.69	6.35	3.71	10.06	1.58	55.76	2.46		1	53	2.55	1.00	142.4	1.00	0.349	0.746	**0.47**	4.2	13.3	5.5	18.8	1.62
22.15	6.75	83.33	2.22	2.67	7.98	130	1.417	1.417	0.951	2.71	0.71	0.81	62.96	7.29	2.92	10.21	1.40	64.04	2.35		1	58	2.12	1.00	135.9	1.00	0.313	0.748	**0.42**	4.4	14.6	5.5	20.1	1.52
22.64	6.90	102.47	2.11	2.06	9.81	130	1.449	1.449	0.950	2.09	0.67	0.81	77.45	8.88	2.10	10.98	1.24	78.56	2.21		1	67	1.68	1.00	132.2	1.00	0.295	0.750	**0.39**	4.7	16.8	5.5	22.3	1.37
23.13	7.05	107.40	2.18	2.03	10.28	130	1.481	1.469	0.948	2.05	0.66	0.81	80.61	9.27	2.06	11.33	1.22	81.73	2.19		1	68	1.64	1.00	134.1	1.00	0.304	0.752	**0.40**	4.7	17.3	5.5	22.8	1.33
23.62	7.20	82.23	2.09	2.54	7.87	130	1.513	1.486	0.946	2.58	0.71	0.79	60.03	7.07	2.76	9.83	1.39	61.14	2.35		1	56	2.12	1.00	129.8	1.00	0.283	0.754	**0.38**	4.4	13.9	5.5	19.4	1.57

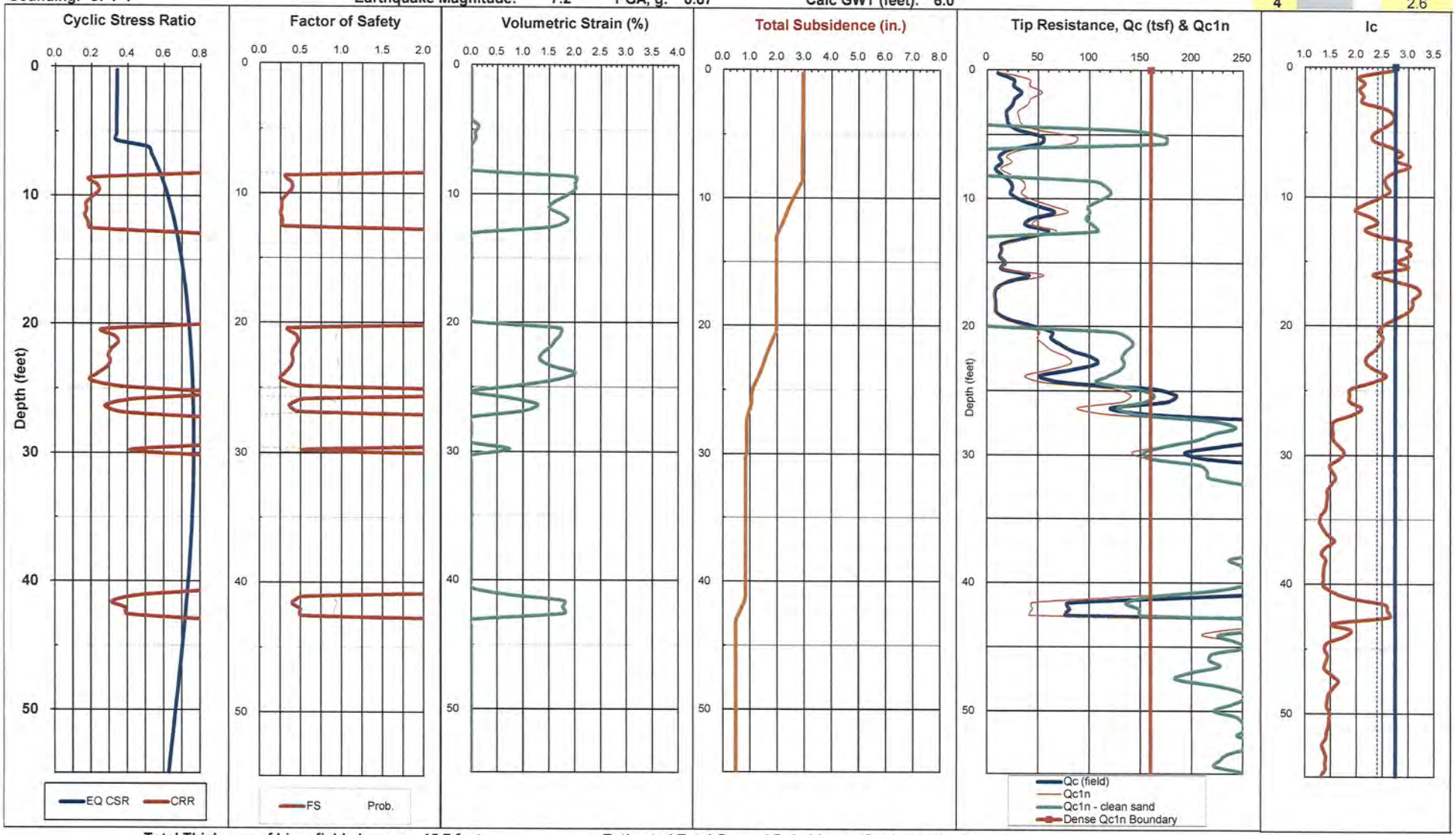
Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress				Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Override	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	*Volumetric Strain*
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_C	Qc1n	Ic		(0 or 1)	Dr (%)	K_C	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	*(%)*
24.11	7.35	51.40	1.59	3.09	4.92	130	1.545	1.503	0.945	3.18	0.77	0.76	35.98	4.36	3.50	7.86	1.80	37.07	2.57		1	36	3.18	1.00	117.7	1.00	0.232	0.756	**0.31**	4.0	9.4	5.5	14.9	**2.00**
24.61	7.50	75.93	1.43	1.89	7.27	130	1.577	1.519	0.943	1.92	0.69	0.78	54.81	6.39	1.88	8.26	1.29	55.93	2.29		1	53	1.93	1.00	107.8	1.00	0.197	0.757	**0.26**	4.5	12.4	5.5	17.9	**1.69**
25.10	7.65	163.70	1.92	1.17	15.68	130	1.609	1.536	0.941	1.18	0.57	0.81	123.84	13.78	0.91	14.69	1.07	125.01	1.89		1	86	1.18	1.00	147.4	1.00	0.378	0.759	**0.50**	5.3	23.6	5.5	29.1	**0.93**
25.59	7.80	185.07	2.29	1.24	17.72	130	1.641	1.552	0.940	1.25	0.57	0.80	139.62	15.62	1.00	16.62	1.06	140.80	1.87		1	91	1.16	1.00	163.2	1.00	Infin.	0.760	**Non-Liq.**	5.3	26.4	6.3	32.6	**0.00**
26.08	7.95	175.53	2.08	1.18	16.81	130	1.673	1.569	0.938	1.19	0.57	0.80	131.48	14.71	0.93	15.64	1.06	132.66	1.87		1	89	1.16	1.00	154.5	1.00	0.423	0.761	**0.56**	5.3	24.9	5.5	30.4	**0.77**
26.57	8.10	120.53	1.96	1.62	11.54	130	1.705	1.586	0.936	1.64	0.63	0.77	87.04	10.09	1.52	11.61	1.15	88.20	2.10		1	72	1.45	1.00	128.1	1.00	0.275	0.762	**0.36**	4.9	18.0	5.5	23.5	**1.29**
27.07	8.25	161.43	2.10	1.30	15.46	130	1.737	1.602	0.934	1.31	0.58	0.78	118.51	13.46	1.08	14.54	1.08	119.69	1.93		1	84	1.22	1.00	146.3	0.99	0.371	0.763	**0.48**	5.2	23.0	5.5	28.5	**1.00**
27.56	8.40	288.97	2.20	0.76	27.67	130	1.769	1.619	0.932	0.77	0.50	0.81	219.55	23.75	0.36	24.11	1.02	220.79	1.58		1	100	1.00	1.00	220.8	0.98	Infin.	0.763	**Non-Liq.**	5.9	37.4	6.8	44.2	**0.00**
28.05	8.55	320.07	2.33	0.73	30.65	130	1.801	1.636	0.930	0.73	0.50	0.80	242.06	26.22	0.31	26.53	1.01	243.30	1.54		1	100	1.00	1.00	243.3	0.98	Infin.	0.764	**Non-Liq.**	6.0	40.6	8.1	48.7	**0.00**
28.54	8.70	292.63	2.03	0.69	28.02	130	1.833	1.652	0.928	0.70	0.50	0.80	220.08	23.74	0.26	24.00	1.01	221.33	1.55		1	100	1.00	1.00	221.3	0.97	Infin.	0.764	**Non-Liq.**	6.0	37.1	7.2	44.3	**0.00**

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-4 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 6.0 Plot 4 Limiting Ic: 2.6



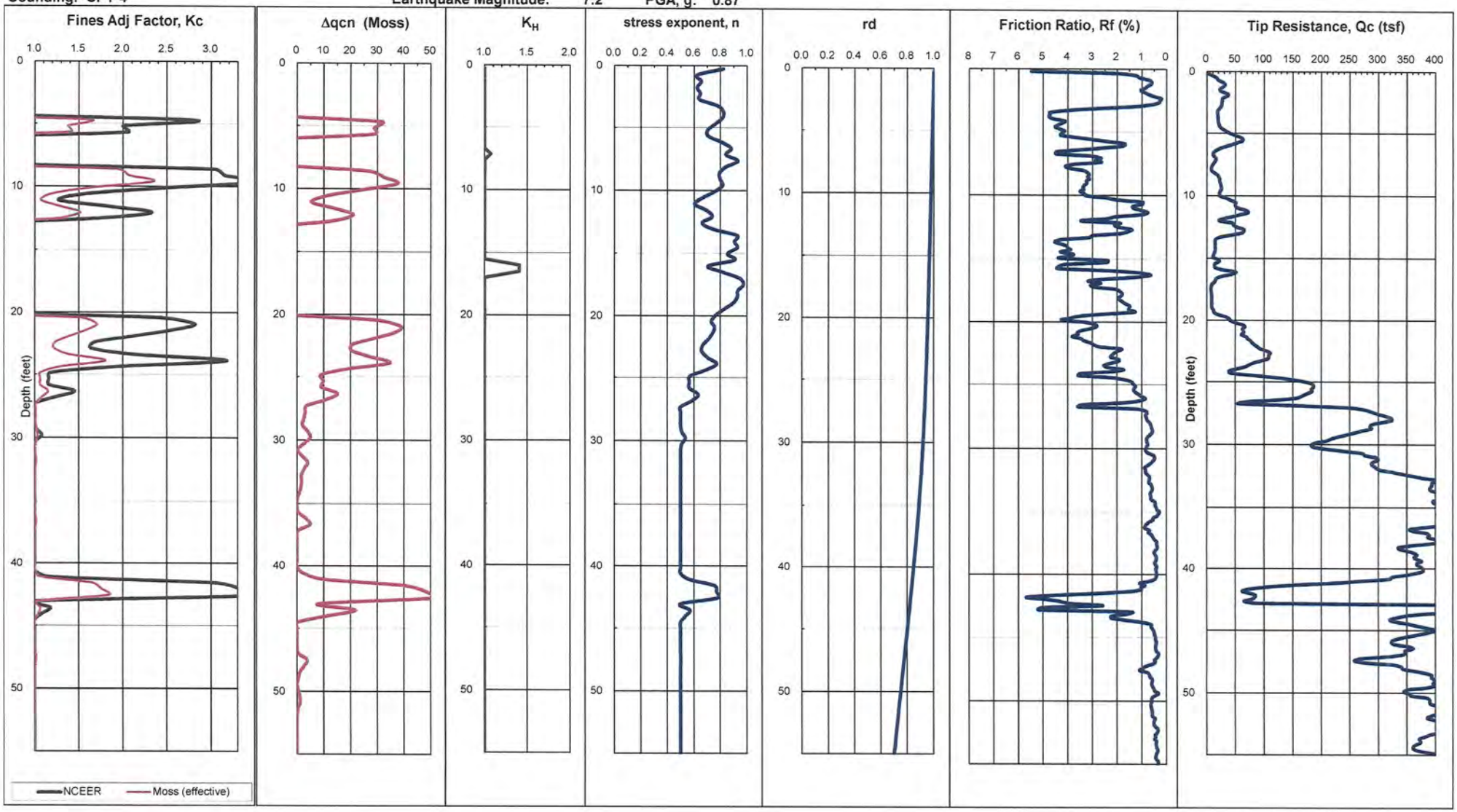
Total Thickness of Liquefiable Layers: 15.7 feet Estimated Total Ground Subsidence (Settlement): 2.9 inches

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5
Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-4 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-15 Data Set: 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude: **7.2** 7.5
PGA, g: **0.87** 0.79
MSF: 1.11
GWT: **22.5** feet
Calc GWT: **6.0** feet
Remediate to: **5.0** feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E): 1.33 Automatic Hammer
Drive Rod Corr. (C_R): 1 Default
Rod Length above ground (feet): 3.0
Borehole Dia. Corr. (C_B): 1.00
Sampler Liner Correction for SPT?: 1 Yes
Cal Mod/ SPT Ratio: 0.63

Total (ft) Liquefied Thickness	Total (in.) Induced Subsidence
9	1.8

Required SF: 1.30
Threshold Acceler., g: 0.19 **Minimum Calculated SF:** 0.22

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

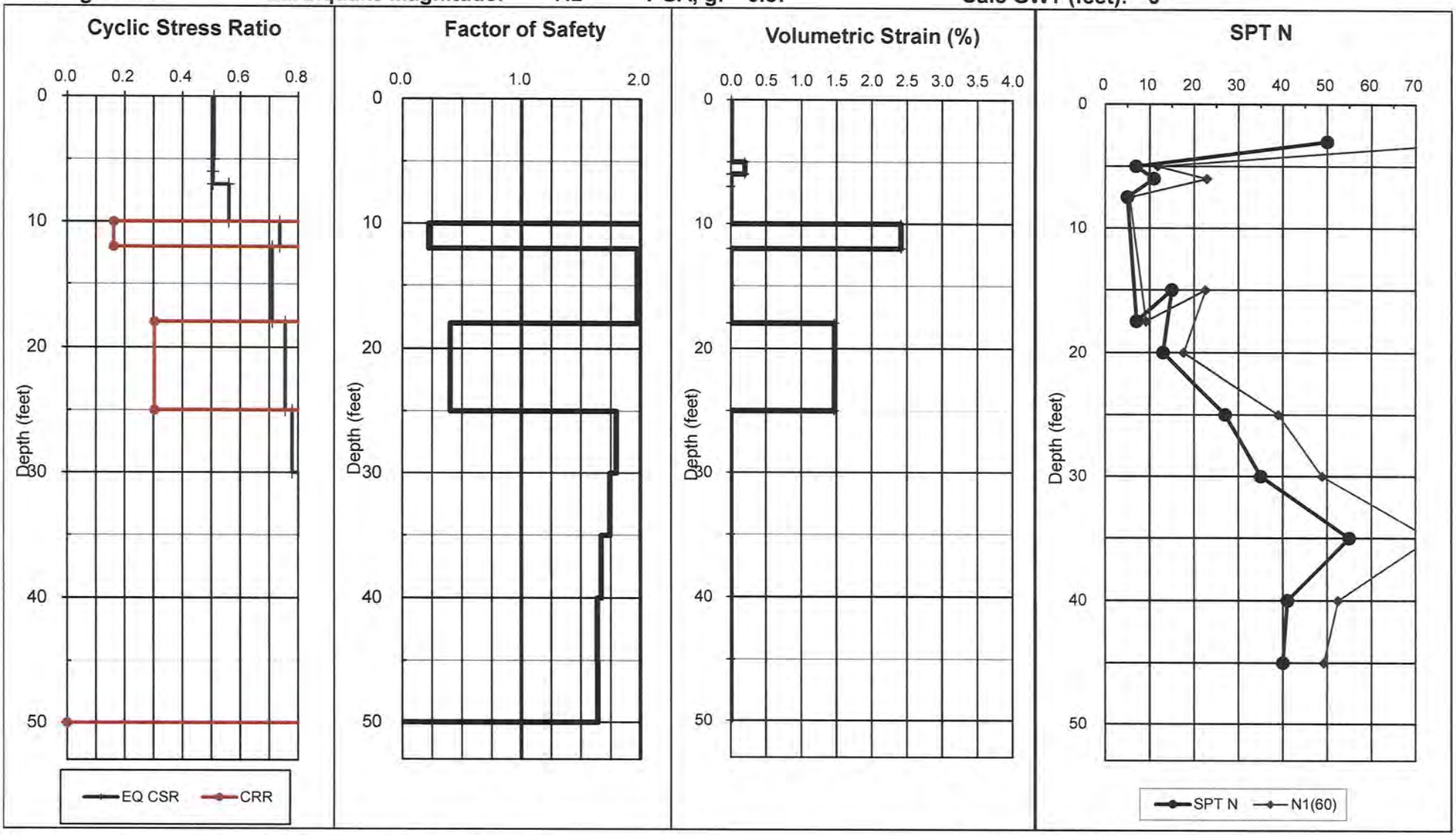
Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot Stress at SPT po (tsf)	Eff Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel. Dens. Dr (%)	*Trigger FC Adj.* $\Delta N_{1(60)}$	*Equiv. Sand* $N_{1(60)CS}$	$K\sigma$	M = 7.5 Available CRR	M =7.5 Induced CSR*	**Liquefac. Safety Factor**	*Post FC Adj* $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric *Strain* (%)	**Induced Subsidence (in.)**	p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{15}	Strain Enc	**Dry Sand Subsidence (in.)**
								0.000																											
5.0	4	50	1	122	50	3.0	6.0	0.183	0.183	0.99	1.70	0.75	1.00	85.0	100	10.0	95.0	1.00	1.400	0.509	**Non-Liq.**	10.0	95.0	0.01	**0.00**	0.123	714	0.069	0.0001	0.129	22,546	1.8E-04	2.8E-05	2.6E-05	**0.00**
6.0	11	7	1	122	40	5.0	8.0	0.305	0.305	0.99	1.70	0.75	1.00	11.8	41	7.4	19.1	1.00	0.207	0.506	**Non-Liq.**	7.4	19.1	0.20	**0.02**	0.204	540	0.114	0.0002	0.132	16,594	1.0E-03	1.1E-03	9.8E-04	**0.02**
7.0		11	1	122	28	6.0	9.0	0.366	0.366	0.99	1.70	0.75	1.22	22.9	57	7.7	30.6	1.00	1.400	0.505	**Non-Liq.**	7.7	30.6	0.00	**0.00**	0.245	693	0.137	0.0002	0.134	14,875	6.1E-04			
10.0		5		125	65	7.5	10.5	0.458	0.458	0.98	1.00	0.75	1.10	5.5				1.00	Infin.	0.561	**Non-Liq.**		5.5	0.00	**0.00**	0.307				0.136	12,998				
12.0		7	1	125	28	17.5	20.5	1.083	1.083	0.96	0.99	0.90	1.10	9.2	36	5.8	15.0	1.00	0.162	0.736	**0.22**	2.2	11.4	2.42	**0.58**	0.726	939	0.395	0.0004	0.152	7,757	1.8E-03			
18.0		15	1	125	50	15.0	18.0	0.927	0.927	0.97	1.07	0.86	1.22	22.6	57	9.5	32.1	1.00	1.400	0.710	**1.97**	9.5	32.1	0.00	**0.00**	0.621	1,119	0.340	0.0003	0.148	8,517	7.8E-04			
25.0		13	1	125	50	20.0	23.0	1.240	1.240	0.96	0.92	0.93	1.18	17.6	50	8.5	26.2	1.00	0.303	0.756	**0.40**	4.0	21.6	1.47	**1.23**	0.830	1,209	0.449	0.0004	0.156	7,155	1.0E-03			
30.0		27	1	125	5	25.0	28.0	1.552	1.474	0.94	0.85	0.98	1.30	39.0	75	0.0	39.0	1.00	1.400	0.779	**1.80**	0.0	39.0	0.00	**0.00**	1.040	1,546	0.553	0.0004	0.164	6,252	7.8E-04			
35.0		35	1	125	5	30.0	33.0	1.865	1.631	0.92	0.81	1.00	1.30	48.9	84	0.0	48.9	0.98	1.400	0.804	**1.74**	0.0	48.9	0.00	**0.00**	1.249	1,827	0.649	0.0004	0.173	5,600	6.9E-04			
40.0		55	1	125	5	35.0	38.0	2.177	1.787	0.89	0.77	1.00	1.30	73.4	100	0.0	73.4	0.93	1.400	0.839	**1.67**	0.0	73.4	0.00	**0.00**	1.459	2,260	0.733	0.0003	0.181	5,103	5.4E-04			
45.0		41	1	125	5	40.0	43.0	2.490	1.944	0.85	0.74	1.00	1.30	52.4	87	0.0	52.4	0.89	1.400	0.855	**1.54**	0.0	52.4	0.00	**0.00**	1.668	2,161	0.801	0.0004	0.189	4,708	6.5E-04			
50.0		40	1	125	5	45.0	48.0	2.802	2.100	0.80	0.71	1.00	1.30	49.2	84	0.0	49.2	0.85	1.400	0.854	**1.64**	0.0	49.2	0.00	**0.00**	1.877	2,244	0.852	0.0004	0.197	4,386	6.5E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-15 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 6**



Total Thickness of Liquefiable Layers: 9.0 feet

Estimated Total Ground Subsidence: 1.8 inches

CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-6

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
6.9
Total Induced Subsidence (inches)
1.2

EARTHQUAKE INFORMATION:

Magnitude:	7.2	7.5
PGA, g:	0.87	0.79
MSF:	1.11	
GWT, feet:	22.5	
Calc GWT, feet:	6.0	

Plot: 6
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m
Ignore 1st/last increment into sand/silt soils: 1 yes
Use Moss @ P_L: 15%
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF
Ignore/remediate upper: 1.5 m
Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Clean Sand Qc1n = C_Q*K_C*K_H*Qc
Unit Weight of unsaturated soils: 115 pcf
Required SF: 1.50
Max $\Delta N_{1(60)}$ - post liquefied 5.5
SF = $CRR_{7.5}$*Kσ/CSR
Unit Weight of saturated soils: 130 pcf
Min SF of Liquefiable Layers: 0.23
Max $\Delta N_{1(60)}$ - non liquefied 10.0
Limiting Ic for liquefiable soils: 2.75 Limiting Ic for K_H: 2.8
Avg SF of Liquefiable Layers: 0.45

Depth (feet)	(m)	Tip Qc (tsf)	Friction Fs (tsf)	Friction Ratio Rf %	qc MPa	Total Unit Wt (pcf)	Total Stress po (tsf)	Eff. Stress p'o (tsf)	rd	F %	n	Max 1.70 Cq	Q	Moss qc1 MPa	Moss Δqc MPa	Moss qc_{1mod} MPa	Moss eff K_C	Qc1n	Ic	Override	Liquef. Suscept. (0 or 1)	Rel. Dens. Dr (%)	K_C	K_H	Clean Sand Qc1n	1.0 Kσ	CRR	Induced M=7.5 CSR	Liquefac. Safety Factor	Qc1n $N_{1(60)}$ Ratio	Equiv. $N_{1(60)}$	FC Adj. $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	*Volumetric Strain (%)*
0.49	0.15	25.43	0.14	0.55	2.44	115	0.028	0.028	1.000	0.55	0.64	1.70	40.82	4.14	0.05	4.19		40.87	2.09		0			1.00		1.00		0.341	Non-Liq.	4.9	8.3			0.00
0.98	0.30	36.53	0.10	0.27	3.50	115	0.057	0.057	1.000	0.27	0.55	1.70	58.61	5.95	0.00	5.95		58.70	1.82		0			1.00		1.00		0.341	Non-Liq.	5.4	10.8			0.00
1.48	0.45	36.97	0.21	0.57	3.54	115	0.085	0.085	0.999	0.57	0.60	1.70	59.26	6.02	0.08	6.09		59.40	1.96		0			1.00		1.00		0.340	Non-Liq.	5.2	11.5			0.00
1.97	0.60	41.63	0.31	0.74	3.99	115	0.113	0.113	0.997	0.74	0.60	1.70	66.71	6.78	0.25	7.03		66.90	1.97		0			1.00		1.00		0.340	Non-Liq.	5.1	13.0			0.00
2.46	0.75	34.67	0.62	1.79	3.32	115	0.141	0.141	0.996	1.80	0.69	1.70	55.48	5.64	1.35	7.00		55.70	2.27		0			1.00		1.00		0.340	Non-Liq.	4.6	12.2			0.00
2.95	0.90	40.07	0.82	2.05	3.84	115	0.170	0.170	0.995	2.06	0.69	1.70	64.11	6.52	1.62	8.15		64.38	2.26		0			1.00		1.00		0.339	Non-Liq.	4.6	14.1			0.00
3.44	1.05	52.40	0.70	1.34	5.02	130	0.202	0.202	0.994	1.35	0.62	1.70	83.87	8.53	0.88	9.41		84.20	2.05		0			1.00		1.00		0.339	Non-Liq.	5.0	16.9			0.00
3.94	1.20	56.40	0.67	1.18	5.40	130	0.234	0.234	0.993	1.18	0.61	1.70	90.25	9.18	0.71	9.89		90.62	1.99		0			1.00		1.00		0.338	Non-Liq.	5.1	17.8			0.00
4.43	1.35	62.07	0.79	1.28	5.94	130	0.266	0.266	0.992	1.28	0.60	1.70	99.30	10.10	0.81	10.92		99.73	1.98		0			1.00		1.00		0.338	Non-Liq.	5.1	19.5			0.00
4.92	1.50	70.57	0.79	1.12	6.76	130	0.298	0.298	0.990	1.13	0.58	1.70	112.91	11.49	0.65	12.14	1.06	113.39	1.90		1	82	1.19	1.00	135.3	1.00	0.310	0.338	Non-Liq.	5.3	21.5	5.5	27.1	0.08
5.41	1.65	85.57	0.76	0.89	8.19	130	0.330	0.330	0.989	0.89	0.54	1.70	136.96	13.77	0.41	14.18	1.03	137.49	1.77		1	90	1.09	1.00	149.6	1.00	0.391	0.337	Non-Liq.	5.5	24.9	5.0	29.9	0.07
5.91	1.80	88.27	0.88	0.99	8.45	130	0.362	0.362	0.988	1.00	0.55	1.70	141.25	13.35	0.51	13.87	1.04	141.83	1.80		1	91	1.10	1.00	156.6	1.00	0.437	0.337	Non-Liq.	5.5	25.9	5.4	31.3	0.06
6.40	1.95	89.37	0.98	1.09	8.56	130	0.394	0.394	0.987	1.10	0.56	1.70	142.96	12.84	0.72	13.56	1.06	143.59	1.82		1	92	1.12	1.00	161.3	1.00	Infin.	0.511	Non-Liq.	5.4	26.4	5.8	32.3	0.00
6.89	2.10	87.90	1.01	1.15	8.42	130	0.426	0.426	0.986	1.16	0.57	1.68	138.65	12.18	0.79	12.97	1.07	139.32	1.85		1	91	1.14	1.00	159.2	1.00	0.455	0.529	**0.86**	5.4	25.9	5.5	31.4	0.61
7.38	2.25	54.53	0.85	1.56	5.22	130	0.458	0.458	0.985	1.58	0.64	1.70	86.89	7.42	1.31	8.73	1.18	87.62	2.09		1	71	1.43	1.00	125.4	1.00	0.264	0.546	**0.48**	4.9	17.8	5.5	23.3	1.27
7.87	2.40	22.20	0.69	3.11	2.13	130	0.490	0.490	0.984	3.18	0.80	1.70	34.88	3.06	3.24	6.29		35.67	2.58		0			1.00		1.00		0.561	Non-Liq.	3.9	9.1			0.00
8.37	2.55	13.80	0.65	4.69	1.32	130	0.522	0.522	0.983	4.87	0.89	1.70	21.34	1.92	5.23	7.15		22.17	2.87		0			1.00		1.00		0.575	Non-Liq.	3.4	6.5			0.00
8.86	2.70	10.57	0.54	5.09	1.01	130	0.554	0.554	0.982	5.38	0.92	1.70	16.09	1.49	5.66	7.15		16.98	2.99		0			1.00		1.00		0.589	Non-Liq.	3.2	5.4			0.00
9.35	2.85	7.07	0.38	5.33	0.68	130	0.586	0.586	0.981	5.81	0.98	1.70	10.41	1.04	5.70	6.74		11.35	3.15		0			1.00		1.00		0.601	Non-Liq.	2.8	4.0			0.00
9.84	3.00	9.33	0.35	3.77	0.89	130	0.618	0.618	0.979	4.03	0.92	1.64	13.53	1.28	4.16	5.44		14.49	2.97		0			1.00		1.00		0.612	Non-Liq.	3.2	4.5			0.00
10.33	3.15	10.10	0.39	3.86	0.97	130	0.650	0.650	0.978	4.13	0.92	1.56	13.97	1.32	4.30	5.62		14.94	2.96		0			1.00		1.00		0.623	Non-Liq.	3.2	4.7			0.00
10.83	3.30	15.33	0.49	3.21	1.47	130	0.682	0.682	0.977	3.36	0.86	1.46	20.20	1.87	3.48	5.35		21.14	2.78		0			1.00		1.00		0.632	Non-Liq.	3.6	5.9			0.00
11.32	3.45	14.00	0.44	3.12	1.34	130	0.714	0.714	0.976	3.29	0.87	1.41	17.68	1.68	3.38	5.06		18.63	2.82		0			1.00		1.00		0.642	Non-Liq.	3.5	5.4			0.00
11.81	3.60	51.33	0.42	0.82	4.92	130	0.746	0.746	0.975	0.84	0.63	1.24	59.53	7.45	0.42	7.88		76.38	2.04		0			1.26		1.00		0.650	Non-Liq.	5.0	15.3			0.00
12.30	3.75	44.07	0.75	1.71	4.22	130	0.778	0.778	0.974	1.74	0.70	1.24	50.78	6.10	1.57	7.67	1.26	65.36	2.29		1	59	1.92	1.26	125.3	1.00	0.263	0.658	**0.40**	4.5	14.5	5.5	20.0	1.51
12.80	3.90	22.57	0.82	3.62	2.16	130	0.810	0.810	0.973	3.75	0.84	1.25	25.72	3.08	4.07	7.16		33.74	2.73		0			1.26		1.00		0.666	Non-Liq.	3.7	9.2			0.00
13.29	4.05	20.80	0.91	4.35	1.99	130	0.842	0.842	0.972	4.53	0.86	1.22	22.98	2.21	5.04	7.25		23.95	2.82		0			1.00		1.00		0.673	Non-Liq.	3.5	6.9			0.00
13.78	4.20	16.43	1.04	6.31	1.57	130	0.874	0.874	0.971	6.66	0.92	1.19	17.55	1.72	5.91	7.63		18.53	3.02		0			1.00		1.00		0.679	Non-Liq.	3.1	6.0			0.00
14.27	4.35	14.13	0.80	5.68	1.35	130	0.906	0.906	0.970	6.07	0.93	1.16	14.45	1.46	5.92	7.39		15.44	3.06		0			1.00		1.00		0.686	Non-Liq.	3.0	5.1			0.00
14.76	4.50	31.60	0.99	3.14	3.03	130	0.938	0.938	0.969	3.23	0.80	1.10	31.91	3.67	3.48	7.15		37.91	2.62		0			1.15		1.00		0.692	Non-Liq.	3.9	9.8			0.00
15.26	4.65	32.87	1.45	4.40	3.15	130	0.969	0.969	0.968	4.53	0.82	1.07	32.40	3.75	5.15	8.90	2.38	38.48	2.71		1	37	4.09	1.15	157.4	1.00	0.443	0.697	**0.63**	3.7	10.4	5.5	15.9	1.85
15.75	4.80	46.07	1.48	3.22	4.41	130	1.001	1.001	0.967	3.29	0.76	1.04	44.42	5.18	3.61	8.79	1.70	52.34	2.52		1	50	2.86	1.15	149.7	1.00	0.392	0.702	**0.56**	4.1	12.9	5.5	18.4	1.65
16.24	4.95	63.13	1.20	1.91	6.05	130	1.033	1.033	0.966	1.94	0.69	1.02	59.65	7.03	1.87	8.90		69.90	2.27		0			1.15		1.00		0.707	Non-Liq.	4.6	15.3			0.00
16.73	5.10	20.70	0.86	4.16	1.98	130	1.065	1.065	0.965	4.39	0.87	0.99	18.44	1.98	4.87	6.85		19.45	2.89		0			1.00		1.00		0.712	Non-Liq.	3.4	5.8			0.00
17.22	5.25	7.60	0.53	6.93	0.73	130	1.097	1.097	0.964	8.10	1.00	0.96	5.93	0.71	6.00	6.71		6.93	3.44		0			1.00		1.00		0.716	Non-Liq.	2.3	3.0			0.00
17.72	5.40	6.90	0.26	3.70	0.66	130	1.129	1.129	0.962	4.42	1.00	0.94	5.11	0.63	4.27	4.90		6.11	3.33		0			1.00		1.00		0.720	Non-Liq.	2.5	2.5			0.00
18.21	5.55	7.60	0.21	2.81	0.73	130	1.161	1.161	0.961	3.31	0.97	0.91	5.56	0.68	3.09	3.76		6.56	3.23		0			1.00		1.00		0.724	Non-Liq.	2.7	2.5			0.00
18.70	5.70	7.73	0.20	2.61	0.74	130	1.193	1.193	0.960	3.08	0.97	0.89	5.50	0.68	2.82	3.50		6.51	3.22		0			1.00		1.00		0.728	Non-Liq.	2.7	2.4			0.00
19.19	5.85	13.87	0.40	2.86	1.33	130	1.225	1.225	0.959	3.14	0.90	0.88	10.47	1.22	3.17	4.38		11.48	2.99		0			1.00		1.00		0.731	Non-Liq.	3.1	3.7			0.00
19.69	6.00	52.20	1.01	1.93	5.00	130	1.257	1.257	0.958	1.97	0.72	0.88	42.52	5.90	1.91	7.81		55.10	2.38		0			1.26		1.00		0.735	Non-Liq.	4.3	12.7			0.00
20.18	6.15	60.60	1.77	2.92	5.80	130	1.289	1.289	0.956	2.98	0.74	0.86	48.41	6.87	3.25	10.12		62.54	2.46		0			1.26		1.00		0.738	Non-Liq.	4.2	15.0			0.00
20.67	6.30	37.30	2.20	5.91	3.57	130	1.321	1.321	0.955	6.12	0.86	0.83	28.12	3.32	6.06	9.38		29.15	2.85		0			1.00		1.00		0.741	Non-Liq.	3.4	8.5			0.00
21.16	6.45	29.20	2.19	7.49	2.80	130	1.353	1.353	0.954	7.86	0.90	0.80	21.07	2.57	6.06	8.64		22.10	3.01		0			1.00		1.00		0.743	Non-Liq.	3.1	7.1			0.00
21.65	6.60	47.57	2.16	4.54	4.56	130	1.385	1.385	0.952	4.67	0.81	0.80	35.09	4.20	5.44	9.64		36.28	2.70		0			1.00		1.00		0.746	Non-Liq.	3.7	9.8			0.00
22.15	6.75	83.60	2.27	2.71	8.01	130	1.417	1.417	0.951	2.76	0.71	0.81	63.14	7.32	2.98	10.30	1.41	64.23	2.35		1	58	2.14	1.00	137.2	1.00	0.320	0.748	**0.43**	4.4	14.6	5.5	20.1	1.52
22.64	6.90	96.50	2.10	2.18	9.24	130	1.449	1.449	0.950	2.21	0.68	0.81	72.62	8.36	2.27	10.63	1.27	73.73	2.24		1	64	1.78	1.00	131.4	1.00	0.291	0.750	**0.39**	4.6	16.0	5.5	21.5	1.42
23.13	7.05	71.73	1.95	2.71	6.87	130	1.481	1.469	0.948	2.77	0.73	0.79	52.33	6.18	2.99	9.17	1.48	53.43	2.41		1	51	2.37	1.00	126.8	1.00	0.269	0.752	**0.36**	4.3	12.5	5.5	18.0	1.68
23.62	7.20	71.77	2.03	2.82	6.87	130	1.513	1.486	0.946	2.88	0.73	0.78	51.85	6.17	3.14	9.31	1.51	52.94	2.43		1	50	2.44	1.00	129.0	1.00	0.280	0.754	**0.37**	4.2	12.5	5.5	18.0	1.68

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Override	Liquef. Suscept.	Rel Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	*Volumetric Strain*
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_c	Qc1n	Ic		(0 or 1)	Dr (%)	K_c	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	*(%)*
24.11	7.35	233.23	2.17	0.93	22.33	130	1.545	1.503	0.945	0.94	0.52	0.83	182.72	19.77	0.58	20.35	1.03	183.91	1.70		1	100	1.04	1.00	190.5	1.00	Infin.	0.756	**Non-Liq.**	5.7	32.4	5.7	38.1	**0.00**
24.61	7.50	230.07	2.53	1.10	22.03	130	1.577	1.519	0.943	1.11	0.53	0.82	178.07	19.57	0.81	20.38	1.04	179.25	1.76		1	100	1.08	1.00	192.9	1.00	Infin.	0.757	**Non-Liq.**	5.6	32.2	6.3	38.6	**0.00**
25.10	7.65	212.33	2.68	1.26	20.33	130	1.609	1.536	0.941	1.27	0.55	0.81	162.03	18.07	1.03	19.10	1.06	163.21	1.83		1	97	1.13	1.00	184.1	1.00	Infin.	0.759	**Non-Liq.**	5.4	30.1	6.7	36.8	**0.00**
25.59	7.80	213.30	2.37	1.11	20.43	130	1.641	1.552	0.940	1.12	0.54	0.81	162.53	17.99	0.83	18.82	1.05	163.72	1.79		1	97	1.10	1.00	179.7	1.00	Infin.	0.760	**Non-Liq.**	5.5	29.8	6.2	35.9	**0.00**
26.08	7.95	196.60	2.22	1.13	18.83	130	1.673	1.569	0.938	1.14	0.55	0.80	148.27	16.49	0.85	17.35	1.05	149.47	1.82		1	94	1.12	1.00	167.7	1.00	Infin.	0.761	**Non-Liq.**	5.4	27.5	6.0	33.5	**0.00**
26.57	8.10	170.57	2.39	1.40	16.33	130	1.705	1.586	0.936	1.42	0.59	0.79	125.99	14.35	1.22	15.57	1.09	127.17	1.94		1	87	1.23	1.00	156.0	1.00	0.433	0.762	**0.57**	5.2	24.4	5.5	29.9	**0.82**
27.07	8.25	87.37	2.23	2.55	8.37	130	1.737	1.602	0.934	2.60	0.71	0.75	60.49	7.36	2.79	10.14		61.62	2.35		0			1.00		0.99		0.763	**Non-Liq.**	4.4	14.0			**0.00**
27.56	8.40	22.80	1.45	6.34	2.18	130	1.769	1.619	0.932	6.82	0.92	0.67	13.51	1.85	6.11	7.96		14.54	3.11		0			1.00		0.99		0.763	**Non-Liq.**	2.9	5.0			**0.00**
28.05	8.55	86.80	1.10	1.26	8.31	130	1.801	1.636	0.930	1.29	0.65	0.75	60.75	7.03	1.04	8.06		62.15	2.15		0			1.00		0.99		0.764	**Non-Liq.**	4.8	13.0			**0.00**
28.54	8.70	234.97	1.56	0.66	22.50	130	1.833	1.652	0.928	0.67	0.50	0.80	176.46	18.86	0.22	19.08	1.01	177.71	1.61		1	100	1.00	1.00	177.7	0.97	Infin.	0.764	**Non-Liq.**	5.8	30.4	5.2	35.5	**0.00**

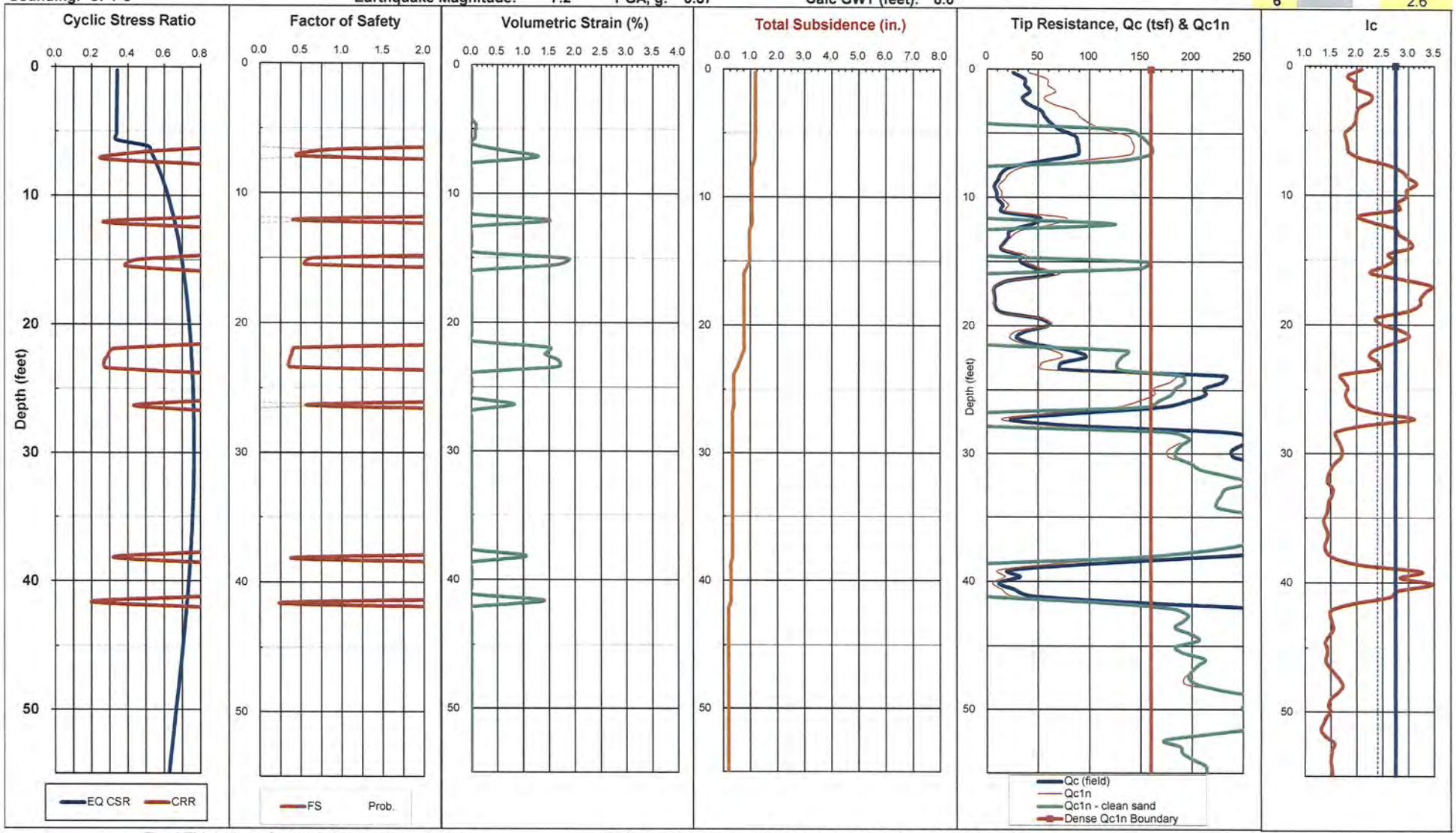
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-6 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 6.0

Plot 6 Limiting Ic: 2.6



Total Thickness of Liquefiable Layers: 6.9 feet

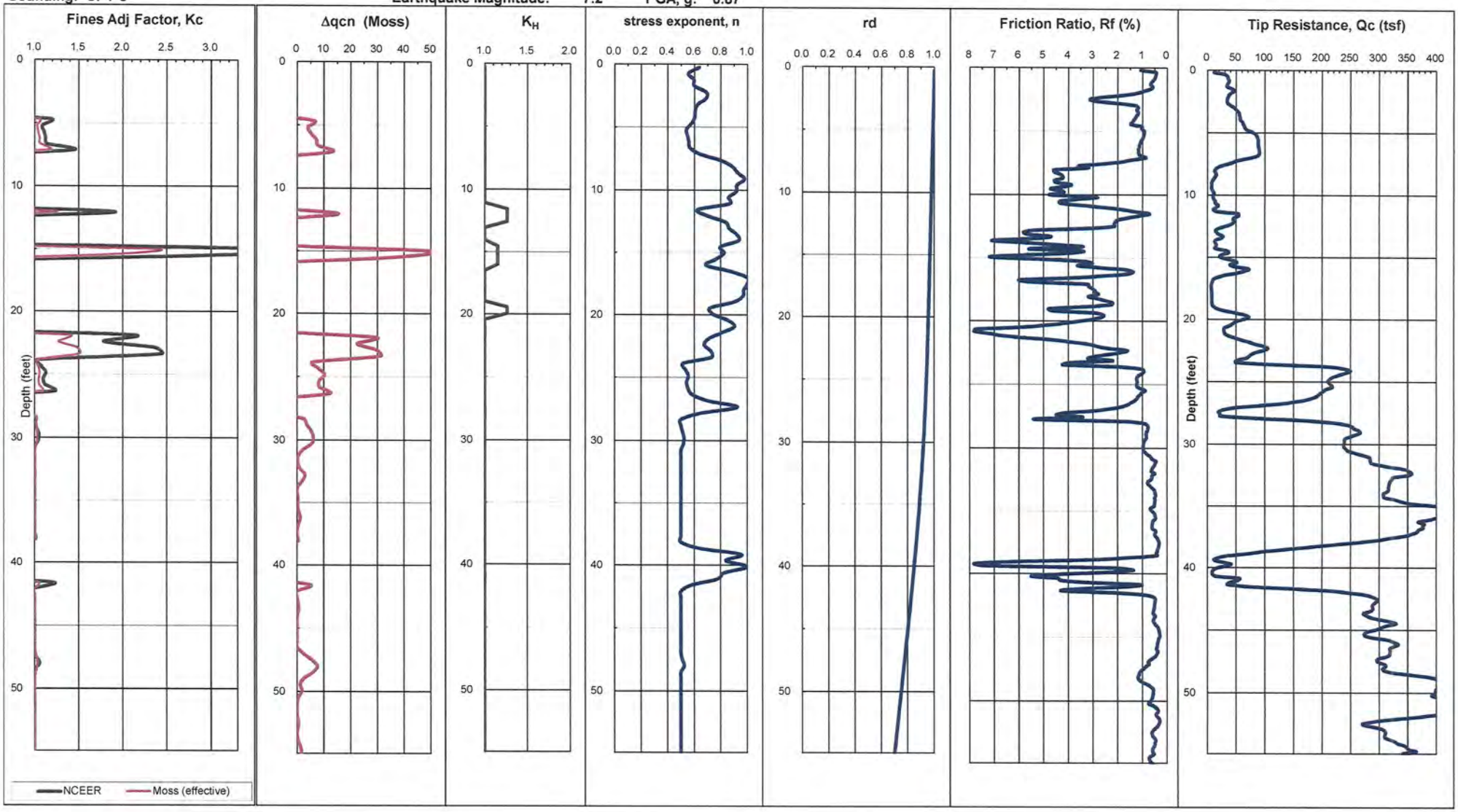
Estimated Total Ground Subsidence (Settlement): 1.2 inches

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5
Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-6 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-10

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
8.9
Total Induced Subsidence (inches)
1.7

EARTHQUAKE INFORMATION:
Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT, feet: 22.5
Calc GWT, feet: 6.0

Plot: 10
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF
Clean Sand Qc1n = C_Q*K_C*K_H*Qc
SF = $CRR_{7.5}$*Kσ/CSR

Ignore 1st/last increment into sand/silt soils: 1 yes
Ignore/remediate upper: 1.5 m
Unit Weight of unsaturated soils: 115 pcf
Unit Weight of saturated soils: 130 pcf
Limiting Ic for liquefiable soils: 2.75 Limiting Ic for K_H: 2.8

Use Moss @ P_L: 15%
Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Required SF: 1.50 Max $\Delta N_{1(60)\text{ - post liquefied}}$ 5.5
Min SF of Liquefiable Layers: 0.19 Max $\Delta N_{1(60)\text{ - non liquefied}}$ 10.0
Avg SF of Liquefiable Layers: 0.33

Depth		Tip	Friction	Friction		Total	Total	Eff.				Max		Moss	Moss	Moss	Moss			Override	Liquef.	Rel			Clean			Induced	Liquefac.	Qc1n				Volumetric
		Qc	Fs	Ratio	qc	Unit Wt.	Stress	Stress		F		1.70		qc1	Δqc	qc_{1mod}	eff				Suscept.	Dens.			Sand	1.0		M=7.5	Safety	$N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_C	Qc1n	Ic		(0 or 1)	Dr (%)	K_C	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
0.49	0.15	21.67	0.14	0.65	2.07	115	0.028	0.028	1.000	0.65	0.66	1.70	34.77	3.53	0.15	3.68		34.81	2.19		0			1.00		1.00		0.341	Non-Liq.	4.7	7.4			0.00
0.98	0.30	49.80	0.15	0.29	4.77	115	0.057	0.057	1.000	0.29	0.52	1.70	79.93	8.11	0.00	8.11		80.02	1.71		0			1.00		1.00		0.341	Non-Liq.	5.6	14.2			0.00
1.48	0.45	52.70	0.38	0.72	5.05	115	0.085	0.085	0.999	0.72	0.57	1.70	84.54	8.58	0.23	8.81		84.68	1.88		0			1.00		1.00		0.340	Non-Liq.	5.3	15.9			0.00
1.97	0.60	44.87	0.43	0.96	4.30	115	0.113	0.113	0.997	0.96	0.61	1.70	71.91	7.30	0.48	7.79		72.09	2.01		0			1.00		1.00		0.340	Non-Liq.	5.1	14.2			0.00
2.46	0.75	36.43	0.39	1.08	3.49	115	0.141	0.141	0.996	1.08	0.64	1.70	58.31	5.93	0.61	6.54		58.54	2.12		0			1.00		1.00		0.340	Non-Liq.	4.9	12.1			0.00
2.95	0.90	37.80	0.38	1.00	3.62	115	0.170	0.170	0.995	1.01	0.63	1.70	60.46	6.15	0.53	6.68		60.74	2.08		0			1.00		1.00		0.339	Non-Liq.	4.9	12.4			0.00
3.44	1.05	79.40	0.99	1.25	7.60	130	0.202	0.202	0.994	1.25	0.58	1.70	127.26	12.93	0.78	13.71		127.58	1.90		0			1.00		1.00		0.339	Non-Liq.	5.3	24.1			0.00
3.94	1.20	68.93	1.55	2.25	6.60	130	0.234	0.234	0.993	2.26	0.65	1.70	110.39	11.16	1.84	12.99		110.76	2.12		0			1.00		1.00		0.338	Non-Liq.	4.8	22.9			0.00
4.43	1.35	29.43	0.99	3.36	2.82	130	0.266	0.266	0.992	3.39	0.76	1.70	46.87	4.79	3.00	7.79		47.29	2.51		0			1.00		1.00		0.338	Non-Liq.	4.1	11.6			0.00
4.92	1.50	15.50	0.35	2.28	1.48	130	0.298	0.298	0.990	2.32	0.79	1.70	24.43	2.52	1.86	4.39	1.74	24.91	2.62		1	19	3.44	1.00	85.6	1.00	0.138	0.338	Non-Liq.	3.9	6.4	10.0	16.4	0.29
5.41	1.65	20.87	0.27	1.28	2.00	130	0.330	0.330	0.989	1.30	0.72	1.70	33.00	3.40	0.81	4.21	1.24	33.53	2.36		1	31	2.17	1.00	72.7	1.00	0.116	0.337	Non-Liq.	4.4	7.7	6.9	14.5	0.40
5.91	1.80	25.70	0.31	1.19	2.46	130	0.362	0.362	0.988	1.20	0.69	1.70	40.71	4.18	0.72	4.90	1.17	41.29	2.27		1	40	1.86	1.00	76.6	1.00	0.122	0.337	Non-Liq.	4.6	9.1	6.3	15.3	0.36
6.40	1.95	28.93	0.41	1.40	2.77	130	0.394	0.394	0.987	1.42	0.69	1.70	45.86	4.66	1.08	5.75	1.23	46.49	2.27		1	45	1.86	1.00	86.3	1.00	0.140	0.511	0.27	4.6	10.2	5.5	15.7	1.84
6.89	2.10	32.67	0.51	1.56	3.13	130	0.426	0.426	0.986	1.58	0.69	1.70	51.80	4.90	1.29	6.18	1.26	52.49	2.26		1	50	1.82	1.00	95.4	1.00	0.161	0.529	0.30	4.6	11.5	5.5	17.0	1.73
7.38	2.25	48.23	0.52	1.07	4.62	130	0.458	0.458	0.985	1.08	0.63	1.69	76.30	6.95	0.71	7.65	1.10	77.03	2.02		1	66	1.33	1.00	102.6	1.00	0.181	0.546	0.33	5.0	15.3	5.2	20.5	1.46
7.87	2.40	48.17	0.56	1.16	4.61	130	0.490	0.490	0.984	1.17	0.64	1.63	73.53	6.66	0.81	7.47	1.12	74.29	2.06		1	64	1.38	1.00	102.6	1.00	0.180	0.561	0.32	5.0	14.9	5.5	20.4	1.47
8.37	2.55	22.77	0.77	3.38	2.18	130	0.522	0.522	0.983	3.46	0.81	1.70	35.74	3.01	3.60	6.62	2.20	36.58	2.60		1	35	3.34	1.00	122.1	1.00	0.249	0.575	0.43	3.9	9.4	5.5	14.9	2.00
8.86	2.70	23.63	0.91	3.86	2.26	130	0.554	0.554	0.982	3.96	0.82	1.70	37.02	3.00	4.23	7.24	2.41	37.91	2.63		1	37	3.52	1.00	133.4	1.00	0.301	0.589	0.51	3.9	9.8	5.5	15.3	1.89
9.35	2.85	23.30	0.87	3.73	2.23	130	0.586	0.586	0.981	3.83	0.82	1.62	34.83	2.90	4.10	6.99		35.73	2.64		0			1.00		1.00		0.601	Non-Liq.	3.8	9.3			0.00
9.84	3.00	10.27	0.72	6.96	0.98	130	0.618	0.618	0.979	7.41	0.96	1.68	15.30	1.34	5.73	7.07		16.28	3.10		0			1.00		1.00		0.612	Non-Liq.	2.9	5.5			0.00
10.33	3.15	9.20	0.45	4.84	0.88	130	0.650	0.650	0.978	5.20	0.95	1.59	12.82	1.20	5.55	6.76		13.80	3.05		0			1.00		1.00		0.623	Non-Liq.	3.0	4.6			0.00
10.83	3.30	12.57	0.33	2.59	1.20	130	0.682	0.682	0.977	2.73	0.86	1.46	16.43	1.58	2.68	4.26		17.37	2.80		0			1.00		1.00		0.632	Non-Liq.	3.5	4.9			0.00
11.32	3.45	11.77	0.34	2.86	1.13	130	0.714	0.714	0.976	3.05	0.88	1.42	14.79	1.44	3.05	4.49		15.74	2.86		0			1.00		1.00		0.642	Non-Liq.	3.4	4.6			0.00
11.81	3.60	16.90	0.43	2.53	1.62	130	0.746	0.746	0.975	2.65	0.83	1.34	20.45	2.48	2.64	5.12		27.05	2.71		0			1.26		1.00		0.650	Non-Liq.	3.7	7.3			0.00
12.30	3.75	20.43	0.67	3.25	1.96	130	0.778	0.778	0.974	3.38	0.84	1.29	24.03	2.87	3.58	6.45	2.25	31.59	2.72		1	29	4.18	1.26	132.1	1.00	0.294	0.658	0.45	3.7	8.6	5.5	14.1	2.03
12.80	3.90	21.87	0.79	3.60	2.09	130	0.810	0.810	0.973	3.74	0.84	1.25	24.92	2.99	4.04	7.04		32.72	2.74		0			1.26		1.00		0.666	Non-Liq.	3.6	9.0			0.00
13.29	4.05	12.97	0.68	5.22	1.24	130	0.842	0.842	0.972	5.58	0.93	1.24	14.18	1.40	5.89	7.30		15.16	3.04		0			1.00		1.00		0.673	Non-Liq.	3.0	5.0			0.00
13.78	4.20	10.40	0.56	5.35	1.00	130	0.874	0.874	0.971	5.84	0.96	1.20	10.82	1.12	5.91	7.02		11.81	3.14		0			1.00		1.00		0.679	Non-Liq.	2.8	4.1			0.00
14.27	4.35	12.43	0.57	4.56	1.19	130	0.906	0.906	0.970	4.92	0.93	1.16	12.59	1.30	5.34	6.64		13.58	3.04		0			1.00		1.00		0.686	Non-Liq.	3.0	4.5			0.00
14.76	4.50	12.30	0.65	5.24	1.18	130	0.938	0.938	0.969	5.68	0.94	1.12	12.04	1.26	5.94	7.20		13.03	3.10		0			1.00		1.00		0.692	Non-Liq.	2.9	4.4			0.00
15.26	4.65	13.03	0.70	5.36	1.25	130	0.969	0.969	0.968	5.79	0.94	1.09	12.38	1.31	5.95	7.26		13.37	3.10		0			1.00		1.00		0.697	Non-Liq.	2.9	4.5			0.00
15.75	4.80	12.87	0.62	4.82	1.23	130	1.001	1.001	0.967	5.23	0.94	1.05	11.81	1.27	5.73	6.99		12.80	3.08		0			1.00		1.00		0.702	Non-Liq.	3.0	4.3			0.00
16.24	4.95	39.57	0.63	1.58	3.79	130	1.033	1.033	0.966	1.63	0.72	1.02	37.04	5.39	1.44	6.83		53.51	2.38		0			1.41		1.00		0.707	Non-Liq.	4.3	12.3			0.00
16.73	5.10	50.47	0.90	1.78	4.83	130	1.065	1.065	0.965	1.82	0.71	1.00	46.46	6.78	1.70	8.48		66.77	2.33		0			1.41		1.00		0.712	Non-Liq.	4.4	15.1			0.00
17.22	5.25	12.93	0.79	6.10	1.24	130	1.097	1.097	0.964	6.66	0.96	0.97	10.80	1.22	6.00	7.21		11.80	3.18		0			1.00		1.00		0.716	Non-Liq.	2.8	4.3			0.00
17.72	5.40	11.53	0.46	3.99	1.10	130	1.129	1.129	0.962	4.42	0.94	0.94	9.25	1.06	4.66	5.72		10.25	3.12		0			1.00		1.00		0.720	Non-Liq.	2.9	3.5			0.00
18.21	5.55	10.57	0.46	4.38	1.01	130	1.161	1.161	0.961	4.93	0.96	0.91	8.13	0.96	5.20	6.15		9.13	3.20		0			1.00		1.00		0.724	Non-Liq.	2.7	3.3			0.00
18.70	5.70	8.43	0.35	4.19	0.81	130	1.193	1.193	0.960	4.88	0.99	0.89	6.07	0.74	4.94	5.69		7.07	3.30		0			1.00		1.00		0.728	Non-Liq.	2.6	2.8			0.00
19.19	5.85	10.77	0.27	2.46	1.03	130	1.225	1.225	0.959	2.78	0.92	0.87	7.88	0.93	2.63	3.57		8.89	3.06		0			1.00		1.00		0.731	Non-Liq.	3.0	3.0			0.00
19.69	6.00	34.00	0.44	1.30	3.26	130	1.257	1.257	0.958	1.35	0.74	0.88	27.25	2.99	1.07	4.07		28.41	2.44		0			1.00		1.00		0.735	Non-Liq.	4.2	6.7			0.00
20.18	6.15	73.23	0.66	0.90	7.01	130	1.289	1.289	0.956	0.92	0.62	0.88	60.10	6.40	0.54	6.94	1.08	61.18	2.06		1	56	1.39	1.00	85.2	1.00	0.137	0.738	0.19	5.0	12.3	4.7	17.0	1.76
20.67	6.30	110.23	0.74	0.67	10.56	130	1.321	1.321	0.955	0.68	0.56	0.88	90.92	9.52	0.23	9.75	1.02	92.02	1.84		1	73	1.14	1.00	104.7	1.00	0.187	0.741	0.25	5.4	17.1	3.9	20.9	1.46
21.16	6.45	131.87	0.98	0.74	12.63	130	1.353	1.353	0.954	0.75	0.55	0.87	107.77	11.36	0.32	11.68	1.03	108.89	1.81		1	80	1.11	1.00	121.0	1.00	0.245	0.743	0.33	5.5	19.9	4.3	24.2	1.24
21.65	6.60	169.00	1.43	0.84	16.18	130	1.385	1.385	0.952	0.85	0.54	0.87	137.15	14.58	0.46	15.04	1.03	138.28	1.76		1	90	1.08	1.00	149.1	1.00	0.388	0.746	0.52	5.6	24.9	4.9	29.8	0.83
22.15	6.75	228.13	1.87	0.82	21.85	130	1.417	1.417	0.951	0.82	0.50	0.86	184.92	19.62	0.43	20.05	1.02	186.07	1.65		1	100	1.01	1.00	187.3	1.00	Infin.	0.748	Non-Liq.	5.8	32.3	5.1	37.5	0.00
22.64	6.90	261.93	2.28	0.87	25.08	130	1.449	1.449	0.950	0.88	0.50	0.85	210.36	22.48	0.50	22.98	1.02	211.53	1.63		1	100	1.00	1.00	211.5	1.00	Infin.	0.750	Non-Liq.	5.8	36.5	5.8	42.3	0.00
23.13	7.05	267.87	2.61	0.97	25.65	130	1.481	1.469	0.948	0.98	0.51	0.85	213.18	23.00	0.64	23.64	1.03	214.36	1.66		1	100	1.01	1.00	217.1	1.00	Infin.	0.752	Non-Liq.	5.7	37.3	6.1	43.4	0.00
23.62	7.20	275.60	2.76	1.00	26.39	130	1.513	1.486	0.946	1.01	0.51	0.84	218.06	23.62	0.68	24.30	1.03	219.25	1.67		1	100	1.01	1.00	222.4	1.00	Infin.	0.754	Non-Liq.	5.7	38.2	6.3	44.5	0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress			Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Override	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	*Volumetric Strain*
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_c	Qc1n	Ic		(0 or 1)	Dr (%)	K_c	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	*(%)*
24.11	7.35	317.43	3.03	0.95	30.40	130	1.545	1.503	0.945	0.96	0.50	0.84	250.57	27.14	0.61	27.76	1.02	251.76	1.61		1	100	1.00	1.00	251.8	1.00	Infin.	0.756	**Non-Liq.**	5.8	43.1	7.3	50.4	**0.00**
24.61	7.50	335.60	3.50	1.04	32.14	130	1.577	1.519	0.943	1.05	0.50	0.83	263.51	28.75	0.74	29.49	1.03	264.71	1.62		1	100	1.00	1.00	264.7	1.00	Infin.	0.757	**Non-Liq.**	5.8	45.5	7.4	52.9	**0.00**
25.10	7.65	297.90	3.32	1.12	28.53	130	1.609	1.536	0.941	1.12	0.51	0.83	231.39	25.44	0.83	26.27	1.03	232.59	1.68		1	100	1.03	1.00	238.8	1.00	Infin.	0.759	**Non-Liq.**	5.7	40.8	7.0	47.8	**0.00**
25.59	7.80	276.10	3.18	1.15	26.44	130	1.641	1.552	0.940	1.16	0.52	0.82	212.36	23.48	0.88	24.37	1.04	213.56	1.72		1	100	1.05	1.00	224.3	1.00	Infin.	0.760	**Non-Liq.**	5.6	37.9	7.0	44.9	**0.00**
26.08	7.95	260.20	3.20	1.23	24.92	130	1.673	1.569	0.938	1.24	0.53	0.81	197.98	22.09	0.99	23.08	1.04	199.18	1.76		1	100	1.08	1.00	214.9	1.00	Infin.	0.761	**Non-Liq.**	5.6	35.9	7.1	43.0	**0.00**
26.57	8.10	210.10	2.94	1.40	20.12	130	1.705	1.586	0.936	1.41	0.57	0.79	156.68	17.78	1.22	19.00	1.07	157.87	1.87		1	96	1.16	1.00	183.6	1.00	Infin.	0.762	**Non-Liq.**	5.3	29.6	7.1	36.7	**0.00**
27.07	8.25	222.90	2.99	1.34	21.35	130	1.737	1.602	0.934	1.35	0.56	0.79	165.91	18.80	1.14	19.94	1.06	167.12	1.84		1	98	1.14	1.00	190.1	0.99	Infin.	0.763	**Non-Liq.**	5.4	31.0	7.0	38.0	**0.00**
27.56	8.40	214.03	3.01	1.41	20.50	130	1.769	1.619	0.932	1.42	0.57	0.79	157.76	18.02	1.23	19.25	1.07	158.96	1.87		1	96	1.16	1.00	184.8	0.98	Infin.	0.763	**Non-Liq.**	5.3	29.8	7.2	37.0	**0.00**
28.05	8.55	225.03	2.54	1.13	21.55	130	1.801	1.636	0.930	1.14	0.54	0.79	166.76	18.70	0.85	19.55	1.05	167.98	1.78		1	98	1.10	1.00	184.1	0.98	Infin.	0.764	**Non-Liq.**	5.5	30.5	6.3	36.8	**0.00**
28.54	8.70	259.70	2.31	0.89	24.87	130	1.833	1.652	0.928	0.89	0.51	0.80	194.58	21.31	0.53	21.84	1.02	195.83	1.66		1	100	1.01	1.00	198.3	0.97	Infin.	0.764	**Non-Liq.**	5.7	34.1	5.6	39.7	**0.00**

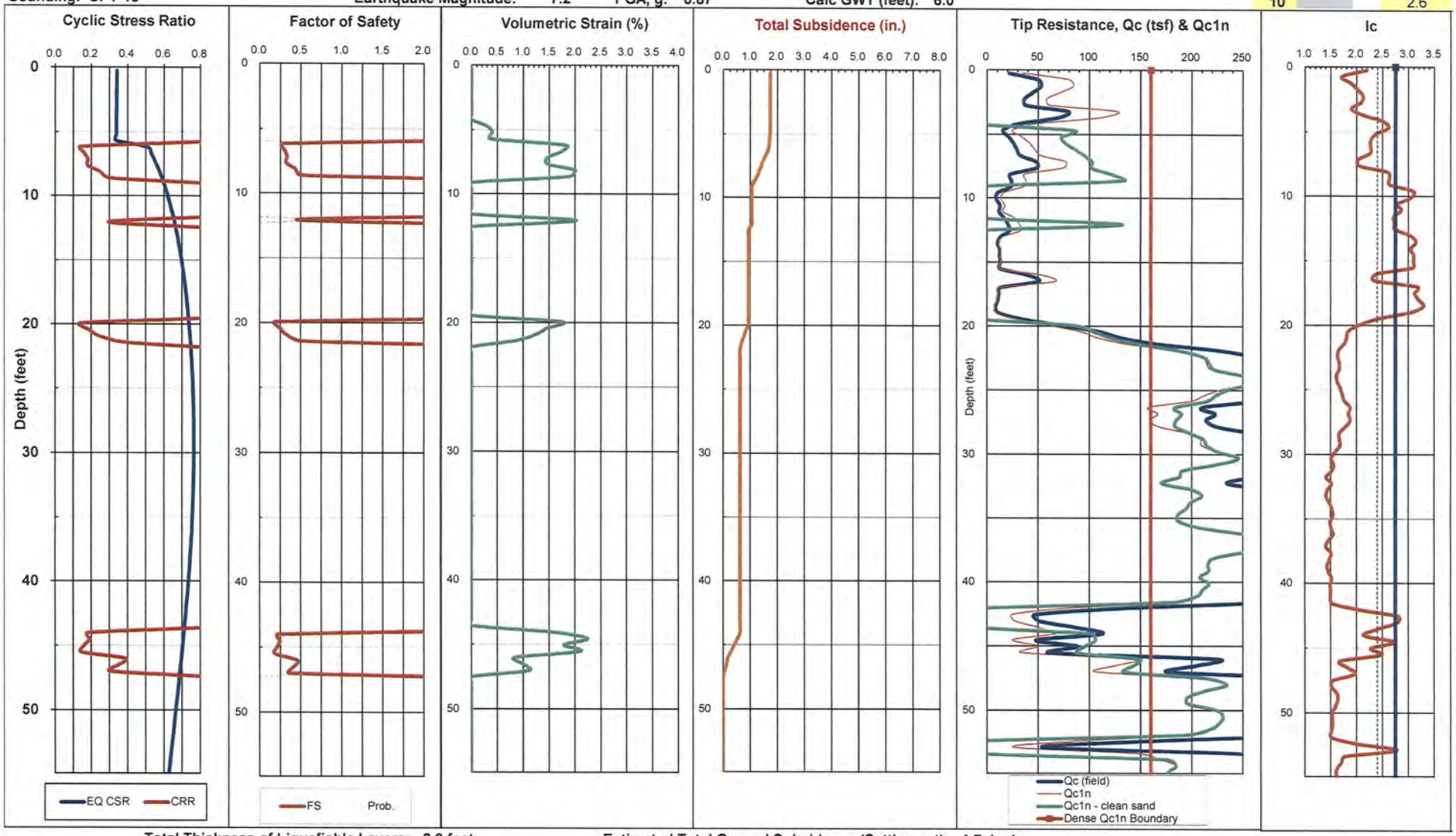
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-10 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 6.0

Plot 10 Limiting Ic: 2.6



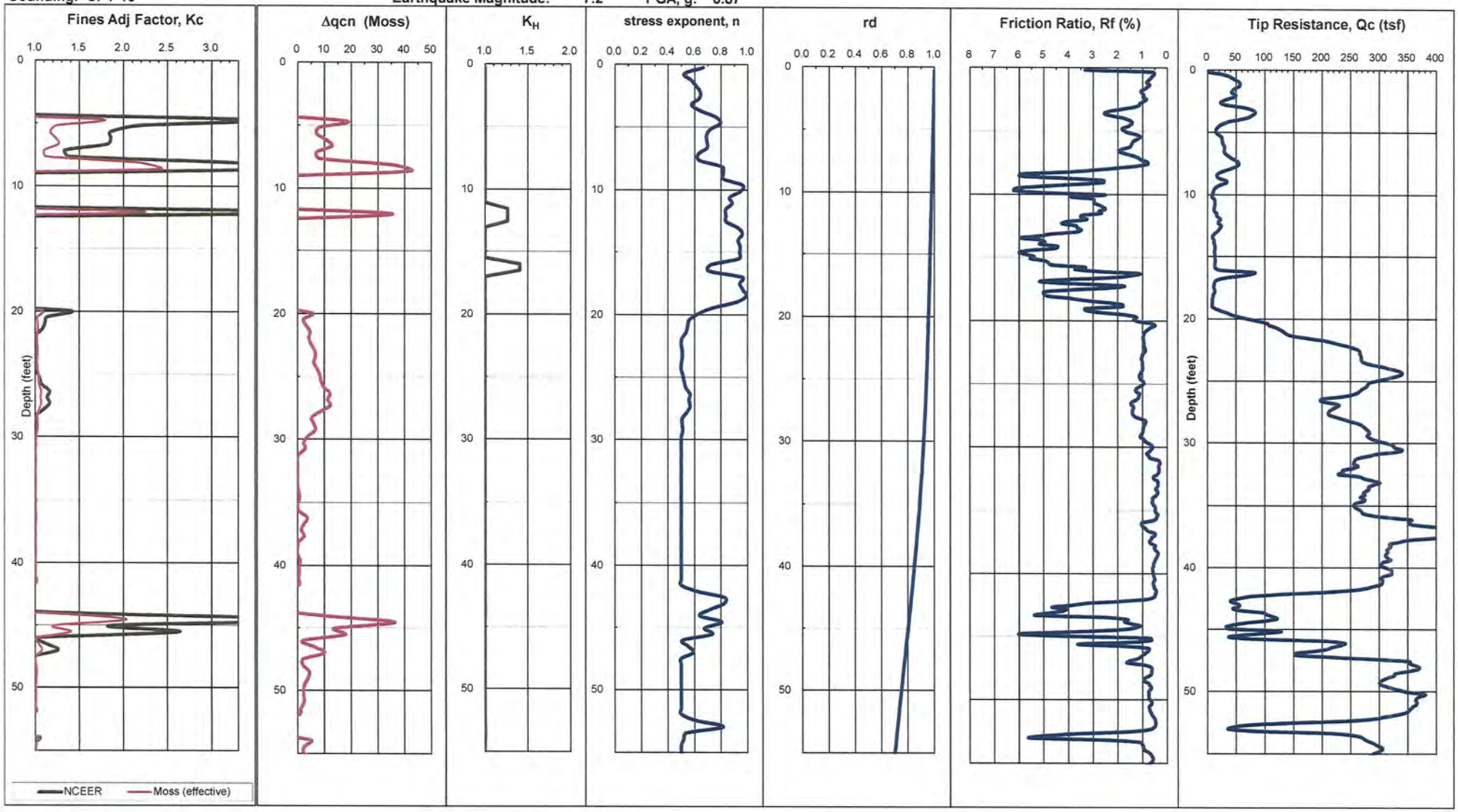
Total Thickness of Liquefiable Layers: 8.9 feet Estimated Total Ground Subsidence (Settlement): 1.7 inches

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5
Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-10 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-13 Data Set: 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT: 22.5 feet
Calc GWT: 6.0 feet
Remediate to: 5.0 feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E): 1.33 Automatic Hammer
Drive Rod Corr. (C_R): 1 Default
Rod Length above ground (feet): 3.0
Borehole Dia. Corr. (C_B): 1.00
Sampler Liner Correction for SPT'?: 1 Yes
Cal Mod/ SPT Ratio: 0.63

Total (ft) Liquefied Thickness
5

Total (in.) Induced Subsidence
1.2

Threshold Acceler., g: 0.19
Required SF: 1.25
Minimum Calculated SF: 0.21

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

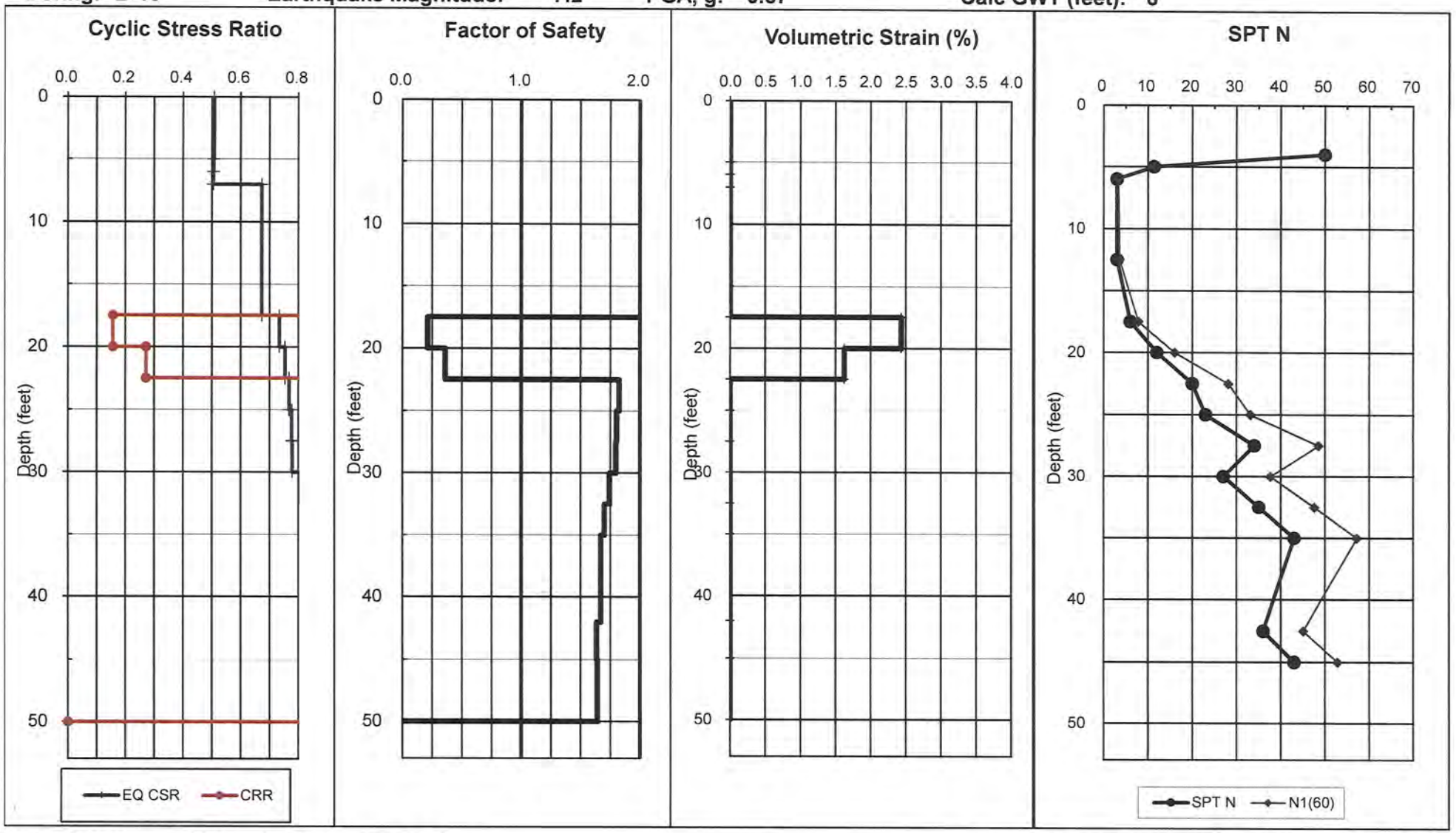
Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot.Stress at SPT po (tsf)	Eff.Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel. Dens. Dr (%	*Trigger FC Adj.* $\Delta N_{1(60)}$	*Equiv. Sand* $N_{1(60)CS}$	K_σ	M = 7.5 Available CRR	M =7.5 Induced CSR*	**Liquefac. Safety Factor**	*Post FC Adj.* $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric *Strain* (%)	**Induced Subsidence (in.)**	p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{15}	Strain Enc	**Dry Sand Subsidence (in.)**
								0.000																											
5.0	18	50		124	75	4.0	7.0	0.248	0.248	0.99	1.00	0.75	1.00	50.0				1.00	Infin.	0.508	**Non-Liq.**		50.0	0.00	**0.00**	0.166				0.130	18,787				
6.0	18	11		124	75	5.0	8.0	0.310	0.310	0.99	1.00	0.75	1.00	11.3				1.00	Infin.	0.506	**Non-Liq.**		11.3	0.00	**0.00**	0.208				0.132	16,433				
7.0		3		125	75	6.0	9.0	0.372	0.372	0.99	1.00	0.75	1.10	3.3				1.00	Infin.	0.505	**Non-Liq.**		3.3	0.00	**0.00**	0.249				0.134	14,730				
17.5		3		125	75	12.5	15.5	0.778	0.778	0.97	1.00	0.82	1.10	3.6				1.00	Infin.	0.673	**Non-Liq.**		3.6	0.00	**0.00**	0.521				0.144	9,459				
20.0		6	1	125	43	17.5	20.5	1.091	1.091	0.96	0.98	0.90	1.10	7.8	33	6.6	14.4	1.00	0.156	0.734	**0.21**	3.4	11.3	2.44	**0.73**	0.731	929	0.397	0.0004	0.152	7,725	1.9E-03			
22.5		12	1	125	43	20.0	23.0	1.247	1.247	0.96	0.92	0.93	1.17	16.0	48	8.2	24.2	1.00	0.271	0.753	**0.36**	3.4	19.5	1.62	**0.49**	0.835	1,182	0.451	0.0004	0.157	7,129	1.1E-03			
25.0		20	1	125	43	22.5	25.5	1.403	1.403	0.95	0.87	0.96	1.27	28.2	63	10.0	38.2	1.00	1.400	0.767	**1.82**	10.0	38.2	0.00	**0.00**	0.940	1,459	0.504	0.0003	0.161	6,641	7.7E-04			
27.5		23	1	125	30	25.0	28.0	1.560	1.482	0.94	0.85	0.98	1.30	33.1	69	9.8	43.0	1.00	1.400	0.777	**1.80**	9.8	43.0	0.00	**0.00**	1.045	1,600	0.556	0.0003	0.165	6,234	7.3E-04			
30.0		34	1	125	30	27.5	30.5	1.716	1.560	0.93	0.82	1.00	1.30	48.5	83	10.0	58.5	1.00	1.400	0.779	**1.80**	10.0	58.5	0.00	**0.00**	1.150	1,861	0.605	0.0003	0.169	5,887	6.0E-04			
32.5		27	1	125	5	30.0	33.0	1.872	1.638	0.92	0.80	1.00	1.30	37.6	73	0.0	37.6	0.98	1.400	0.804	**1.74**	0.0	37.6	0.00	**0.00**	1.254	1,677	0.652	0.0004	0.173	5,587	8.3E-04			
35.0		35	1	125	5	32.5	35.5	2.028	1.716	0.91	0.79	1.00	1.30	47.6	82	0.0	47.6	0.95	1.400	0.824	**1.70**	0.0	47.6	0.00	**0.00**	1.359	1,889	0.696	0.0004	0.177	5,324	7.1E-04			
42.0		43	1	125	5	35.0	38.0	2.185	1.795	0.89	0.77	1.00	1.30	57.2	90	0.0	57.2	0.93	1.400	0.839	**1.67**	0.0	57.2	0.00	**0.00**	1.464	2,084	0.736	0.0004	0.181	5,092	6.3E-04			
45.0		36	1	125	5	42.5	45.5	2.653	2.029	0.83	0.72	1.00	1.30	45.1	80	0.0	45.1	0.87	1.400	0.856	**1.64**	0.0	45.1	0.00	**0.00**	1.778	2,121	0.831	0.0004	0.193	4,532	7.0E-04			
50.0		43	1	125	5	45.0	48.0	2.810	2.108	0.80	0.71	1.00	1.30	52.8	87	0.0	52.8	0.85	1.400	0.854	**1.64**	0.0	52.8	0.00	**0.00**	1.882	2,301	0.854	0.0004	0.197	4,379	6.2E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-13 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 6**



Total Thickness of Liquefiable Layers: 5.0 feet

Estimated Total Ground Subsidence: 1.2 inches

LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-16 Data Set: 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT: 22.5 feet
Calc GWT: 6.0 feet
Remediate to: 5.0 feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E): 1.33 Automatic Hammer
Drive Rod Corr. (C_R): 1 Default
Rod Length above ground (feet): 3.0
Borehole Dia. Corr. (C_B): 1.00
Sampler Liner Correction for SPT'?: 1 Yes
Cal Mod/ SPT Ratio: 0.63

Threshold Acceler., g: 0.29

Total (ft) Liquefied Thickness
11.5

Total (in.) Induced Subsidence
2.4

Required SF: 1.30
Minimum Calculated SF: 0.34

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot.Stress at SPT po (tsf)	Eff.Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel. Dens. Dr (%)	*Trigger FC Adj.* $\Delta N_{1(60)}$	*Equiv. Sand* $N_{1(60)CS}$	Kσ	M = 7.5 Available CRR	M = 7.5 Induced CSR*	**Liquefac. Safety Factor**	*Post FC Adj.* $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric *Strain* (%)	**Induced Subsidence (in.)**
								0.000																	
5.0		50	1	122	63	4.0	7.0	0.244	0.244	0.99	1.70	0.75	1.30	110.5	100	10.0	120.5	1.00	1.400	0.508	**Non-Liq.**	10.0	120.5	0.00	**0.00**
6.0		6	1	122	63	5.0	8.0	0.305	0.305	0.99	1.70	0.75	1.12	11.4	40	7.3	18.7	1.00	0.202	0.506	**Non-Liq.**	7.3	18.7	0.21	**0.02**
10.0		6	1	122	63	6.0	9.0	0.366	0.366	0.99	1.70	0.75	1.12	11.4	40	7.3	18.7	1.00	0.202	0.505	**Non-Liq.**	7.3	18.7	0.00	**0.00**
12.5		9	1	122	28	10.0	13.0	0.610	0.610	0.98	1.32	0.76	1.14	13.7	44	6.5	20.1	1.00	0.218	0.629	**0.35**	2.2	15.9	1.87	**0.56**
17.5		10	1	122	50	15.0	18.0	0.915	0.915	0.97	1.08	0.86	1.15	14.2	45	7.8	22.1	1.00	0.241	0.715	**0.34**	4.0	18.2	1.71	**1.03**
21.5		12	1	125	50	20.0	23.0	1.224	1.224	0.96	0.93	0.93	1.17	16.2	48	8.2	24.4	1.00	0.274	0.761	**0.36**	4.0	20.2	1.57	**0.75**
28.0		32	1	125	5	25.0	28.0	1.536	1.458	0.94	0.85	0.98	1.30	46.5	81	0.0	46.5	1.00	1.400	0.784	**1.79**	0.0	46.5	0.00	**0.00**
33.0		25	1	125	5	30.0	33.0	1.849	1.615	0.92	0.81	1.00	1.30	35.1	71	0.0	35.1	0.98	1.400	0.804	**1.74**	0.0	35.1	0.00	**0.00**
40.0		45	1	125	5	35.0	38.0	2.161	1.771	0.89	0.77	1.00	1.30	60.3	93	0.0	60.3	0.93	1.400	0.839	**1.67**	0.0	60.3	0.00	**0.00**
45.0		65	1	125	5	40.0	43.0	2.474	1.928	0.85	0.74	1.00	1.30	83.5	100	0.0	83.5	0.89	1.400	0.855	**1.64**	0.0	83.5	0.00	**0.00**
50.0		66	1	125	5	45.0	48.0	2.786	2.084	0.80	0.71	1.00	1.30	81.5	100	0.0	81.5	0.85	1.400	0.854	**1.64**	0.0	81.5	0.00	**0.00**

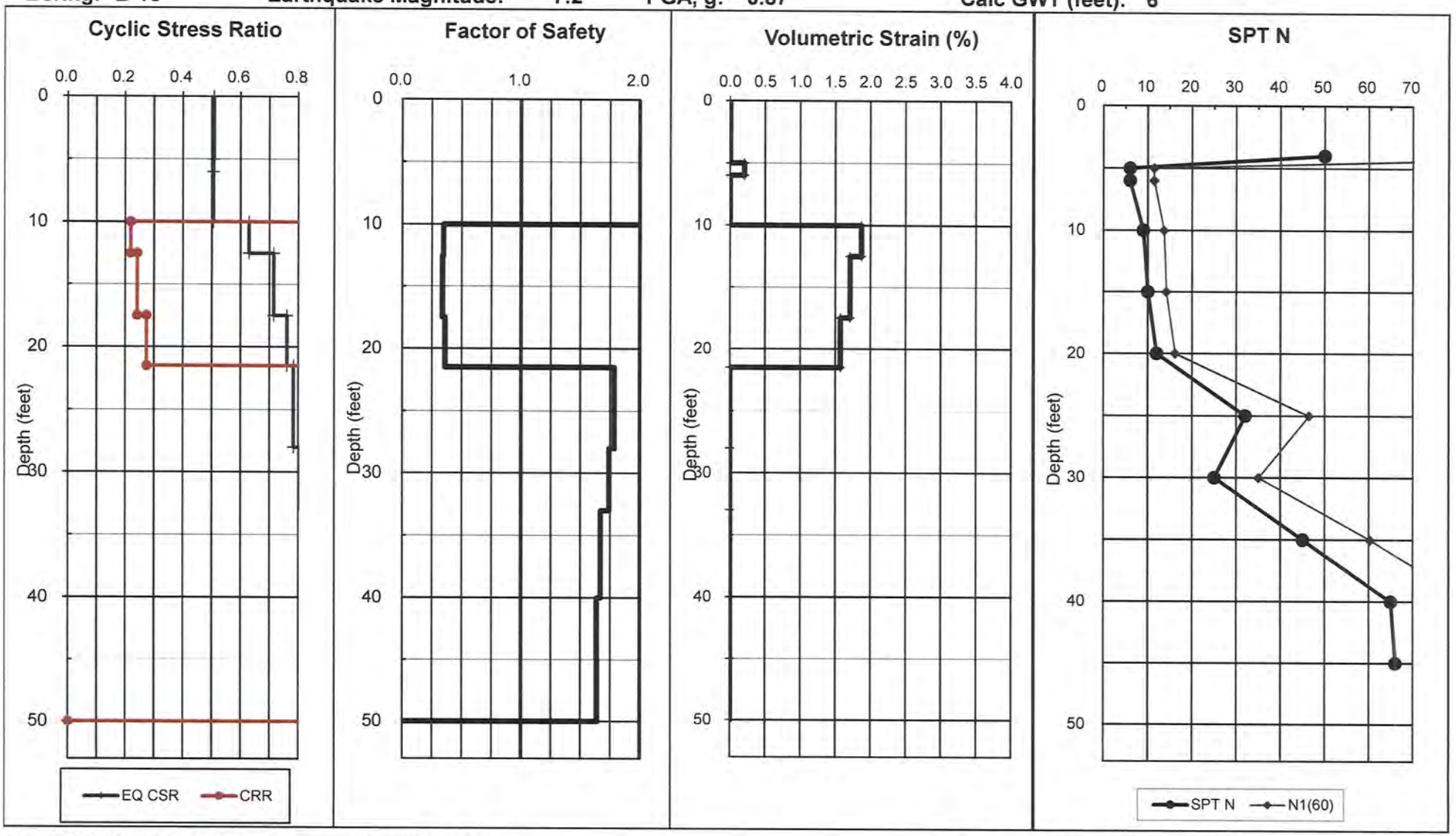
p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{15}	Strain Enc	**Dry Sand Subsidence (in.)**
0.163	893	0.092	0.0001	0.130	18,971	1.7E-04	2.0E-05	1.9E-05	**0.00**
0.204	537	0.114	0.0002	0.132	16,594	1.0E-03	1.1E-03	1.0E-03	**0.02**
0.245	588	0.137	0.0002	0.134	14,875	1.1E-03			
0.409	778	0.226	0.0003	0.140	10,948	1.1E-03			
0.613	982	0.335	0.0003	0.148	8,584	1.1E-03			
0.820	1,175	0.443	0.0004	0.156	7,210	1.1E-03			
1.029	1,630	0.547	0.0003	0.164	6,290	6.8E-04			
1.239	1,629	0.644	0.0004	0.172	5,629	8.7E-04			
1.448	2,109	0.728	0.0003	0.180	5,125	6.0E-04			
1.657	2,515	0.796	0.0003	0.188	4,726	4.9E-04			
1.867	2,648	0.847	0.0003	0.197	4,401	4.8E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-16 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 6**



Total Thickness of Liquefiable Layers: 11.5 feet

Estimated Total Ground Subsidence: 2.4 inches

Liquefaction Analyses with Groundwater at a Depth of 22.5 Feet

CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-1

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
8.9
Total Induced Subsidence (inches)
2.0

EARTHQUAKE INFORMATION:
Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT, feet: 22.5
Calc GWT, feet: 22.5

Plot: 1
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF
Clean Sand Qc1n = C_Q*K_C*K_H*Qc
SF = $CRR_{7.5}$*Kσ/CSR

Ignore 1st/last increment into sand/silt soils: 1 yes
Ignore/remediate upper: 1.5 m
Unit Weight of unsaturated soils: 115 pcf
Unit Weight of saturated soils: 130 pcf
Limiting Ic for liquefiable soils: 2.75 Limiting Ic for K_H: 2.8

Use Moss @ P_L: 15%
Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Required SF: 1.30
Min SF of Liquefiable Layers: 0.22
Avg SF of Liquefiable Layers: 0.35
Max $\Delta N_{1(60)}$ - post liquefied: 5.5
Max $\Delta N_{1(60)}$ - non liquefied: 10.0

Depth (feet)	(m)	Tip Qc (tsf)	Friction Fs (tsf)	Friction Ratio Rf %	qc MPa	Total Unit Wt. (pcf)	Total Stress po (tsf)	Eff. Stress p'o (tsf)	rd	F %	n	Max 1.70 Cq	Q	Moss qc1 MPa	Moss Δqc MPa	Moss qc_{1mod} MPa	Moss eff K_C	Qc1n	Ic	Override	Liquef. Suscept. (0 or 1)	Rel. Dens. Dr (%)	K_C	K_H	Clean Sand Qc1n	1.0 Kσ	CRR	Induced M=7.5 CSR	Liquefac. Safety Factor	Qc1n $N_{1(60)}$ Ratio	Equiv. $N_{1(60)}$	FC Adj. $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	*Volumetric Strain (%)*
0.49	0.15	37.20	0.05	0.13	3.56	115	0.028	0.028	1.000	0.13	0.53	1.70	59.73	6.06	0.00	6.06		59.77	1.73		0			1.00		1.00		0.341	Non-Liq.	5.6	10.7			0.00
0.98	0.30	31.40	0.04	0.12	3.01	115	0.057	0.057	1.000	0.12	0.55	1.70	50.36	5.11	0.00	5.11		50.45	1.80		0			1.00		1.00		0.341	Non-Liq.	5.5	9.2			0.00
1.48	0.45	43.43	0.10	0.23	4.16	115	0.085	0.085	0.999	0.23	0.53	1.70	69.65	7.07	0.00	7.07		69.79	1.73		0			1.00		1.00		0.340	Non-Liq.	5.6	12.4			0.00
1.97	0.60	61.87	0.24	0.38	5.92	115	0.113	0.113	0.997	0.38	0.51	1.70	99.23	10.07	0.00	10.07		99.41	1.68		0			1.00		1.00		0.340	Non-Liq.	5.7	17.4			0.00
2.46	0.75	42.93	0.55	1.28	4.11	115	0.141	0.141	0.996	1.29	0.64	1.70	68.76	6.99	0.82	7.81		68.99	2.11		0			1.00		1.00		0.340	Non-Liq.	4.9	14.1			0.00
2.95	0.90	28.83	0.72	2.51	2.76	115	0.170	0.170	0.995	2.52	0.74	1.70	46.06	4.69	2.11	6.80		46.33	2.43		0			1.00		1.00		0.339	Non-Liq.	4.2	10.9			0.00
3.44	1.05	22.23	0.71	3.19	2.13	115	0.198	0.198	0.994	3.21	0.78	1.70	35.41	3.62	2.82	6.44		35.72	2.58		0			1.00		1.00		0.339	Non-Liq.	3.9	9.1			0.00
3.94	1.20	21.70	0.71	3.26	2.08	115	0.226	0.226	0.993	3.30	0.79	1.70	34.50	3.53	2.90	6.43		34.87	2.60		0			1.00		1.00		0.338	Non-Liq.	3.9	8.9			0.00
4.43	1.35	27.60	0.53	1.90	2.64	115	0.255	0.255	0.992	1.92	0.72	1.70	43.94	4.49	1.47	5.96		44.35	2.37		0			1.00		1.00		0.338	Non-Liq.	4.4	10.2			0.00
4.92	1.50	28.90	0.29	0.99	2.77	115	0.283	0.283	0.990	1.00	0.66	1.70	45.98	4.70	0.52	5.22	1.11	46.44	2.18		1	45	1.62	1.00	75.3	1.00	0.120	0.338	Non-Liq.	4.7	9.8	5.2	15.1	0.36
5.41	1.65	23.30	0.29	1.24	2.23	115	0.311	0.311	0.989	1.26	0.70	1.70	36.94	3.79	0.78	4.57	1.21	37.44	2.32		1	36	2.00	1.00	74.9	1.00	0.119	0.337	Non-Liq.	4.5	8.4	6.6	15.0	0.37
5.91	1.80	14.90	0.41	2.72	1.43	115	0.340	0.340	0.988	2.78	0.81	1.70	23.40	2.43	2.32	4.75	1.96	23.94	2.68		1	18	3.85	1.00	92.3	1.00	0.153	0.337	Non-Liq.	3.8	6.4	10.0	16.4	0.30
6.40	1.95	13.83	0.37	2.67	1.32	115	0.368	0.368	0.987	2.75	0.82	1.70	21.64	2.25	2.27	4.53	2.01	22.23	2.70		1	14	4.02	1.00	89.4	1.00	0.146	0.336	Non-Liq.	3.7	6.0	10.0	16.0	0.32
6.89	2.10	11.50	0.28	2.41	1.10	115	0.396	0.396	0.986	2.49	0.84	1.70	17.84	1.87	1.99	3.86		18.48	2.75		0			1.00		1.00		0.336	Non-Liq.	3.6	5.1			0.00
7.38	2.25	7.23	0.21	2.86	0.69	115	0.424	0.424	0.985	3.04	0.91	1.70	10.94	1.18	2.46	3.64		11.62	2.97		0			1.00		1.00		0.336	Non-Liq.	3.2	3.6			0.00
7.87	2.40	7.87	0.16	1.97	0.75	115	0.453	0.453	0.984	2.09	0.87	1.70	11.91	1.28	1.54	2.82		12.64	2.85		0			1.00		1.00		0.335	Non-Liq.	3.4	3.7			0.00
8.37	2.55	10.47	0.20	1.89	1.00	115	0.481	0.481	0.983	1.99	0.84	1.70	16.04	1.71	1.46	3.17		16.88	2.73		0			1.00		1.00		0.335	Non-Liq.	3.7	4.6			0.00
8.86	2.70	15.20	0.37	2.41	1.46	115	0.509	0.509	0.982	2.50	0.82	1.70	23.61	2.23	2.00	4.22	1.90	24.42	2.65		1	18	3.63	1.00	88.8	1.00	0.145	0.335	Non-Liq.	3.8	6.4	10.0	16.4	0.32
9.35	2.85	29.37	0.53	1.79	2.81	115	0.538	0.538	0.981	1.83	0.73	1.64	44.60	3.92	1.35	5.27	1.34	45.43	2.35		1	44	2.11	1.00	95.9	1.00	0.162	0.334	Non-Liq.	4.4	10.3	8.9	19.2	0.22
9.84	3.00	39.83	0.52	1.30	3.81	115	0.566	0.566	0.979	1.32	0.67	1.52	56.54	5.17	0.84	6.01	1.16	57.36	2.18		1	54	1.62	1.00	92.7	1.00	0.154	0.334	Non-Liq.	4.7	12.1	6.4	18.5	0.24
10.33	3.15	28.73	0.44	1.54	2.75	115	0.594	0.594	0.978	1.58	0.72	1.52	40.38	3.70	1.09	4.79	1.29	41.23	2.34		1	40	2.09	1.00	86.2	1.00	0.139	0.334	Non-Liq.	4.4	9.3	7.9	17.2	0.29
10.83	3.30	17.40	0.44	2.50	1.67	115	0.623	0.623	0.977	2.59	0.82	1.54	24.49	2.23	2.08	4.31	1.94	25.39	2.65		1	20	3.62	1.00	91.9	1.00	0.152	0.333	Non-Liq.	3.8	6.6	10.0	16.6	0.32
11.32	3.45	17.27	0.42	2.44	1.65	115	0.651	0.651	0.976	2.54	0.82	1.49	23.40	2.16	2.02	4.19		24.32	2.66		0			1.00		1.00		0.333	Non-Liq.	3.8	6.4			0.00
11.81	3.60	14.20	0.41	2.91	1.36	115	0.679	0.679	0.975	3.06	0.86	1.46	18.70	1.75	2.51	4.27		19.64	2.78		0			1.00		1.00		0.332	Non-Liq.	3.6	5.5			0.00
12.30	3.75	18.97	0.50	2.64	1.82	115	0.707	0.707	0.974	2.74	0.82	1.39	24.02	2.25	2.22	4.47		25.04	2.67		0			1.00		1.00		0.332	Non-Liq.	3.8	6.6			0.00
12.80	3.90	22.93	0.63	2.75	2.20	115	0.736	0.736	0.973	2.85	0.81	1.34	28.12	2.61	2.35	4.96	1.90	29.06	2.62		1	26	3.48	1.00	101.1	1.00	0.176	0.332	Non-Liq.	3.9	7.5	10.0	17.5	0.29
13.29	4.05	23.90	0.81	3.38	2.29	115	0.764	0.764	0.972	3.49	0.82	1.31	28.57	2.65	3.00	5.65	2.13	29.51	2.68		1	26	3.83	1.00	113.1	1.00	0.214	0.331	Non-Liq.	3.8	7.9	10.0	17.9	0.28
13.78	4.20	38.17	0.93	2.43	3.65	115	0.792	0.792	0.971	2.48	0.75	1.24	43.84	4.12	2.01	6.13	1.49	44.77	2.44		1	43	2.48	1.00	111.1	1.00	0.207	0.331	Non-Liq.	4.2	10.6	10.0	20.6	0.21
14.27	4.35	44.43	0.93	2.10	4.25	115	0.821	0.821	0.970	2.14	0.72	1.20	49.50	4.72	1.66	6.38	1.35	50.43	2.36		1	48	2.14	1.00	108.1	1.00	0.198	0.331	Non-Liq.	4.4	11.5	10.0	21.5	0.19
14.76	4.50	78.67	0.96	1.22	7.53	115	0.849	0.849	0.969	1.24	0.62	1.15	84.28	8.24	0.75	8.99	1.09	85.20	2.03		1	70	1.34	1.00	113.8	1.00	0.217	0.330	Non-Liq.	5.0	16.9	5.8	22.8	0.17
15.26	4.65	64.47	0.93	1.44	6.17	115	0.877	0.877	0.968	1.46	0.65	1.13	67.94	6.67	0.98	7.64	1.15	68.88	2.15		1	61	1.54	1.00	106.2	1.00	0.192	0.330	Non-Liq.	4.8	14.4	6.9	21.2	0.20
15.75	4.80	45.83	0.85	1.86	4.39	115	0.906	0.906	0.967	1.90	0.71	1.12	47.44	4.69	1.41	6.10	1.30	48.40	2.34		1	47	2.07	1.00	100.3	1.00	0.174	0.330	Non-Liq.	4.4	10.9	9.1	20.1	0.23
16.24	4.95	46.90	0.97	2.08	4.49	115	0.934	0.934	0.966	2.12	0.72	1.09	47.54	4.72	1.63	6.36		48.50	2.37		0			1.00		1.00		0.329	Non-Liq.	4.4	11.1			0.00
16.73	5.10	11.53	0.79	6.81	1.10	115	0.962	0.962	0.965	7.43	0.97	1.10	10.96	1.16	4.67	5.83		11.96	3.21		0			1.00		1.00		0.329	Non-Liq.	2.7	4.4			0.00
17.22	5.25	10.00	0.42	4.17	0.96	115	0.990	0.990	0.964	4.62	0.95	1.06	9.07	1.00	3.80	4.80		10.07	3.14		0			1.00		1.00		0.328	Non-Liq.	2.9	3.5			0.00
17.72	5.40	10.37	0.36	3.47	0.99	115	1.019	1.019	0.962	3.85	0.94	1.04	9.15	1.02	3.08	4.10		10.15	3.09		0			1.00		1.00		0.328	Non-Liq.	3.0	3.4			0.00
18.21	5.55	8.73	0.32	3.68	0.84	115	1.047	1.047	0.961	4.18	0.97	1.01	7.34	0.84	3.30	4.14		8.34	3.19		0			1.00		1.00		0.328	Non-Liq.	2.8	3.0			0.00
18.70	5.70	10.37	0.29	2.80	0.99	115	1.075	1.075	0.960	3.12	0.92	0.99	8.65	0.98	2.38	3.36		9.65	3.06		0			1.00		1.00		0.327	Non-Liq.	3.0	3.2			0.00
19.19	5.85	10.03	0.29	2.92	0.96	115	1.104	1.104	0.959	3.28	0.93	0.96	8.11	0.93	2.51	3.44		9.12	3.09		0			1.00		0.99		0.327	Non-Liq.	2.9	3.1			0.00
19.69	6.00	11.03	0.27	2.43	1.06	130	1.136	1.136	0.958	2.71	0.91	0.94	8.77	1.01	2.00	3.01		9.78	3.02		0			1.00		0.99		0.326	Non-Liq.	3.1	3.2			0.00
20.18	6.15	10.10	0.22	2.18	0.97	130	1.168	1.168	0.956	2.46	0.92	0.91	7.71	0.90	1.74	2.64		8.72	3.04		0			1.00		0.98		0.326	Non-Liq.	3.0	2.9			0.00
20.67	6.30	11.03	0.20	1.81	1.06	130	1.200	1.200	0.955	2.03	0.89	0.89	8.31	0.97	1.36	2.32		9.32	2.97		0			1.00		0.98		0.326	Non-Liq.	3.2	2.9			0.00
21.16	6.45	14.93	0.35	2.37	1.43	130	1.232	1.232	0.954	2.58	0.88	0.88	11.34	1.31	1.93	3.24		12.36	2.91		0			1.00		0.97		0.325	Non-Liq.	3.3	3.8			0.00
21.65	6.60	21.70	0.74	3.41	2.08	130	1.264	1.264	0.952	3.62	0.86	0.86	16.58	1.91	3.00	4.92		17.60	2.87		0			1.00		0.97		0.325	Non-Liq.	3.4	5.2			0.00
22.15	6.75	25.20	1.11	4.38	2.41	130	1.296	1.296	0.951	4.62	0.87	0.84	18.95	2.22	4.01	6.23		19.98	2.89		0			1.00		0.96		0.324	Non-Liq.	3.3	6.0			0.00
22.64	6.90	33.70	1.30	3.84	3.23	130	1.328	1.328	0.950	4.00	0.83	0.83	25.36	2.96	3.96	6.92		26.40	2.75		0			1.00		0.96		0.486	Non-Liq.	3.6	7.3			0.00
23.13	7.05	37.97	1.22	3.22	3.64	130	1.359	1.348	0.948	3.34	0.80	0.82	28.52	3.82	3.23	7.06		34.08	2.66		0			1.15		0.95		0.489	Non-Liq.	3.8	9.0			0.00
23.62	7.20	23.80	1.03	4.33	2.28	130	1.391	1.364	0.946	4.60	0.88	0.80	16.97	2.05	4.57	6.62		18.00	2.93		0			1.00		0.95		0.494	Non-Liq.	3.3	5.5			0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Overide	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_c	Qc1n	Ic		(0 or 1)	Dr (%)	K_c	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
24.11	7.35	11.53	0.71	6.11	1.10	130	1.423	1.381	0.945	6.94	0.99	0.77	7.37	0.95	5.38	6.33		8.37	3.32		0			1.00		0.95		0.498	Non-Liq.	2.5	3.3			0.00
24.61	7.50	32.03	0.48	1.49	3.07	130	1.455	1.397	0.943	1.56	0.76	0.81	23.44	2.68	1.19	3.87		24.60	2.53		0			1.00		0.95		0.502	Non-Liq.	4.0	6.1			0.00
25.10	7.65	148.87	0.75	0.50	14.26	130	1.487	1.414	0.941	0.51	0.51	0.86	120.25	12.40	0.00	12.40	1.00	121.40	1.67		1	85	1.02	1.00	123.5	0.89	0.255	0.506	0.45	5.7	21.2	3.5	24.7	1.18
25.59	7.80	158.20	1.13	0.72	15.15	130	1.519	1.431	0.940	0.72	0.53	0.85	126.28	13.36	0.26	13.62	1.02	127.43	1.74		1	87	1.07	1.00	135.9	0.89	0.313	0.510	0.54	5.6	22.8	4.4	27.2	1.05
26.08	7.95	171.13	1.38	0.80	16.39	130	1.551	1.447	0.938	0.81	0.53	0.85	135.76	14.49	0.37	14.85	1.03	136.92	1.75		1	90	1.07	1.00	146.7	0.88	0.374	0.514	0.64	5.6	24.6	4.8	29.3	0.84
26.57	8.10	102.27	1.55	1.51	9.79	130	1.583	1.464	0.936	1.54	0.64	0.81	77.43	8.73	1.23	9.95	1.14	78.56	2.12		1	67	1.48	1.00	116.6	0.91	0.228	0.518	0.40	4.9	16.2	5.5	21.7	1.38
27.07	8.25	47.77	1.54	3.22	4.57	130	1.615	1.481	0.934	3.32	0.78	0.77	33.64	4.07	3.29	7.36	1.81	34.72	2.61		1	33	3.38	1.00	117.4	0.93	0.231	0.521	0.41	3.9	8.9	5.5	14.4	2.00
27.56	8.40	93.00	1.23	1.32	8.91	130	1.647	1.497	0.932	1.34	0.64	0.80	69.31	7.80	1.00	8.80	1.13	70.45	2.11		1	62	1.48	1.00	104.4	0.90	0.186	0.524	0.32	4.9	14.5	5.5	20.0	1.49
28.05	8.55	35.83	0.96	2.67	3.43	130	1.679	1.514	0.930	2.79	0.80	0.75	24.38	2.96	2.65	5.61	1.89	25.45	2.67		1	20	3.76	1.00	95.8	0.93	0.162	0.527	0.29	3.8	6.7	5.5	12.2	2.22
28.54	8.70	93.27	0.86	0.92	8.93	130	1.711	1.530	0.928	0.94	0.61	0.80	69.24	7.62	0.51	8.13	1.07	70.39	2.02		1	62	1.32	1.00	93.3	0.90	0.155	0.530	0.26	5.0	13.9	4.7	18.7	1.59
29.04	8.85	243.10	1.03	0.42	23.28	130	1.743	1.547	0.925	0.43	0.50	0.83	188.80	19.50	0.00	19.50	1.00	190.01	1.47		1	100	1.00	1.00	190.0	0.86	Infin.	0.533	Non-Liq.	6.1	31.0	7.0	38.0	0.00
29.53	9.00	311.00	2.10	0.67	29.78	130	1.775	1.564	0.923	0.68	0.50	0.82	240.57	25.76	0.21	25.97	1.01	241.79	1.51		1	100	1.00	1.00	241.8	0.86	Infin.	0.536	Non-Liq.	6.0	40.1	8.3	48.4	0.00
30.02	9.15	336.93	3.81	1.13	32.26	130	1.807	1.580	0.920	1.14	0.50	0.82	258.85	28.63	0.77	29.40	1.03	260.07	1.66		1	100	1.01	1.00	262.1	0.85	Infin.	0.538	Non-Liq.	5.8	45.2	7.2	52.4	0.00
30.51	9.30	310.67	3.89	1.25	29.75	130	1.839	1.597	0.918	1.26	0.52	0.81	235.60	26.39	0.92	27.31	1.03	236.82	1.72		1	100	1.05	1.00	248.4	0.85	Infin.	0.541	Non-Liq.	5.6	42.0	7.7	49.7	0.00
31.00	9.45	268.03	2.85	1.06	25.67	130	1.871	1.614	0.915	1.07	0.52	0.80	202.21	22.42	0.69	23.11	1.03	203.44	1.71		1	100	1.04	1.00	212.2	0.84	Infin.	0.543	Non-Liq.	5.7	36.0	6.5	42.4	0.00
31.50	9.60	276.97	2.18	0.79	26.52	130	1.903	1.630	0.913	0.79	0.50	0.81	209.65	22.72	0.35	23.07	1.02	210.89	1.60		1	100	1.00	1.00	210.9	0.84	Infin.	0.545	Non-Liq.	5.9	36.0	6.2	42.2	0.00
31.99	9.75	286.00	1.85	0.65	27.39	130	1.935	1.647	0.910	0.65	0.50	0.80	215.42	23.11	0.18	23.29	1.01	216.66	1.54		1	100	1.00	1.00	216.7	0.84	Infin.	0.547	Non-Liq.	6.0	36.2	7.2	43.3	0.00
32.48	9.90	280.93	1.84	0.65	26.90	130	1.967	1.664	0.907	0.66	0.50	0.80	210.50	22.62	0.19	22.80	1.01	211.76	1.55		1	100	1.00	1.00	211.8	0.83	Infin.	0.548	Non-Liq.	6.0	35.5	6.9	42.4	0.00
32.97	10.05	295.80	2.07	0.70	28.33	130	1.999	1.680	0.904	0.70	0.50	0.79	220.60	23.87	0.24	24.12	1.01	221.86	1.55		1	100	1.00	1.00	221.9	0.83	Infin.	0.550	Non-Liq.	6.0	37.2	7.1	44.4	0.00
33.46	10.20	328.43	2.25	0.68	31.45	130	2.031	1.697	0.901	0.69	0.50	0.79	243.86	26.47	0.23	26.69	1.01	245.12	1.51		1	100	1.00	1.00	245.1	0.83	Infin.	0.551	Non-Liq.	6.0	40.6	8.4	49.0	0.00
33.96	10.35	371.70	1.76	0.47	35.59	130	2.063	1.713	0.898	0.48	0.50	0.79	274.79	29.17	0.00	29.17	1.00	276.07	1.37		1	100	1.00	1.00	276.1	0.82	Infin.	0.553	Non-Liq.	6.3	43.7	10.0	53.7	0.00
34.45	10.50	383.03	1.34	0.35	36.68	130	2.095	1.730	0.894	0.35	0.50	0.78	281.83	29.21	0.00	29.21	1.00	283.11	1.28		1	100	1.00	1.00	283.1	0.82	Infin.	0.554	Non-Liq.	5.5	51.2	5.5	56.6	0.00
34.94	10.65	381.17	1.30	0.34	36.50	130	2.127	1.747	0.891	0.34	0.50	0.78	279.10	28.87	0.00	28.87	1.00	280.39	1.27		1	100	1.00	1.00	280.4	0.82	Infin.	0.555	Non-Liq.	5.5	50.7	5.4	56.1	0.00
35.43	10.80	359.20	1.46	0.41	34.40	130	2.159	1.763	0.888	0.41	0.50	0.77	261.69	27.45	0.00	27.45	1.00	262.98	1.34		1	100	1.00	1.00	263.0	0.82	Infin.	0.556	Non-Liq.	6.4	41.3	10.0	51.3	0.00
35.93	10.95	372.67	1.49	0.40	35.69	130	2.191	1.780	0.884	0.40	0.50	0.77	270.26	28.37	0.00	28.37	1.00	271.56	1.33		1	100	1.00	1.00	271.6	0.81	Infin.	0.556	Non-Liq.	6.4	42.4	10.0	52.4	0.00
36.42	11.10	378.83	1.33	0.35	36.28	130	2.223	1.797	0.880	0.35	0.50	0.77	273.47	28.38	0.00	28.38	1.00	274.77	1.29		1	100	1.00	1.00	274.8	0.81	Infin.	0.557	Non-Liq.	5.5	49.7	5.3	55.0	0.00
36.91	11.25	384.50	1.25	0.32	36.82	130	2.255	1.813	0.877	0.33	0.50	0.76	276.29	28.47	0.00	28.47	1.00	277.60	1.26		1	100	1.00	1.00	277.6	0.81	Infin.	0.557	Non-Liq.	5.5	50.2	5.3	55.5	0.00
37.40	11.40	406.70	1.33	0.33	38.95	130	2.287	1.830	0.873	0.33	0.50	0.76	290.98	30.08	0.00	30.08	1.00	292.29	1.25		1	100	1.00	1.00	292.3	0.80	Infin.	0.558	Non-Liq.	5.5	52.8	5.6	58.5	0.00
37.89	11.55	459.80	2.35	0.51	44.03	130	2.319	1.847	0.869	0.51	0.50	0.76	327.64	35.55	0.01	35.57	1.00	328.96	1.33		1	100	1.00	1.00	329.0	0.80	Infin.	0.558	Non-Liq.	6.4	51.5	10.0	61.5	0.00
38.39	11.70	417.57	3.05	0.73	39.99	130	2.351	1.863	0.865	0.73	0.50	0.75	296.08	33.01	0.29	33.29	1.01	297.41	1.48		1	100	1.00	1.00	297.4	0.80	Infin.	0.558	Non-Liq.	6.1	48.7	10.0	58.7	0.00
38.88	11.85	255.00	2.08	0.82	24.42	130	2.383	1.880	0.861	0.82	0.51	0.75	178.77	19.86	0.39	20.26	1.02	180.10	1.66		1	100	1.01	1.00	182.5	0.79	Infin.	0.558	Non-Liq.	5.7	31.4	5.1	36.5	0.00
39.37	12.00	60.43	1.57	2.60	5.79	130	2.415	1.896	0.857	2.68	0.75	0.64	35.67	4.73	2.59	7.32	1.55	36.83	2.53		1	35	2.92	1.00	107.4	0.89	0.195	0.558	0.31	4.0	9.1	5.5	14.6	2.00
39.86	12.15	68.10	1.44	2.11	6.52	130	2.447	1.913	0.852	2.18	0.72	0.65	40.77	5.28	2.00	7.28	1.38	41.95	2.43		1	41	2.42	1.00	101.5	0.89	0.177	0.557	0.28	4.3	9.9	5.5	15.4	1.88
40.35	12.30	74.60	1.05	1.41	7.14	130	2.479	1.930	0.848	1.45	0.68	0.66	45.64	5.63	1.13	6.76	1.20	46.86	2.28		1	45	1.88	1.00	88.0	0.89	0.143	0.557	0.23	4.5	10.3	5.5	15.8	1.84
40.85	12.45	54.97	1.14	2.07	5.26	130	2.511	1.946	0.843	2.15	0.74	0.64	31.83	4.17	1.95	6.12	1.47	33.00	2.51		1	31	2.80	1.00	92.4	0.89	0.153	0.556	0.24	4.1	8.1	5.5	13.6	2.07
41.34	12.60	53.87	1.57	2.91	5.16	130	2.543	1.963	0.839	3.02	0.78	0.62	30.37	4.16	2.98	7.14	1.72	31.52	2.62		1	29	3.42	1.00	107.8	0.88	0.197	0.556	0.31	3.9	8.1	5.5	13.6	2.06
41.83	12.75	48.03	1.38	2.88	4.60	130	2.575	1.980	0.834	3.00	0.79	0.61	26.58	3.67	2.94	6.60	1.80	27.72	2.66		1	24	3.70	1.00	102.6	0.88	0.180	0.555	0.29	3.8	7.3	5.5	12.8	2.16
42.32	12.90	76.17	0.97	1.27	7.29	130	2.607	1.996	0.830	1.31	0.67	0.65	45.78	5.63	0.95	6.58	1.17	47.01	2.25		1	46	1.80	1.00	84.4	0.88	0.136	0.554	0.22	4.6	10.2	5.5	15.7	1.85
42.81	13.05	62.30	0.97	1.56	5.97	130	2.639	2.013	0.825	1.61	0.71	0.63	36.10	4.60	1.31	5.91	1.28	37.30	2.39		1	36	2.26	1.00	84.2	0.88	0.135	0.553	0.22	4.3	8.6	5.5	14.1	2.00
43.31	13.20	51.67	0.95	1.84	4.95	130	2.671	2.030	0.820	1.92	0.74	0.62	28.89	3.80	1.66	5.46		30.07	2.51		0			1.00		0.88		0.552	Non-Liq.	4.1	7.4			0.00
43.80	13.35	25.43	0.98	3.83	2.44	130	2.703	2.046	0.816	4.17	0.88	0.56	12.34	1.84	4.11	5.95		13.42	3.01		0			1.00		0.88		0.551	Non-Liq.	3.1	4.3			0.00
44.29	13.50	36.03	1.05	2.90	3.45	130	2.735	2.063	0.811	3.08	0.82	0.58	18.55	2.64	2.96	5.60		19.67	2.79		0			1.00		0.87		0.550	Non-Liq.	3.5	5.5			0.00
44.78	13.65	161.47	1.36	0.84	15.46	130	2.767	2.079	0.806	0.85	0.56	0.68	103.14	11.91	0.42	12.33		104.88	1.86		0			1.00		0.87		0.548	Non-Liq.	5.4	19.6			0.00
45.28	13.80	273.40	1.98	0.72	26.18	130	2.799	2.096	0.801	0.73	0.50	0.71	182.19	20.32	0.28	20.59	1.01	183.59	1.62		1	100	1.00	1.00	183.6	0.76	Infin.	0.547	Non-Liq.	5.8	31.5	5.2	36.7	0.00
45.77	13.95	294.80	2.53	0.86	28.23	130	2.831	2.113	0.796	0.86	0.50	0.71	195.34	22.29	0.44	22.72	1.02	196.75	1.65		1	100	1.00	1.00	197.6	0.76	Infin.	0.545	Non-Liq.	5.8	34.1	5.4	39.5	0.00
46.26	14.10	305.67	2.78	0.91	29.27	130	2.863	2.129	0.791	0.92	0.51	0.70	201.43	23.22	0.50	23.72	1.02	202.84	1.66		1	100	1.01	1.00	205.0	0.76	Infin.	0.544	Non-Liq.	5.7	35.3	5.7	41.0	0.00
46.75	14.25	312.37	2.62	0.84	29.91	130	2.895	2.146	0.786	0.84	0.50	0.70	205.88	23.51	0.41	23.92	1.02	207.31	1.63		1	100	1.00	1.00	207.3	0.75	Infin.	0.542	Non-Liq.	5.8	35.7	5.8	41.5	0.00
47.24	14.40	331.77	1.88	0.57	31.77	130	2.927	2.163	0.781	0.57	0.50	0.70	217.90	23.99	0.08	24.07	1.00	219.33	1.49		1	100	1.00	1.00	219.3	0.75	Infin.	0.540	Non-Liq.	6.1	36.1	7.7	43.9	0.00
47.74	14.55	355.77	1.35	0.38	34.07	130	2.959	2.179	0.776	0.38	0.50	0.70	232.86	24.53	0.00	24.53	1.00	234.30	1.36		1	100	1.00	1.00	234.3	0.75	Infin.	0.539	Non-Liq.	6.3	37.0	9.8	46.9	0.00
48.23	14.70	395.37	1.49	0.38	37.86	130	2.991	2.196	0.771	0.38	0.50	0.69	257.95	27.33	0.00	27.33	1.00	259.39	1.33		1	100	1.00	1.00	259.4	0.75	Infin.	0.537	Non-Liq.	6.4	40.5	10.0	50.5	0.00
48.72	14.85	417.77	2.62	0.63	40.01	130	3.023	2.212	0.766	0.63	0.50	0.69	271.61	30.66	0.15	30.81	1.01	273.06	1.45		1	100	1.00	1.00	273.1	0.74	Infin.	0.535	Non-Liq.	6.2	44.4	10.0	54.4	0.00
49.21	15.00	491.97	4.84	0.98	47.11	130	3.055	2.229	0.761	0.99	0.50	0.69	318.90	37.94	0.59	38.53	1.02	320.35	1.55		1	100	1.00	1.00	320.4	0.74	Infin.	0.533	Non-Liq.	6.0	53.8	10.0	63.8	0.00
49.70	15.15	474.23	4.61	0.97	45.41	130	3.087	2.246	0.756	0.98	0.50	0.69	306.20	36.39	0.57	36.96	1.02	307.66	1.56		1	100	1.00	1.00	307.7	0.74	Infin.	0.531	Non-Liq.	5.9	51.8	9.8	61.5	0.00
50.20	15.30	458.57	2.31	0.50	43.91	130	3.119	2.262	0.751	0.51	0.50	0.68	294.94	32.73	0.00	32.73	1.00	296.40	1.36		1	100	1.00	1.00	296.4	0.74	Infin.	0.529	Non-Liq.	6.3	46.8	10.0	56.8	0.00
50.69	15.45	471.73	1.91	0.40	45.17	130	3.151	2.279	0.746	0.41	0.50	0.68	302.33	32.71	0.00	32.71	1.00	303.79	1.29		1	100	1.00	1.00	303.8	0.74	Infin.	0.527	Non-Liq.	5.5	54.9	5.8	60.8	0.00
51.18	15.60	419.03	2.16	0.52	40.13	130	3.183	2.296	0.741	0.52	0.50	0.68	267.40	29.67	0.02	29.68	1.00	268.88	1.40		1	100	1.00	1.00	268.9	0.73	Infin.	0.525	Non-Liq.	6.3	43.0	10.0	53.0	0.00
51.67	15.75	407.20	1.83	0.45	38.99	130	3.215	2.312	0.736	0.45	0.50	0.68	258.86	28.21	0.00	28.21	1.00	260.34	1.37		1	100	1.00	1.00	260.3	0.73	Infin.	0.523	Non-Liq.	6.3	41.3	10.0	51.3	0.00
52.17	15.90	378.67	1.43	0.38	36.26	130	3.247	2.329	0.731	0.38	0.50	0.67	239.75	25.43	0.00	25.43	1.00	241.23	1.35		1	100	1.00	1.00	241.2	0.73	Infin.	0.521	Non-Liq.	6.3	38.0	10.0	48.0	0.00
52.66	16.05	398.60	1.24	0.31	38.17	130	3.279	2.346	0.726	0.31	0.50	0.67	251.54	26.00	0.00	26.00	1.00	253.03	1.29		1	100	1.00	1.00	253.0	0.73	Infin.	0.519	Non-Liq.	5.5	45.7	4.9	50.6	0.00
53.15	16.20	441.37	1.40	0.32	42.27	130	3.311	2.362	0.721	0.32	0.50	0.67	277.70	29.00	0.00	29.00	1.00	279.19	1.26		1	100	1.00	1.00	279.2	0.73	Infin.	0.517	Non-Liq.	5.5	50.5	5.4	55.8	0.00
53.64	16.35	433.47	1.66	0.38	41.51	130	3.343	2.379	0.716	0.39	0.50	0.67	271.73	29.15	0.00	29.15	1.00	273.23	1.31		1	100	1.00	1.00	273.2	0.72	Infin.	0.515	Non-Liq.	6.4	42.5	10.0	52.5	0.00
54.13	16.50	402.17	1.64	0.41	38.51	130	3.375	2.395	0.712	0.41	0.50	0.66	251.12	27.07	0.00	27.07	1.00	252.62	1.36		1	100	1.00	1.00	252.6	0.72	Infin.	0.513	Non-Liq.	6.3	39.8	10.0	49.8	0.00
54.63	16.65	345.97	1.79	0.52	33.13	130	3.407	2.412	0.707	0.52	0.50	0.66	215.06	23.75	0.02	23.77	1.00	216.57	1.47		1	100	1.00	1.00	216.6	0.72	Infin.	0.510	Non-Liq.	6.1	35.4	7.9	43.3	0.00
55.12	16.80	327.13	1.99	0.61	31.33	130	3.439	2.429	0.702	0.61	0.50	0.66	202.56	22.79	0.13	22.92	1.01	204.08	1.54		1	100	1.00	1.00	204.1	0.72	Infin.	0.508	Non-Liq.	6.0	34.1	6.7	40.8	0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Override	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_C	Qc1n	Ic		(0 or 1)	Dr (%)	K_C	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
55.61	16.95	305.63	1.96	0.64	29.27	130	3.471	2.445	0.698	0.65	0.50	0.66	188.49	21.29	0.17	21.46	1.01	190.01	1.58		1	100	1.00	1.00	190.0	0.72	Infin.	0.506	**Non-Liq.**	5.9	32.2	5.8	38.0	**0.00**
56.10	17.10	288.20	1.93	0.67	27.60	130	3.503	2.462	0.693	0.67	0.50	0.66	177.04	20.05	0.20	20.26	1.01	178.57	1.61		1	100	1.00	1.00	178.6	0.71	Infin.	0.504	**Non-Liq.**	5.8	30.6	5.2	35.7	**0.00**
56.59	17.25	306.03	1.79	0.58	29.31	130	3.535	2.479	0.689	0.59	0.50	0.65	187.45	20.96	0.10	21.06	1.00	188.98	1.55		1	100	1.00	1.00	189.0	0.71	Infin.	0.502	**Non-Liq.**	6.0	31.7	6.1	37.8	**0.00**
57.09	17.40	253.13	1.60	0.63	24.24	130	3.567	2.495	0.684	0.64	0.50	0.65	154.19	17.25	0.16	17.41	1.01	155.72	1.64		1	95	1.00	1.00	155.3	0.71	0.429	0.500	**0.61**	5.8	26.9	4.1	31.1	**0.64**
57.58	17.55	103.20	1.70	1.65	9.88	130	3.599	2.512	0.680	1.69	0.67	0.56	53.17	7.34	1.37	8.72		54.50	2.27		0			1.00		0.84		0.498	**Non-Liq.**	4.6	11.9			**0.00**
58.07	17.70	40.27	1.88	4.67	3.86	130	3.631	2.529	0.675	4.99	0.86	0.47	16.82	2.88	4.98	7.86		17.95	2.95		0			1.00		0.84		0.496	**Non-Liq.**	3.2	5.6			**0.00**
58.56	17.85	25.27	1.50	5.93	2.42	130	3.663	2.545	0.671	6.59	0.94	0.44	9.44	1.73	5.36	7.10		10.50	3.22		0			1.00		0.84		0.494	**Non-Liq.**	2.7	3.9			**0.00**
59.06	18.00	10.90	0.77	7.02	1.04	130	3.695	2.562	0.667	9.17	1.00	0.41	3.25	0.64	5.36	6.00		4.25	3.68		0			1.00		0.84		0.492	**Non-Liq.**	1.8	2.4			**0.00**
59.55	18.15	11.33	0.37	3.22	1.09	130	3.727	2.578	0.663	4.17	1.00	0.41	3.40	0.62	3.23	3.86		4.40	3.47		0			1.00		0.84		0.490	**Non-Liq.**	2.2	2.0			**0.00**
60.04	18.30	34.03	0.53	1.56	3.26	130	3.759	2.595	0.659	1.69	0.80	0.49	14.55	2.26	1.26	3.52		16.87	2.72		0			1.07		0.84		0.488	**Non-Liq.**	3.7	4.6			**0.00**
60.53	18.45	20.67	0.75	3.65	1.98	130	3.791	2.612	0.655	4.17	0.92	0.43	7.41	1.30	3.73	5.03		8.48	3.19		0			1.00		0.83		0.486	**Non-Liq.**	2.8	3.1			**0.00**
61.02	18.60	46.97	0.75	1.59	4.50	130	3.823	2.628	0.651	1.69	0.76	0.50	20.99	3.04	1.29	4.33		22.32	2.59		0			1.00		0.83		0.484	**Non-Liq.**	3.9	5.7			**0.00**
61.52	18.75	183.00	0.78	0.42	17.52	130	3.855	2.645	0.647	0.43	0.51	0.63	106.89	11.16	0.00	11.16	1.00	108.45	1.67		1	80	1.00	1.00	108.5	0.69	0.199	0.482	**0.29**	5.7	19.0	2.7	21.7	**1.37**
62.01	18.90	296.13	1.22	0.41	28.36	130	3.887	2.662	0.643	0.41	0.50	0.63	174.88	18.63	0.00	18.63	1.00	176.47	1.49		1	100	1.00	1.00	176.5	0.69	Infin.	0.480	**Non-Liq.**	6.1	29.0	6.3	35.3	**0.00**
62.50	19.05	385.73	1.57	0.41	36.94	130	3.919	2.678	0.640	0.41	0.50	0.63	227.56	24.66	0.00	24.66	1.00	229.15	1.39		1	100	1.00	1.00	229.2	0.69	Infin.	0.479	**Non-Liq.**	6.3	36.5	9.3	45.8	**0.00**
62.99	19.20	409.83	1.59	0.39	39.25	130	3.951	2.695	0.636	0.39	0.50	0.63	241.12	26.04	0.00	26.04	1.00	242.71	1.36		1	100	1.00	1.00	242.7	0.69	Infin.	0.477	**Non-Liq.**	6.3	38.3	10.0	48.3	**0.00**
63.48	19.35	360.83	1.61	0.44	34.55	130	3.983	2.711	0.633	0.45	0.50	0.62	211.44	23.16	0.00	23.16	1.00	213.04	1.44		1	100	1.00	1.00	213.0	0.69	Infin.	0.475	**Non-Liq.**	6.2	34.5	8.1	42.6	**0.00**
63.98	19.50	395.03	1.52	0.38	37.83	130	4.015	2.728	0.629	0.39	0.50	0.62	230.91	24.86	0.00	24.86	1.00	232.52	1.37		1	100	1.00	1.00	232.5	0.68	Infin.	0.473	**Non-Liq.**	6.3	36.8	9.7	46.5	**0.00**
64.47	19.65	383.23	1.60	0.42	36.70	130	4.047	2.745	0.626	0.42	0.50	0.62	223.28	24.32	0.00	24.32	1.00	224.89	1.40		1	100	1.00	1.00	224.9	0.68	Infin.	0.472	**Non-Liq.**	6.3	36.0	9.0	45.0	**0.00**

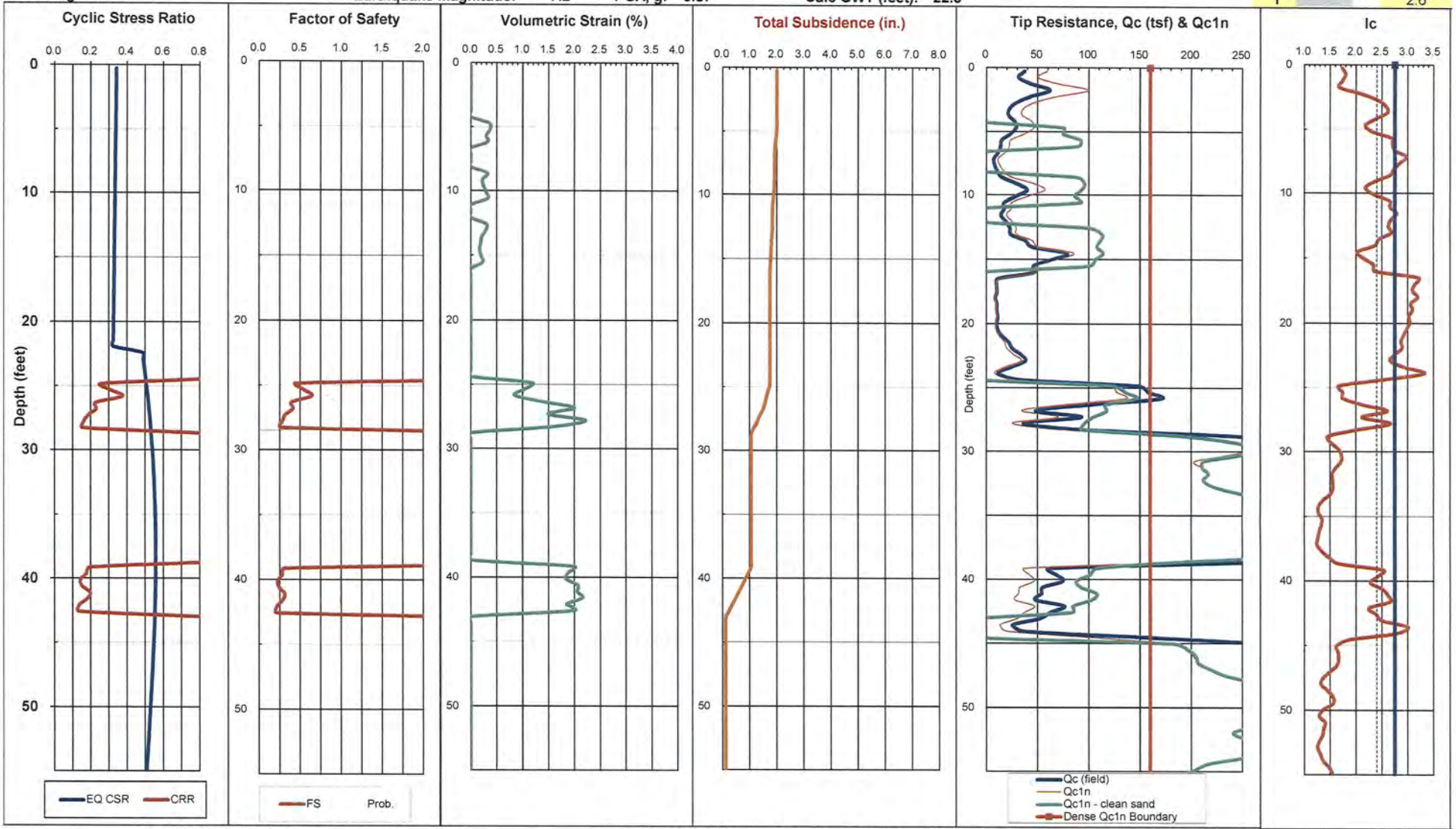
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-1 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 22.5

Plot 1 Limiting Ic: 2.6



Total Thickness of Liquefiable Layers: 8.9 feet

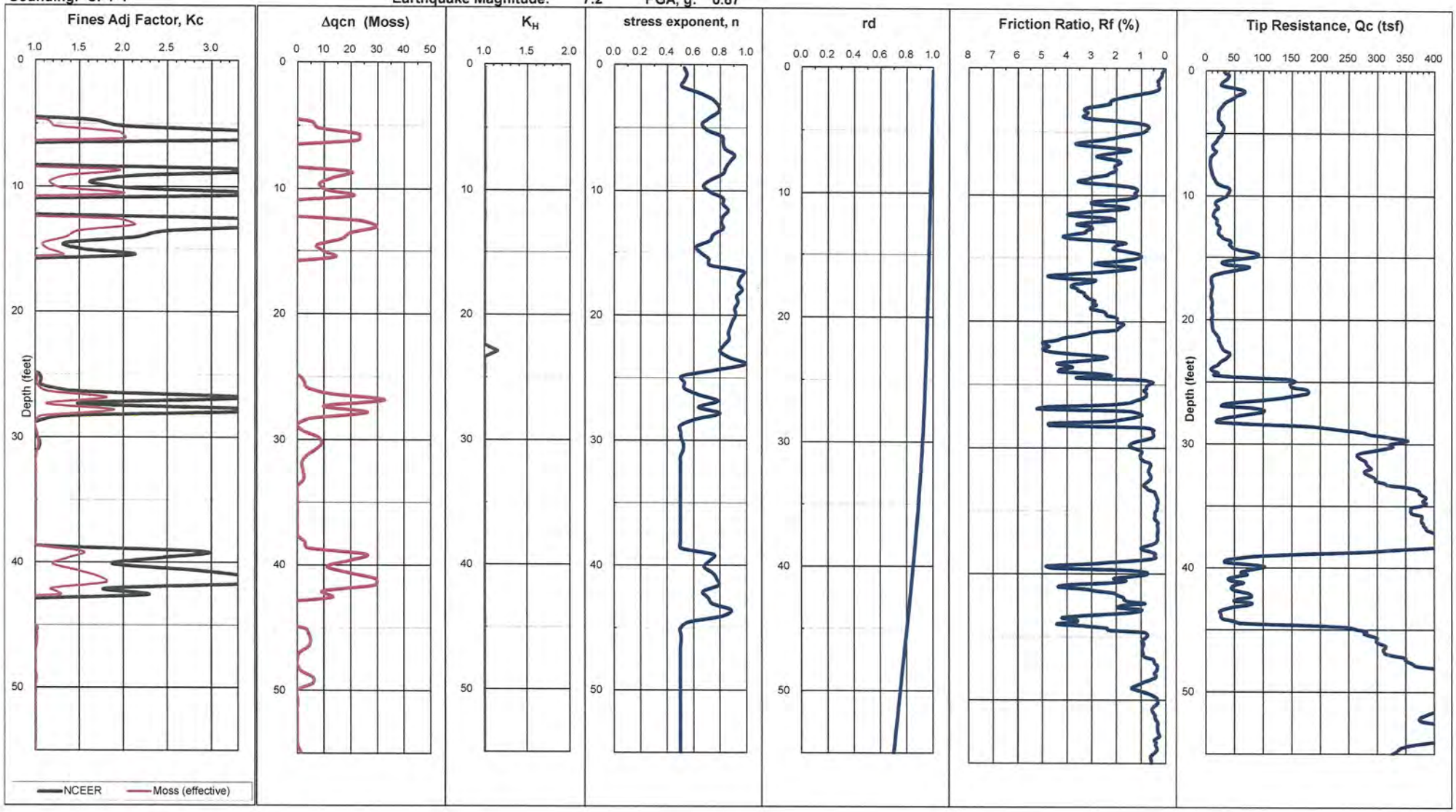
Estimated Total Ground Subsidence (Settlement): 2.0 inches

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5
Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-1 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-12 Data Set: 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT: 22.5 feet
Calc GWT: 22.5 feet
Remediate to: 5.0 feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E): 1.33 Automatic Hammer
Drive Rod Corr. (C_R): 1 Default
Rod Length above ground (feet): 3.0
Borehole Dia. Corr. (C_B): 1.00
Sampler Liner Correction for SPT?: 1 Yes
Cal Mod/ SPT Ratio: 0.63

Total (ft) Liquefied Thickness
2

Total (in.) Induced Subsidence
1.1

Threshold Acceler., g: 0.59 **Required SF:** 1.30
Minimum Calculated SF: 0.68

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

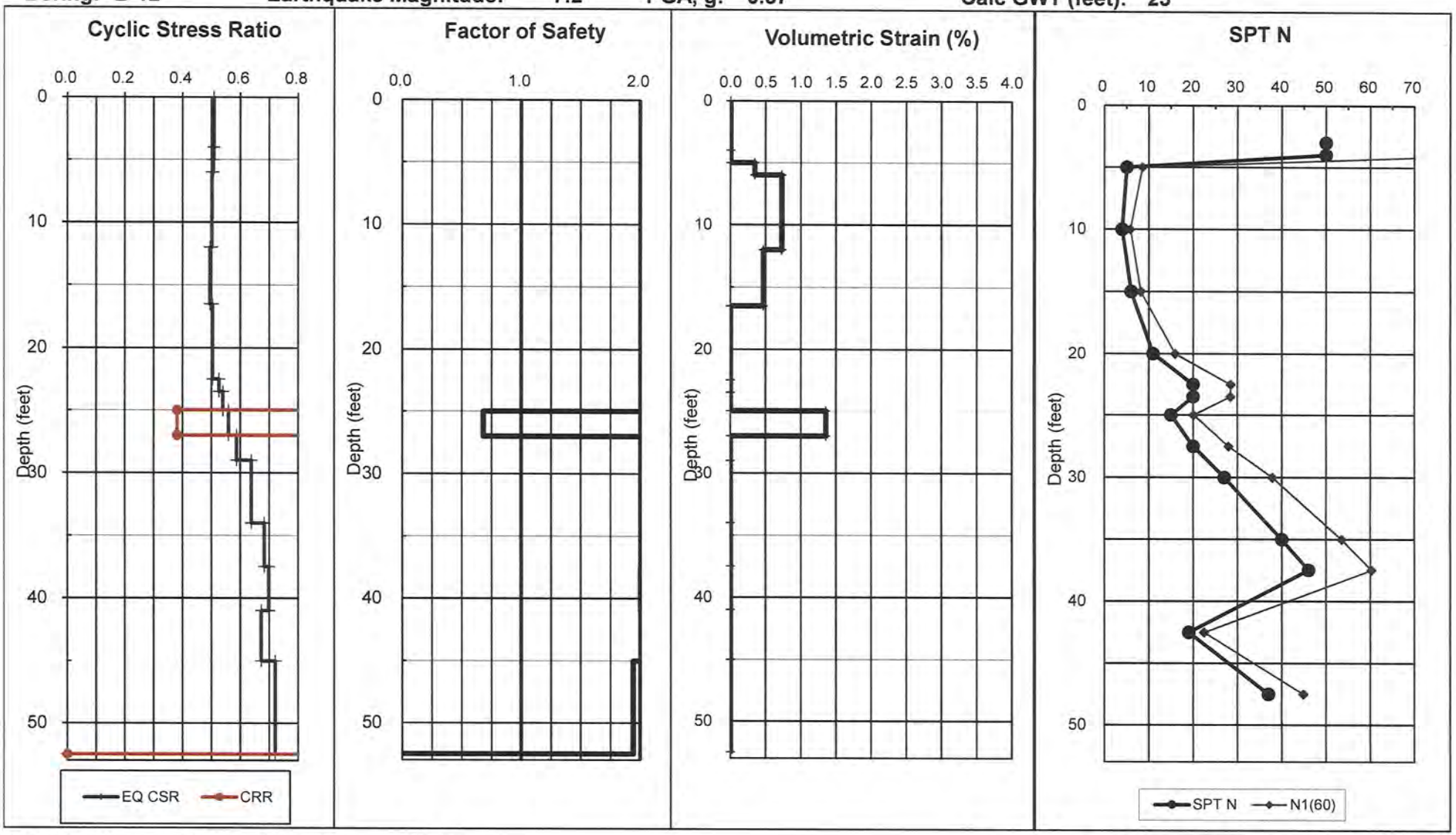
Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot.Stress at SPT po (tsf)	Eff.Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel. Dens. Dr (%)	*Trigger FC Adj.* $\Delta N_{1(60)}$	*Equiv: Sand* $N_{1(60)CS}$	$K\sigma$	M = 7.5 Available CRR	M =7.5 Induced CSR*	Liquefac. Safety Factor	*Post FC Adj.* $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric *Strain* (%)	Induced Subsidence (in.)	p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{15}	Strain Enc	Dry Sand Subsidence (in.)
								0.000																											
4.0	13	50	1	122	45	3.0	6.0	0.183	0.183	0.99	1.70	0.75	1.00	85.0	100	10.0	95.0	1.00	1.400	0.509	Non-Liq.	10.0	95.0	0.01	0.00	0.123	714	0.069	0.0001	0.129	22,546	1.8E-04	2.8E-05	2.6E-05	0.00
5.0	8	50	1	122	45	4.0	7.0	0.244	0.244	0.99	1.70	0.75	1.00	85.0	100	10.0	95.0	1.00	1.400	0.508	Non-Liq.	10.0	95.0	0.01	0.00	0.163	825	0.092	0.0001	0.130	18,971	2.0E-04	3.1E-05	2.9E-05	0.00
6.0	8	5	1	122	45	5.0	8.0	0.305	0.305	0.99	1.70	0.75	1.00	8.6	35	6.7	15.3	1.00	0.165	0.506	Non-Liq.	6.7	15.3	0.35	0.04	0.204	501	0.114	0.0002	0.132	16,594	1.4E-03	1.9E-03	1.7E-03	0.04
12.0		4	1	122	63	10.0	13.0	0.610	0.610	0.98	1.32	0.76	1.10	5.9	29	6.2	12.0	1.00	0.130	0.501	Non-Liq.	6.2	12.0	0.73	0.53	0.409	655	0.226	0.0003	0.140	10,948	2.2E-03	4.0E-03	3.7E-03	0.53
16.5		6	1	122	63	15.0	18.0	0.915	0.915	0.97	1.08	0.86	1.10	8.2	34	6.6	14.8	1.00	0.160	0.495	Non-Liq.	6.6	14.8	0.47	0.25	0.613	860	0.335	0.0004	0.148	8,584	1.8E-03	2.5E-03	2.3E-03	0.25
22.5		11		125	79	20.0	23.0	1.225	1.225	0.96	1.00	0.93	1.16	15.9				0.97	Infin.	0.504	Non-Liq.		15.9	0.00	0.00	0.821				0.156	7,204						
23.5		20	1	125	37	22.5	25.5	1.382	1.382	0.95	0.88	0.96	1.27	28.4	64	10.0	38.4	0.92	1.400	0.526	Non-Liq.	10.0	38.4	0.00	0.00	0.926	1,451	0.496	0.0003	0.160	6,704	7.6E-04			
25.0		20	1	125	37	23.5	26.5	1.444	1.413	0.95	0.87	0.97	1.27	28.4	64	10.0	38.4	0.92	1.400	0.540	2.59	10.0	38.4	0.00	0.00	0.967	1,483	0.517	0.0003	0.162	6,528	7.7E-04			
27.0		15	1	125	37	25.0	28.0	1.538	1.460	0.94	0.85	0.98	1.20	20.1	54	9.0	29.1	0.91	0.380	0.559	0.68	3.0	23.1	1.36	0.33	1.030	1,396	0.548	0.0004	0.164	6,286	9.9E-04			
29.0		20	1	125	37	27.5	30.5	1.694	1.538	0.93	0.83	1.00	1.27	28.0	63	10.0	38.0	0.89	1.400	0.587	2.38	10.0	38.0	0.00	0.00	1.135	1,601	0.597	0.0004	0.168	5,932	8.1E-04			
34.0		27	1	125	37	30.0	33.0	1.850	1.616	0.92	0.81	1.00	1.30	37.9	74	10.0	47.9	0.84	1.400	0.638	2.19	10.0	47.9	0.00	0.00	1.240	1,807	0.644	0.0004	0.172	5,626	6.9E-04			
37.5		40	1	125	37	35.0	38.0	2.163	1.773	0.89	0.77	1.00	1.30	53.6	87	10.0	63.6	0.81	1.400	0.683	2.05	10.0	63.6	0.00	0.00	1.449	2,147	0.729	0.0003	0.180	5,123	5.8E-04			
41.0		46	1	125	5	37.5	40.5	2.319	1.851	0.87	0.76	1.00	1.30	60.3	93	0.0	60.3	0.80	1.400	0.699	2.00	0.0	60.3	0.00	0.00	1.554	2,185	0.765	0.0004	0.184	4,913	6.0E-04			
45.0		19	1	125	49	42.5	45.5	2.632	2.008	0.83	0.73	1.00	1.22	22.4	57	9.5	31.9	0.83	1.400	0.673	2.08	9.5	31.9	0.00	0.00	1.763	1,883	0.824	0.0004	0.193	4,554	8.9E-04			
52.5		37	1	125	35	47.5	50.5	2.944	2.164	0.78	0.70	1.00	1.30	44.8	80	10.0	54.8	0.75	1.400	0.721	1.94	10.0	54.8	0.00	0.00	1.972	2,385	0.867	0.0004	0.201	4,258	5.9E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-12 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 23**



Total Thickness of Liquefiable Layers: 2.0 feet

Estimated Total Ground Subsidence: 1.1 inches

CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-4

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
8.4
Total Induced Subsidence (inches)
1.6

EARTHQUAKE INFORMATION:

Magnitude:	7.2	7.5
PGA, g:	0.87	0.79
MSF:	1.11	
GWT, feet:	22.5	
Calc GWT, feet:	22.5	

Plot: 4
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF
Clean Sand Qc1n = C_Q*K_C*K_H*Qc
SF = $CRR_{7.5}$*Kσ/CSR

Ignore 1st/last increment into sand/silt soils: 1 yes
Ignore/remediate upper: 1.5 m
Unit Weight of unsaturated soils: 115 pcf
Unit Weight of saturated soils: 130 pcf
Limiting Ic for liquefiable soils: 2.75 Limiting Ic for K_H: 2.8

Use Moss @ P_L: 15%
Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Required SF: 1.30 Max $\Delta N_{1(60)}$ - post liquefied: 5.5
Min SF of Liquefiable Layers: 0.21 Max $\Delta N_{1(60)}$ - non liquefied: 10.0
Avg SF of Liquefiable Layers: 0.49

Depth (feet)	(m)	Tip Qc (tsf)	Friction Fs (tsf)	Friction Ratio Rf %	qc MPa	Total Unit Wt. (pcf)	Total Stress po (tsf)	Eff. Stress p'o (tsf)	rd	F %	n	Max 1.70 Cq	Q	Moss qc1 MPa	Moss Δqc MPa	Moss qc_{1mod} MPa	Moss eff K_c	Qc1n	Ic	Override	Liquef. Suscept. (0 or 1)	Rel. Dens. Dr (%)	K_C	K_H	Clean Sand Qc1n	1.0 Kσ	CRR	Induced M=7.5 CSR	Liquefac. Safety Factor	Qc1n $N_{1(60)}$ Ratio	Equiv. $N_{1(60)}$	FC Adj $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	*Volumetric Strain (%)*
0.49	0.15	10.27	0.19	1.88	0.98	115	0.028	0.028	1.000	1.89	0.82	1.70	16.45	1.67	1.45	3.13		16.50	2.71		0			1.00		1.00		0.341	Non-Liq.	3.7	4.5			0.00
0.98	0.30	25.77	0.12	0.45	2.47	115	0.057	0.057	1.000	0.46	0.62	1.70	41.31	4.19	0.00	4.19		41.40	2.05		0			1.00		1.00		0.341	Non-Liq.	5.0	8.3			0.00
1.48	0.45	25.87	0.20	0.75	2.48	115	0.085	0.085	0.999	0.76	0.65	1.70	41.43	4.21	0.27	4.48		41.56	2.15		0			1.00		1.00		0.340	Non-Liq.	4.8	8.7			0.00
1.97	0.60	33.37	0.24	0.73	3.20	115	0.113	0.113	0.997	0.73	0.62	1.70	53.43	5.43	0.24	5.67		53.61	2.05		0			1.00		1.00		0.340	Non-Liq.	5.0	10.8			0.00
2.46	0.75	26.80	0.19	0.72	2.57	115	0.141	0.141	0.996	0.72	0.65	1.70	42.84	4.36	0.23	4.59		43.06	2.13		0			1.00		1.00		0.340	Non-Liq.	4.8	8.9			0.00
2.95	0.90	24.30	0.13	0.54	2.33	115	0.170	0.170	0.995	0.55	0.64	1.70	38.77	3.96	0.04	4.00		39.05	2.11		0			1.00		1.00		0.339	Non-Liq.	4.9	8.0			0.00
3.44	1.05	18.80	0.45	2.39	1.80	115	0.198	0.198	0.994	2.42	0.78	1.70	29.89	3.06	1.99	5.05		30.21	2.56		0			1.00		1.00		0.339	Non-Liq.	4.0	7.6			0.00
3.94	1.20	19.40	0.82	4.22	1.86	115	0.226	0.226	0.993	4.27	0.82	1.70	30.81	3.16	3.90	7.06		31.17	2.71		0			1.00		1.00		0.338	Non-Liq.	3.7	8.4			0.00
4.43	1.35	21.17	0.91	4.28	2.03	115	0.255	0.255	0.992	4.33	0.81	1.70	33.60	3.45	3.96	7.40		34.01	2.69		0			1.00		1.00		0.338	Non-Liq.	3.7	9.1			0.00
4.92	1.50	31.77	1.13	3.57	3.04	115	0.283	0.283	0.990	3.60	0.76	1.70	50.59	5.13	3.21	8.34	1.63	51.04	2.50		1	49	2.79	1.00	142.5	1.00	0.349	0.338	Non-Liq.	4.1	12.5	10.0	22.5	0.13
5.41	1.65	54.57	1.79	3.28	5.23	115	0.311	0.311	0.989	3.30	0.70	1.70	87.18	7.85	2.91	10.76	1.37	87.68	2.32		1	71	2.00	1.00	175.2	1.00	Infin.	0.337	Non-Liq.	4.5	19.6	10.0	29.6	0.07
5.91	1.80	52.40	1.75	3.33	5.02	115	0.340	0.340	0.988	3.36	0.71	1.70	83.65	7.35	2.97	10.32	1.40	84.20	2.33		1	70	2.06	1.00	173.3	1.00	Infin.	0.337	Non-Liq.	4.4	19.0	10.0	29.0	0.07
6.40	1.95	22.07	0.90	4.09	2.11	115	0.368	0.368	0.987	4.16	0.81	1.70	34.87	3.37	3.76	7.13		35.46	2.66		0			1.00		1.00		0.336	Non-Liq.	3.8	9.4			0.00
6.89	2.10	11.90	0.50	4.16	1.14	115	0.396	0.396	0.986	4.30	0.88	1.70	18.48	1.94	3.83	5.76		19.12	2.88		0			1.00		1.00		0.336	Non-Liq.	3.4	5.7			0.00
7.38	2.25	14.00	0.43	3.04	1.34	115	0.424	0.424	0.985	3.13	0.84	1.70	21.81	2.43	2.65	5.08		24.10	2.74		0			1.07		1.00		0.336	Non-Liq.	3.6	6.6			0.00
7.87	2.40	8.27	0.35	4.27	0.79	115	0.453	0.453	0.984	4.52	0.93	1.70	12.56	1.35	3.94	5.29		13.28	3.02		0			1.00		1.00		0.335	Non-Liq.	3.1	4.3			0.00
8.37	2.55	14.20	0.39	2.75	1.36	115	0.481	0.481	0.983	2.84	0.83	1.70	22.04	2.16	2.35	4.51		22.90	2.71		0			1.00		1.00		0.335	Non-Liq.	3.7	6.2			0.00
8.86	2.70	21.90	0.58	2.64	2.10	115	0.509	0.509	0.982	2.70	0.79	1.70	34.37	3.01	2.23	5.24	1.74	35.19	2.54		1	33	3.00	1.00	105.5	1.00	0.189	0.335	Non-Liq.	4.0	8.8	10.0	18.8	0.23
9.35	2.85	24.57	0.76	3.09	2.35	115	0.538	0.538	0.981	3.16	0.79	1.70	38.61	3.20	2.70	5.90	1.84	39.47	2.55		1	38	3.03	1.00	119.8	1.00	0.240	0.334	Non-Liq.	4.0	9.8	10.0	19.8	0.20
9.84	3.00	23.03	0.80	3.47	2.21	115	0.566	0.566	0.979	3.56	0.81	1.66	35.27	2.93	3.10	6.03	2.06	36.16	2.61		1	35	3.42	1.00	123.5	1.00	0.255	0.334	Non-Liq.	3.9	9.3	10.0	19.3	0.22
10.33	3.15	32.80	0.79	2.41	3.14	115	0.594	0.594	0.978	2.46	0.75	1.54	46.82	4.04	2.00	6.03	1.49	47.69	2.42		1	46	2.37	1.00	113.2	1.00	0.215	0.334	Non-Liq.	4.3	11.2	10.0	21.2	0.18
10.83	3.30	50.03	0.68	1.36	4.79	115	0.623	0.623	0.977	1.37	0.66	1.42	66.18	6.08	0.89	6.97	1.15	67.01	2.14		1	60	1.52	1.00	102.1	1.00	0.179	0.333	Non-Liq.	4.8	13.9	6.5	20.4	0.20
11.32	3.45	65.77	0.61	0.92	6.30	115	0.651	0.651	0.976	0.93	0.60	1.34	82.38	7.91	0.44	8.35	1.06	83.21	1.96		1	69	1.25	1.00	103.8	1.00	0.184	0.333	Non-Liq.	5.2	16.1	4.7	20.8	0.19
11.81	3.60	43.60	0.70	1.60	4.18	115	0.679	0.679	0.975	1.62	0.69	1.36	55.08	5.09	1.14	6.23	1.22	55.95	2.24		1	53	1.78	1.00	99.7	1.00	0.172	0.332	Non-Liq.	4.6	12.1	7.8	19.9	0.21
12.30	3.75	37.57	0.80	2.13	3.60	115	0.707	0.707	0.974	2.17	0.73	1.34	46.76	4.28	1.69	5.97	1.40	47.65	2.38		1	46	2.23	1.00	106.2	1.00	0.192	0.332	Non-Liq.	4.3	11.0	10.0	21.0	0.19
12.80	3.90	60.10	0.92	1.52	5.76	115	0.736	0.736	0.973	1.54	0.66	1.27	71.23	6.68	1.06	7.75	1.16	72.12	2.14		1	63	1.54	1.00	111.1	1.00	0.208	0.332	Non-Liq.	4.8	15.0	7.2	22.2	0.17
13.29	4.05	40.20	0.99	2.45	3.85	115	0.764	0.764	0.972	2.50	0.74	1.27	47.43	4.39	2.03	6.42		48.35	2.42		0			1.00		1.00		0.331	Non-Liq.	4.3	11.3			0.00
13.78	4.20	14.63	0.82	5.60	1.40	115	0.792	0.792	0.971	5.92	0.92	1.30	17.06	1.62	4.68	6.30		18.04	3.00		0			1.00		1.00		0.331	Non-Liq.	3.1	5.8			0.00
14.27	4.35	14.37	0.61	4.22	1.38	115	0.821	0.821	0.970	4.48	0.90	1.26	16.09	1.57	3.87	5.44		17.06	2.94		0			1.00		1.00		0.331	Non-Liq.	3.3	5.2			0.00
14.76	4.50	12.43	0.54	4.30	1.19	115	0.849	0.849	0.969	4.62	0.92	1.22	13.41	1.35	3.95	5.30		14.39	3.01		0			1.00		1.00		0.330	Non-Liq.	3.1	4.6			0.00
15.26	4.65	17.77	0.50	2.80	1.70	115	0.877	0.877	0.968	2.95	0.85	1.17	18.71	1.88	2.39	4.27		19.68	2.77		0			1.00		1.00		0.330	Non-Liq.	3.6	5.5			0.00
15.75	4.80	14.23	0.56	3.91	1.36	115	0.906	0.906	0.967	4.18	0.90	1.15	14.49	1.48	3.54	5.02		15.48	2.95		0			1.00		1.00		0.330	Non-Liq.	3.2	4.8			0.00
16.24	4.95	41.03	0.55	1.34	3.93	115	0.934	0.934	0.966	1.38	0.70	1.09	41.36	5.87	0.88	6.74		59.55	2.30		0			1.41		1.00		0.329	Non-Liq.	4.5	13.2			0.00
16.73	5.10	20.97	0.45	2.16	2.01	115	0.962	0.962	0.965	2.27	0.81	1.08	20.43	2.97	1.72	4.69		30.12	2.67		0			1.41		1.00		0.329	Non-Liq.	3.8	8.0			0.00
17.22	5.25	10.07	0.35	3.49	0.96	115	0.990	0.990	0.964	3.87	0.94	1.06	9.13	1.01	3.10	4.11		10.12	3.09		0			1.00		1.00		0.328	Non-Liq.	2.9	3.4			0.00
17.72	5.40	7.53	0.22	2.85	0.72	115	1.019	1.019	0.962	3.30	0.96	1.04	6.39	0.74	2.44	3.18		7.39	3.18		0			1.00		1.00		0.328	Non-Liq.	2.8	2.7			0.00
18.21	5.55	8.30	0.15	1.81	0.79	115	1.047	1.047	0.961	2.07	0.92	1.01	6.92	0.80	1.35	2.16		7.92	3.05		0			1.00		1.00		0.328	Non-Liq.	3.0	2.6			0.00
18.70	5.70	8.50	0.15	1.75	0.81	115	1.075	1.075	0.960	2.00	0.92	0.99	6.91	0.80	1.29	2.09		7.92	3.04		0			1.00		1.00		0.327	Non-Liq.	3.1	2.6			0.00
19.19	5.85	9.80	0.14	1.43	0.94	115	1.104	1.104	0.959	1.61	0.89	0.96	7.92	0.91	0.96	1.87		8.92	2.94		0			1.00		0.99		0.327	Non-Liq.	3.2	2.8			0.00
19.69	6.00	20.70	0.43	2.09	1.98	130	1.136	1.136	0.958	2.21	0.82	0.94	17.45	1.92	1.64	3.56		18.53	2.72		0			1.00		0.99		0.326	Non-Liq.	3.7	5.0			0.00
20.18	6.15	43.07	1.10	2.55	4.12	130	1.168	1.168	0.956	2.62	0.76	0.93	36.75	3.97	2.12	6.08	1.53	37.77	2.51		1	36	2.83	1.00	106.9	0.98	0.194	0.326	Non-Liq.	4.1	9.3	10.0	19.3	0.26
20.67	6.30	63.47	1.72	2.71	6.08	130	1.200	1.200	0.955	2.76	0.73	0.91	53.72	5.83	2.29	8.11	1.39	54.75	2.41		1	52	2.34	1.00	127.9	0.96	0.275	0.326	Non-Liq.	4.3	12.8	10.0	22.8	0.18
21.16	6.45	62.73	2.14	3.41	6.01	130	1.232	1.232	0.954	3.48	0.75	0.89	51.87	5.73	3.00	8.73	1.52	52.91	2.49		1	50	2.70	1.00	142.9	0.96	0.351	0.325	Non-Liq.	4.1	12.8	10.0	22.8	0.18
21.65	6.60	72.00	2.34	3.25	6.89	130	1.264	1.264	0.952	3.31	0.73	0.88	58.69	6.53	2.84	9.37	1.44	59.74	2.43		1	55	2.45	1.00	146.6	0.95	0.373	0.325	Non-Liq.	4.2	14.1	10.0	24.1	0.16
22.15	6.75	83.33	2.22	2.67	7.98	130	1.296	1.296	0.951	2.71	0.70	0.87	67.25	7.49	2.24	9.73	1.30	68.31	2.33		1	61	2.05	1.00	139.9	0.94	0.335	0.324	Non-Liq.	4.4	15.4	10.0	25.4	0.15
22.64	6.90	102.47	2.11	2.06	9.81	130	1.328	1.328	0.950	2.08	0.66	0.86	82.28	9.13	1.84	10.97	1.20	83.36	2.19		1	69	1.64	1.00	136.4	0.93	0.316	0.486	Non-Liq.	4.7	17.7	9.6	27.3	0.00
23.13	7.05	107.40	2.18	2.03	10.28	130	1.359	1.348	0.948	2.05	0.66	0.85	85.54	9.53	1.81	11.34	1.19	86.62	2.17		1	71	1.60	1.00	138.4	0.91	0.327	0.489	**0.61**	4.7	18.2	5.5	23.7	1.24
23.62	7.20	82.23	2.09	2.54	7.87	130	1.391	1.364	0.946	2.58	0.70	0.84	63.94	7.27	2.43	9.69	1.33	65.02	2.33		1	59	2.05	1.00	133.4	0.93	0.301	0.494	**0.56**	4.4	14.7	5.5	20.2	1.48

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Override	Liquef. Suscept.	Rel Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_c	Qc1n	Ic		(0 or 1)	Dr (%)	K_c	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
24.11	7.35	51.40	1.59	3.09	4.92	130	1.423	1.381	0.945	3.17	0.77	0.82	38.55	4.49	3.09	7.58	1.69	39.61	2.55		1	38	3.05	1.00	120.6	0.95	0.243	0.498	0.46	4.0	9.9	5.5	15.4	1.87
24.61	7.50	75.93	1.43	1.89	7.27	130	1.455	1.397	0.943	1.92	0.68	0.83	58.23	6.58	1.66	8.24	1.25	59.32	2.27		1	55	1.87	1.00	110.6	0.92	0.206	0.502	0.38	4.5	13.0	5.5	18.5	1.60
25.10	7.65	163.70	1.92	1.17	15.68	130	1.487	1.414	0.941	1.18	0.57	0.85	130.08	14.18	0.81	14.99	1.06	131.21	1.87		1	88	1.16	1.00	152.8	0.89	0.412	0.506	0.72	5.3	24.6	5.5	30.1	0.75
25.59	7.80	185.07	2.29	1.24	17.72	130	1.519	1.431	0.940	1.25	0.56	0.84	146.49	16.05	0.89	16.93	1.06	147.64	1.85		1	93	1.15	1.00	169.3	0.89	Infin.	0.510	Non-Liq.	5.4	27.5	6.4	33.9	0.00
26.08	7.95	175.53	2.08	1.18	16.81	130	1.551	1.447	0.938	1.19	0.56	0.84	137.91	15.12	0.83	15.94	1.05	139.06	1.86		1	91	1.15	1.00	160.1	0.88	Infin.	0.514	Non-Liq.	5.4	25.9	6.1	32.0	0.00
26.57	8.10	120.53	1.96	1.62	11.54	130	1.583	1.464	0.936	1.64	0.63	0.82	91.76	10.36	1.36	11.72	1.13	92.89	2.08		1	74	1.42	1.00	132.1	0.88	0.294	0.518	0.50	4.9	18.9	5.5	24.4	1.21
27.07	8.25	161.43	2.10	1.30	15.46	130	1.615	1.481	0.934	1.31	0.58	0.82	124.37	13.82	0.97	14.79	1.07	125.52	1.92		1	86	1.21	1.00	151.5	0.87	0.403	0.521	0.68	5.2	23.9	5.5	29.4	0.83
27.56	8.40	288.97	2.20	0.76	27.67	130	1.647	1.497	0.932	0.77	0.50	0.84	228.40	24.43	0.32	24.75	1.01	229.59	1.57		1	100	1.00	1.00	229.6	0.87	Infin.	0.524	Non-Liq.	5.9	38.7	7.2	45.9	0.00
28.05	8.55	320.07	2.33	0.73	30.65	130	1.679	1.514	0.930	0.73	0.50	0.84	251.71	26.96	0.28	27.24	1.01	252.90	1.52		1	100	1.00	1.00	252.9	0.87	Infin.	0.527	Non-Liq.	6.0	42.0	8.5	50.6	0.00
28.54	8.70	292.63	2.03	0.69	28.02	130	1.711	1.530	0.928	0.70	0.50	0.83	228.76	24.43	0.23	24.66	1.01	229.97	1.54		1	100	1.00	1.00	230.0	0.86	Infin.	0.530	Non-Liq.	6.0	38.4	7.6	46.0	0.00
29.04	8.85	272.60	1.76	0.65	26.10	130	1.743	1.547	0.925	0.65	0.50	0.83	211.86	22.53	0.18	22.71	1.01	213.07	1.54		1	100	1.00	1.00	213.1	0.86	Infin.	0.533	Non-Liq.	6.0	35.6	7.0	42.6	0.00
29.53	9.00	229.90	1.80	0.78	22.02	130	1.775	1.564	0.923	0.79	0.50	0.82	177.21	19.03	0.35	19.38	1.02	178.42	1.66		1	100	1.01	1.00	179.7	0.86	Infin.	0.536	Non-Liq.	5.8	31.0	4.9	35.9	0.00
30.02	9.15	193.60	1.69	0.87	18.54	130	1.807	1.580	0.920	0.88	0.53	0.81	146.65	15.97	0.46	16.43	1.03	147.86	1.75		1	93	1.07	1.00	158.2	0.85	0.448	0.538	0.71	5.6	26.5	5.1	31.6	0.58
30.51	9.30	213.63	1.50	0.70	20.46	130	1.839	1.597	0.918	0.71	0.50	0.81	162.90	17.39	0.25	17.64	1.01	164.12	1.65		1	97	1.00	1.00	164.9	0.85	Infin.	0.541	Non-Liq.	5.8	28.5	4.5	33.0	0.00
31.00	9.45	281.70	1.47	0.52	26.98	130	1.871	1.614	0.915	0.52	0.50	0.81	214.36	22.60	0.02	22.63	1.00	215.59	1.48		1	100	1.00	1.00	215.6	0.84	Infin.	0.543	Non-Liq.	6.1	35.3	7.8	43.1	0.00
31.50	9.60	293.10	1.88	0.64	28.07	130	1.903	1.630	0.913	0.65	0.50	0.81	221.93	23.78	0.18	23.96	1.01	223.17	1.52		1	100	1.00	1.00	223.2	0.84	Infin.	0.545	Non-Liq.	6.0	37.1	7.5	44.6	0.00
31.99	9.75	296.93	2.36	0.80	28.43	130	1.935	1.647	0.910	0.80	0.50	0.80	223.70	24.34	0.36	24.70	1.01	224.95	1.59		1	100	1.00	1.00	224.9	0.84	Infin.	0.547	Non-Liq.	5.9	38.2	6.8	45.0	0.00
32.48	9.90	343.63	2.41	0.70	32.91	130	1.967	1.664	0.907	0.70	0.50	0.80	257.77	27.98	0.25	28.23	1.01	259.02	1.50		1	100	1.00	1.00	259.0	0.83	Infin.	0.548	Non-Liq.	6.1	42.8	9.0	51.8	0.00
32.97	10.05	394.97	2.46	0.62	37.82	130	1.999	1.680	0.904	0.62	0.50	0.79	294.98	31.94	0.15	32.09	1.00	296.24	1.43		1	100	1.00	1.00	296.2	0.83	Infin.	0.550	Non-Liq.	6.2	47.7	10.0	57.7	0.00
33.46	10.20	392.23	2.46	0.63	37.56	130	2.031	1.697	0.901	0.63	0.50	0.79	291.47	31.61	0.16	31.76	1.00	292.74	1.43		1	100	1.00	1.00	292.7	0.83	Infin.	0.551	Non-Liq.	6.2	47.3	10.0	57.3	0.00
33.96	10.35	409.63	2.49	0.61	39.23	130	2.063	1.713	0.898	0.61	0.50	0.79	302.97	32.87	0.13	33.01	1.00	304.24	1.41		1	100	1.00	1.00	304.2	0.82	Infin.	0.553	Non-Liq.	6.2	48.8	10.0	58.8	0.00
34.45	10.50	403.60	2.24	0.55	38.65	130	2.095	1.730	0.894	0.56	0.50	0.78	297.03	32.04	0.07	32.10	1.00	298.31	1.39		1	100	1.00	1.00	298.3	0.82	Infin.	0.554	Non-Liq.	6.3	47.5	10.0	57.5	0.00
34.94	10.65	406.37	1.67	0.41	38.91	130	2.127	1.747	0.891	0.41	0.50	0.78	297.64	31.37	0.00	31.37	1.00	298.92	1.30		1	100	1.00	1.00	298.9	0.82	Infin.	0.555	Non-Liq.	5.5	54.0	5.8	59.8	0.00
35.43	10.80	412.60	1.59	0.39	39.51	130	2.159	1.763	0.888	0.39	0.50	0.77	300.78	31.57	0.00	31.57	1.00	302.08	1.28		1	100	1.00	1.00	302.1	0.82	Infin.	0.556	Non-Liq.	5.5	54.6	5.8	60.4	0.00
35.93	10.95	465.90	2.50	0.54	44.61	130	2.191	1.780	0.884	0.54	0.50	0.77	338.20	36.69	0.04	36.73	1.00	339.50	1.34		1	100	1.00	1.00	339.5	0.81	Infin.	0.556	Non-Liq.	6.4	53.2	10.0	63.2	0.00
36.42	11.10	488.23	3.63	0.74	46.75	130	2.223	1.797	0.880	0.75	0.50	0.77	352.82	39.33	0.30	39.63	1.01	354.12	1.43		1	100	1.00	1.00	354.1	0.81	Infin.	0.557	Non-Liq.	6.2	57.1	10.0	67.1	0.00
36.91	11.25	367.27	3.18	0.87	35.17	130	2.255	1.813	0.877	0.87	0.50	0.76	263.85	29.52	0.45	29.97	1.02	265.16	1.56		1	100	1.00	1.00	265.2	0.81	Infin.	0.557	Non-Liq.	5.9	44.7	8.4	53.0	0.00
37.40	11.40	387.37	2.05	0.53	37.09	130	2.287	1.830	0.873	0.53	0.50	0.76	277.08	29.94	0.04	29.97	1.00	278.40	1.40		1	100	1.00	1.00	278.4	0.80	Infin.	0.558	Non-Liq.	6.3	44.5	10.0	54.5	0.00
37.89	11.55	400.73	1.65	0.41	38.37	130	2.319	1.847	0.869	0.41	0.50	0.76	285.38	30.19	0.00	30.19	1.00	286.70	1.31		1	100	1.00	1.00	286.7	0.80	Infin.	0.558	Non-Liq.	6.4	44.6	10.0	54.6	0.00
38.39	11.70	344.57	1.59	0.46	33.00	130	2.351	1.863	0.865	0.46	0.50	0.75	244.09	25.97	0.00	25.97	1.00	245.42	1.40		1	100	1.00	1.00	245.4	0.80	Infin.	0.558	Non-Liq.	6.3	39.2	9.9	49.1	0.00
38.88	11.85	361.30	1.57	0.43	34.60	130	2.383	1.880	0.861	0.44	0.50	0.75	254.86	27.03	0.00	27.03	1.00	256.19	1.37		1	100	1.00	1.00	256.2	0.79	Infin.	0.558	Non-Liq.	6.3	40.5	10.0	50.5	0.00
39.37	12.00	368.73	1.55	0.42	35.31	130	2.415	1.896	0.857	0.42	0.50	0.75	258.98	27.43	0.00	27.43	1.00	260.32	1.35		1	100	1.00	1.00	260.3	0.79	Infin.	0.558	Non-Liq.	6.3	41.0	10.0	51.0	0.00
39.86	12.15	370.50	1.57	0.42	35.48	130	2.447	1.913	0.852	0.43	0.50	0.74	259.08	27.48	0.00	27.48	1.00	260.42	1.36		1	100	1.00	1.00	260.4	0.79	Infin.	0.557	Non-Liq.	6.3	41.1	10.0	51.1	0.00
40.35	12.30	374.20	1.57	0.42	35.83	130	2.479	1.930	0.848	0.42	0.50	0.74	260.54	27.63	0.00	27.63	1.00	261.89	1.35		1	100	1.00	1.00	261.9	0.79	Infin.	0.557	Non-Liq.	6.4	41.2	10.0	51.2	0.00
40.85	12.45	330.50	2.24	0.68	31.65	130	2.511	1.946	0.843	0.68	0.50	0.74	228.96	25.32	0.22	25.54	1.01	230.31	1.53		1	100	1.00	1.00	230.3	0.78	Infin.	0.556	Non-Liq.	6.0	38.4	7.7	46.1	0.00
41.34	12.60	212.90	2.63	1.23	20.39	130	2.543	1.963	0.839	1.25	0.56	0.71	140.72	16.74	0.91	17.65	1.05	142.02	1.86		1	91	1.16	1.00	164.4	0.78	Infin.	0.556	Non-Liq.	5.3	26.6	6.3	32.9	0.00
41.83	12.75	79.23	2.80	3.53	7.59	130	2.575	1.980	0.834	3.62	0.76	0.62	45.50	6.34	3.75	10.09	1.59	46.66	2.54		1	45	2.98	1.00	138.8	0.88	0.329	0.555	0.52	4.0	11.6	5.5	17.1	1.73
42.32	12.90	80.87	3.36	4.15	7.74	130	2.607	1.996	0.830	4.26	0.77	0.61	45.76	6.52	4.51	11.03	1.69	46.92	2.59		1	45	3.25	1.00	152.4	0.88	0.409	0.554	0.65	3.9	11.9	5.5	17.4	1.70
42.81	13.05	77.63	3.40	4.38	7.43	130	2.639	2.013	0.825	4.50	0.78	0.61	43.33	6.25	4.80	11.05	1.77	44.48	2.62		1	43	3.46	1.00	153.8	0.88	0.418	0.553	0.67	3.9	11.5	5.5	17.0	1.73
43.31	13.20	620.17	6.98	1.13	59.39	130	2.671	2.030	0.820	1.13	0.50	0.72	421.84	50.07	0.77	50.84	1.02	423.22	1.53		1	100	1.00	1.00	423.2	0.77	Infin.	0.552	Non-Liq.	6.0	70.5	10.0	80.5	0.00
43.80	13.35	400.97	8.63	2.15	38.40	130	2.703	2.046	0.816	2.16	0.57	0.69	259.11	33.17	2.04	35.21	1.06	260.44	1.88		1	100	1.17	1.00	304.9	0.77	Infin.	0.551	Non-Liq.	5.3	49.0	10.0	59.0	0.00
44.29	13.50	327.77	4.30	1.31	31.39	130	2.735	2.063	0.811	1.32	0.53	0.70	215.61	25.99	1.00	26.99	1.04	216.97	1.76		1	100	1.08	1.00	233.6	0.77	Infin.	0.550	Non-Liq.	5.6	39.0	7.7	46.7	0.00
44.78	13.65	369.57	1.91	0.52	35.39	130	2.767	2.079	0.806	0.52	0.50	0.71	247.76	27.04	0.02	27.06	1.00	249.16	1.43		1	100	1.00	1.00	249.2	0.76	Infin.	0.548	Non-Liq.	6.2	40.2	9.7	49.8	0.00
45.28	13.80	388.50	1.78	0.46	37.20	130	2.799	2.096	0.801	0.46	0.50	0.71	259.48	28.02	0.00	28.02	1.00	260.88	1.38		1	100	1.00	1.00	260.9	0.76	Infin.	0.547	Non-Liq.	6.3	41.4	10.0	51.4	0.00
45.77	13.95	338.60	1.58	0.47	32.42	130	2.831	2.113	0.796	0.47	0.50	0.71	225.07	24.21	0.00	24.21	1.00	226.48	1.43		1	100	1.00	1.00	226.5	0.76	Infin.	0.545	Non-Liq.	6.2	36.5	8.8	45.3	0.00
46.26	14.10	335.13	1.36	0.41	32.09	130	2.863	2.129	0.791	0.41	0.50	0.70	221.86	23.48	0.00	23.48	1.00	223.28	1.40		1	100	1.00	1.00	223.3	0.76	Infin.	0.544	Non-Liq.	6.3	35.7	9.0	44.7	0.00
46.75	14.25	351.90	1.36	0.39	33.70	130	2.895	2.146	0.786	0.39	0.50	0.70	232.12	24.47	0.00	24.47	1.00	233.54	1.37		1	100	1.00	1.00	233.5	0.75	Infin.	0.542	Non-Liq.	6.3	37.0	9.7	46.7	0.00
47.24	14.40	308.73	1.66	0.54	29.56	130	2.927	2.163	0.781	0.54	0.50	0.70	202.68	22.11	0.05	22.16	1.00	204.11	1.50		1	100	1.00	1.00	204.1	0.75	Infin.	0.540	Non-Liq.	6.1	33.7	7.1	40.8	0.00
47.74	14.55	287.70	2.28	0.79	27.55	130	2.959	2.179	0.776	0.80	0.50	0.70	188.04	21.33	0.36	21.69	1.02	189.47	1.64		1	100	1.00	1.00	189.5	0.75	Infin.	0.539	Non-Liq.	5.8	32.7	5.2	37.9	0.00
48.23	14.70	349.23	2.47	0.71	33.44	130	2.991	2.196	0.771	0.71	0.50	0.69	227.68	25.79	0.25	26.04	1.01	229.12	1.55		1	100	1.00	1.00	229.1	0.75	Infin.	0.537	Non-Liq.	6.0	38.4	7.5	45.8	0.00
48.72	14.85	390.13	2.27	0.58	37.36	130	3.023	2.212	0.766	0.58	0.50	0.69	253.55	28.30	0.10	28.40	1.00	254.99	1.45		1	100	1.00	1.00	255.0	0.74	Infin.	0.535	Non-Liq.	6.2	41.4	9.6	51.0	0.00
49.21	15.00	397.93	2.14	0.54	38.11	130	3.055	2.229	0.761	0.54	0.50	0.69	257.67	28.56	0.05	28.60	1.00	259.12	1.42		1	100	1.00	1.00	259.1	0.74	Infin.	0.533	Non-Liq.	6.2	41.7	10.0	51.7	0.00
49.70	15.15	379.33	1.84	0.49	36.33	130	3.087	2.246	0.756	0.49	0.50	0.69	244.64	26.75	0.00	26.75	1.00	246.09	1.41		1	100	1.00	1.00	246.1	0.74	Infin.	0.531	Non-Liq.	6.2	39.5	9.7	49.2	0.00
50.20	15.30	352.40	1.91	0.54	33.75	130	3.119	2.262	0.751	0.55	0.50	0.68	226.31	25.00	0.05	25.05	1.00	227.78	1.47		1	100	1.00	1.00	227.8	0.74	Infin.	0.529	Non-Liq.	6.1	37.2	8.3	45.6	0.00
50.69	15.45	388.50	2.26	0.58	37.20	130	3.151	2.279	0.746	0.58	0.50	0.68	248.72	27.86	0.10	27.96	1.00	250.19	1.46		1	100	1.00	1.00	250.2	0.74	Infin.	0.527	Non-Liq.	6.1	40.7	9.3	50.0	0.00
51.18	15.60	400.60	2.33	0.58	38.36	130	3.183	2.296	0.741	0.58	0.50	0.68	255.58	28.69	0.10	28.79	1.00	257.05	1.45		1	100	1.00	1.00	257.0	0.73	Infin.	0.525	Non-Liq.	6.2	41.7	9.7	51.4	0.00
51.67	15.75	409.93	2.13	0.52	39.26	130	3.215	2.312	0.736	0.52	0.50	0.68	260.61	28.94	0.02	28.96	1.00	262.09	1.41		1	100	1.00	1.00	262.1	0.73	Infin.	0.523	Non-Liq.	6.2	42.0	10.0	52.0	0.00
52.17	15.90	393.37	1.84	0.47	37.67	130	3.247	2.329	0.731	0.47	0.50	0.67	249.11	27.26	0.00	27.26	1.00	250.60	1.40		1	100	1.00	1.00	250.6	0.73	Infin.	0.521	Non-Liq.	6.3	40.0	10.0	50.0	0.00
52.66	16.05	432.07	1.71	0.40	41.37	130	3.279	2.346	0.726	0.40	0.50	0.67	272.79	29.36	0.00	29.36	1.00	274.27	1.32		1	100	1.00	1.00	274.3	0.73	Infin.	0.519	Non-Liq.	6.4	42.8	10.0	52.8	0.00
53.15	16.20	414.17	1.77	0.43	39.66	130	3.311	2.362	0.721	0.43	0.50	0.67	260.49	28.28	0.00	28.28	1.00	261.98	1.36		1	100	1.00	1.00	262.0	0.73	Infin.	0.517	Non-Liq.	6.3	41.3	10.0	51.3	0.00
53.64	16.35	381.77	1.70	0.44	36.56	130	3.343	2.379	0.716	0.45	0.50	0.67	239.14	26.00	0.00	26.00	1.00	240.64	1.40		1	100	1.00	1.00	240.6	0.72	Infin.	0.515	Non-Liq.	6.3	38.4	9.7	48.1	0.00
54.13	16.50	370.97	1.48	0.40	35.52	130	3.375	2.395	0.712	0.40	0.50	0.66	231.52	24.76	0.00	24.76	1.00	233.02	1.38		1	100	1.00	1.00	233.0	0.72	Infin.	0.513	Non-Liq.	6.3	37.0	9.6	46.6	0.00
54.63	16.65	364.13	1.46	0.40	34.87	130	3.407	2.412	0.707	0.40	0.50	0.66	226.43	24.20	0.00	24.20	1.00	227.94	1.39		1	100	1.00	1.00	227.9	0.72	Infin.	0.510	Non-Liq.	6.3	36.3	9.3	45.6	0.00
55.12	16.80	407.23	1.43	0.35	39.00	130	3.439	2.429	0.702	0.35	0.50	0.66	252.53	26.68	0.00	26.68	1.00	254.05	1.32		1	100	1.00	1.00	254.0	0.72	Infin.	0.508	Non-Liq.	6.4	39.6	10.0	49.6	0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Overide	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_c	Qc1n	Ic		(0 or 1)	Dr (%)	K_C	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
55.61	16.95	392.60	1.33	0.34	37.60	130	3.471	2.445	0.698	0.34	0.50	0.66	242.56	25.43	0.00	25.43	1.00	244.08	1.32		1	100	1.00	1.00	244.1	0.72	Infin.	0.506	**Non-Liq.**	6.4	38.1	10.0	48.1	**0.00**
56.10	17.10	364.57	1.30	0.36	34.91	130	3.503	2.462	0.693	0.36	0.50	0.66	224.36	23.59	0.00	23.59	1.00	225.89	1.36		1	100	1.00	1.00	225.9	0.71	Infin.	0.504	**Non-Liq.**	6.3	35.7	9.5	45.2	**0.00**
56.59	17.25	228.67	1.28	0.56	21.90	130	3.535	2.479	0.689	0.57	0.50	0.65	139.52	15.26	0.07	15.34	1.00	141.05	1.64		1	91	1.00	1.00	141.0	0.71	0.341	0.502	**0.48**	5.8	24.4	3.8	28.2	**1.00**
57.09	17.40	84.67	1.26	1.48	8.11	130	3.567	2.495	0.684	1.53	0.68	0.56	43.15	5.87	1.18	7.05	1.20	44.46	2.31		1	43	1.98	1.00	88.2	0.84	0.144	0.500	**0.24**	4.5	9.9	5.5	15.4	**1.86**
57.58	17.55	49.03	1.13	2.30	4.70	130	3.599	2.512	0.680	2.42	0.78	0.51	22.39	3.37	2.15	5.51	1.64	23.60	2.66		1	17	3.70	1.00	87.4	0.84	0.142	0.498	**0.24**	3.8	6.2	5.5	11.7	**2.28**
58.07	17.70	67.00	0.98	1.46	6.42	130	3.631	2.529	0.675	1.52	0.71	0.54	32.82	4.52	1.15	5.66	1.25	34.11	2.40		1	32	2.33	1.00	79.5	0.84	0.127	0.496	**0.21**	4.3	7.9	5.5	13.4	**2.07**
58.56	17.85	39.47	0.85	2.16	3.78	130	3.663	2.545	0.671	2.31	0.80	0.49	17.27	2.61	1.98	4.59		18.46	2.74		0			1.00		0.84		0.494	**Non-Liq.**	3.6	5.1			**0.00**
59.06	18.00	33.30	0.86	2.59	3.19	130	3.695	2.562	0.667	2.80	0.84	0.48	13.87	2.19	2.49	4.68		15.03	2.86		0			1.00		0.84		0.492	**Non-Liq.**	3.4	4.4			**0.00**
59.55	18.15	38.77	1.21	3.13	3.71	130	3.727	2.578	0.663	3.35	0.83	0.48	16.27	2.64	3.13	5.77		17.43	2.85		0			1.00		0.84		0.490	**Non-Liq.**	3.4	5.1			**0.00**
60.04	18.30	56.03	1.73	3.09	5.37	130	3.759	2.595	0.659	3.24	0.79	0.49	24.80	3.98	3.08	7.06		26.10	2.70		0			1.00		0.84		0.488	**Non-Liq.**	3.7	7.0			**0.00**
60.53	18.45	136.77	2.49	1.82	13.10	130	3.791	2.612	0.655	1.86	0.66	0.55	70.11	9.92	1.57	11.49	1.16	71.48	2.20		1	63	1.68	1.00	119.8	0.76	0.240	0.486	**0.38**	4.7	15.3	5.5	20.8	**1.44**
61.02	18.60	327.80	2.75	0.84	31.39	130	3.823	2.628	0.651	0.84	0.50	0.63	194.72	23.09	0.40	23.49	1.02	196.30	1.65		1	100	1.00	1.00	196.3	0.69	Infin.	0.484	**Non-Liq.**	5.8	34.0	5.3	39.3	**0.00**
61.52	18.75	392.37	2.59	0.66	37.57	130	3.855	2.645	0.647	0.66	0.50	0.63	232.97	27.07	0.19	27.26	1.01	234.55	1.52		1	100	1.00	1.00	234.6	0.69	Infin.	0.482	**Non-Liq.**	6.0	38.9	8.0	46.9	**0.00**
62.01	18.90	390.67	2.84	0.73	37.41	130	3.887	2.662	0.643	0.73	0.50	0.63	231.22	27.23	0.27	27.50	1.01	232.81	1.55		1	100	1.00	1.00	232.8	0.69	Infin.	0.480	**Non-Liq.**	6.0	39.0	7.5	46.6	**0.00**
62.50	19.05	387.43	2.99	0.77	37.10	130	3.919	2.678	0.640	0.78	0.50	0.63	228.57	27.14	0.32	27.46	1.01	230.16	1.57		1	100	1.00	1.00	230.2	0.69	Infin.	0.479	**Non-Liq.**	5.9	38.9	7.2	46.0	**0.00**
62.99	19.20	364.50	3.03	0.83	34.90	130	3.951	2.695	0.636	0.84	0.50	0.63	214.27	25.61	0.39	26.00	1.02	215.87	1.61		1	100	1.00	1.00	215.9	0.69	Infin.	0.477	**Non-Liq.**	5.8	37.0	6.2	43.2	**0.00**
63.48	19.35	343.57	2.63	0.76	32.90	130	3.983	2.711	0.633	0.77	0.50	0.62	201.24	23.75	0.31	24.06	1.01	202.84	1.61		1	100	1.00	1.00	202.8	0.69	Infin.	0.475	**Non-Liq.**	5.8	34.7	5.9	40.6	**0.00**
63.98	19.50	291.80	1.82	0.62	27.94	130	4.015	2.728	0.629	0.63	0.50	0.62	170.15	19.35	0.14	19.50	1.01	171.76	1.60		1	99	1.00	1.00	171.8	0.68	Infin.	0.473	**Non-Liq.**	5.9	29.3	5.0	34.4	**0.00**
64.47	19.65	177.97	1.46	0.82	17.04	130	4.047	2.745	0.626	0.83	0.56	0.58	96.79	11.79	0.38	12.16	1.03	98.31	1.87		1	76	1.16	1.00	114.4	0.68	0.219	0.472	**0.32**	5.3	18.4	4.4	22.9	**1.29**

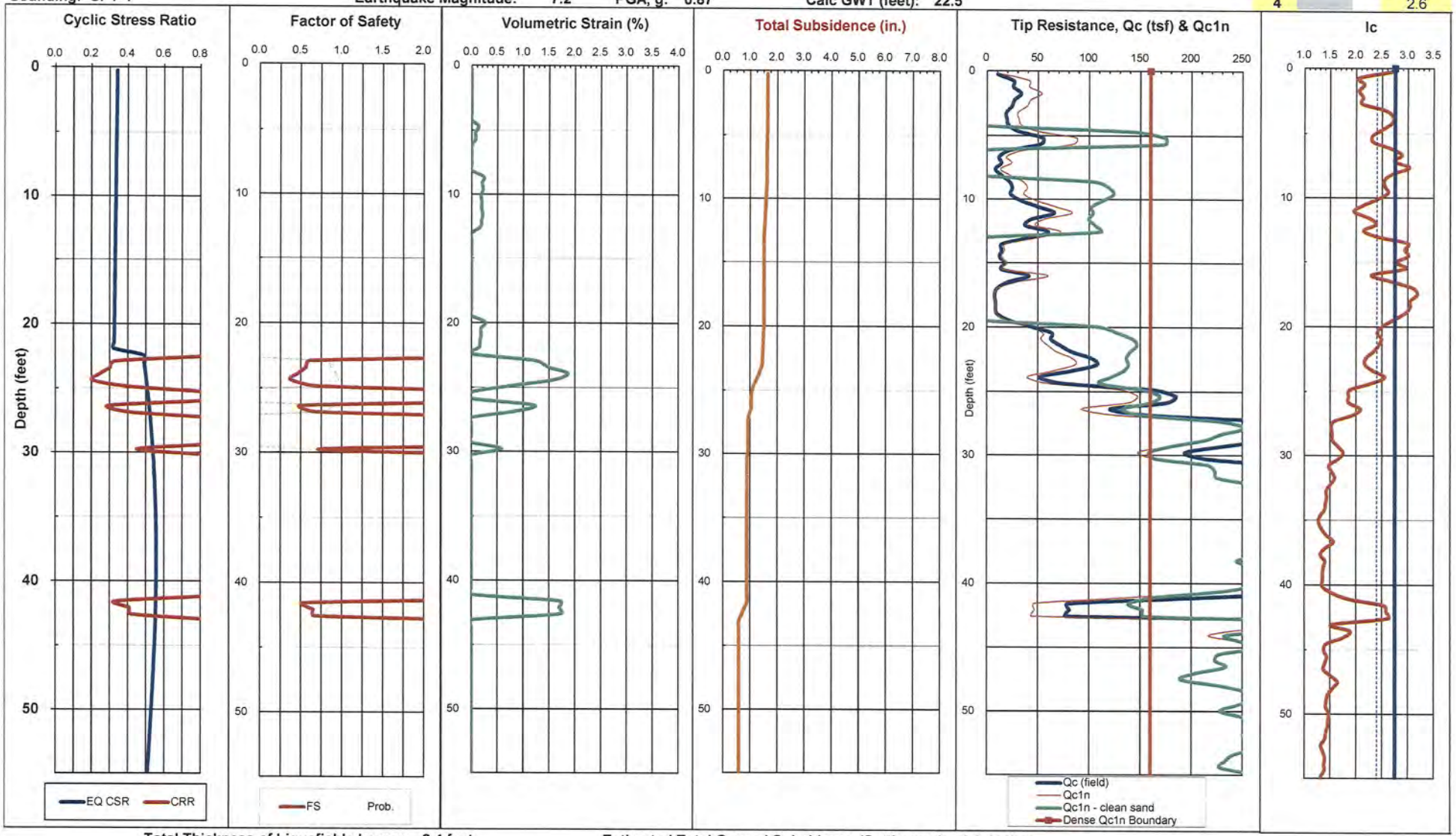
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-4 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 22.5

Plot 4 Limiting Ic: 2.6



Total Thickness of Liquefiable Layers: 8.4 feet

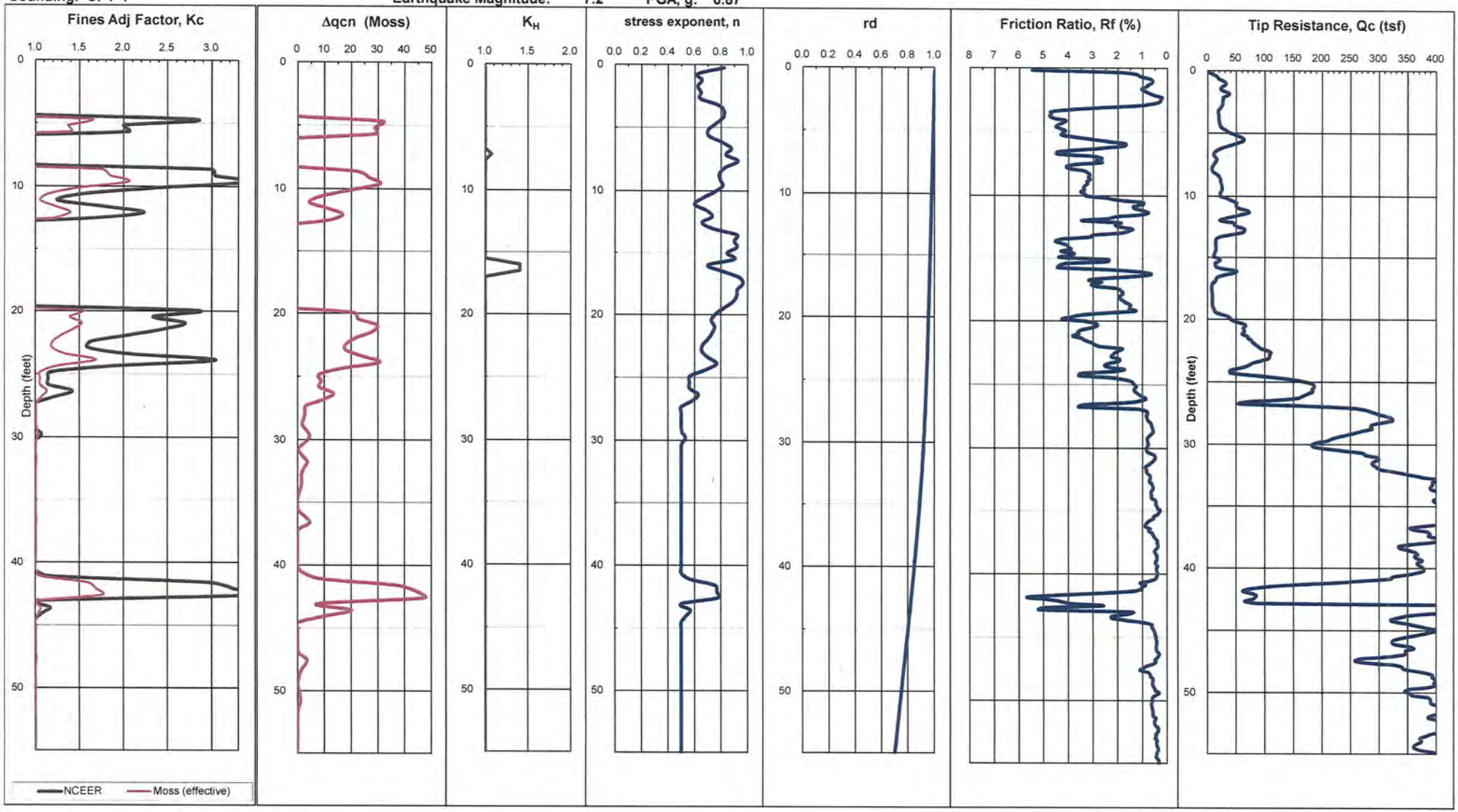
Estimated Total Ground Subsidence (Settlement): 1.6 inches

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5
Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-4 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-15 Data Set: 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT: 22.5 feet
Calc GWT: 22.5 feet
Remediate to: 5.0 feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E): 1.33 Automatic Hammer
Drive Rod Corr. (C_R): 1 Default
Rod Length above ground (feet): 3.0
Borehole Dia. Corr. (C_B): 1.00
Sampler Liner Correction for SPT?: 1 Yes
Cal Mod/ SPT Ratio: 0.63

Total (ft) Liquefied Thickness	Total (in.) Induced Subsidence
0	0.3

Required SF: 1.30
Threshold Acceler., g: 1.70 Minimum Calculated SF: 1.94

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

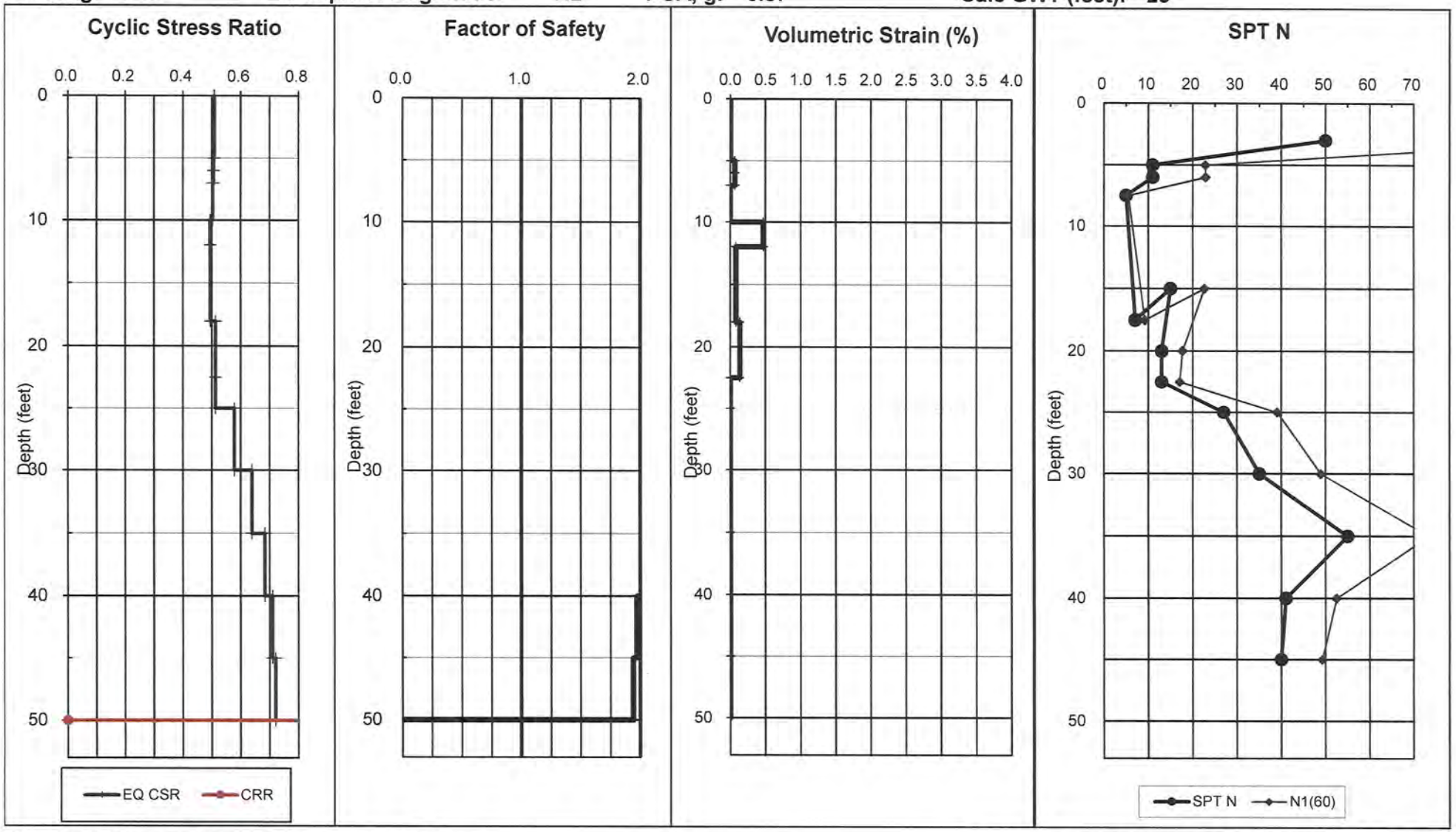
Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot.Stress at SPT po (tsf)	Eff.Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel Dens. Dr (%)	Trigger FC Adj. $\Delta N_{1(60)}$	Equiv. Sand $N_{1(60)CS}$	$K\sigma$	M = 7.5 Available CRR	M =7.5 Induced CSR*	Liquefac. Safety Factor	Post FC Adj $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric Strain (%)	Induced Subsidence (in.)	p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{15}	Strain Enc	Dry Sand Subsidence (in.)
								0.000																											
5.0		50	1	122	50	3.0	6.0	0.183	0.183	0.99	1.70	0.75	1.30	110.5	100	10.0	120.5	1.00	1.400	0.509	Non-Liq.	10.0	120.5	0.00	0.00	0.123	773	0.069	0.0001	0.129	22,546	1.5E-04	1.8E-05	1.7E-05	0.00
6.0		11	1	122	28	5.0	8.0	0.305	0.305	0.99	1.70	0.75	1.22	22.9	57	7.7	30.6	1.00	1.400	0.506	Non-Liq.	7.7	30.6	0.06	0.01	0.204	632	0.114	0.0002	0.132	16,594	5.8E-04	3.5E-04	3.2E-04	0.01
7.0		11	1	122	28	6.0	9.0	0.366	0.366	0.99	1.70	0.75	1.22	22.9	57	7.7	30.6	1.00	1.400	0.505	Non-Liq.	7.7	30.6	0.07	0.01	0.245	693	0.137	0.0002	0.134	14,875	6.1E-04	3.7E-04	3.4E-04	0.01
10.0		5		122	65	7.5	10.5	0.458	0.458	0.98	1.00	0.75	1.10	5.5				1.00	Infin.	0.503	Non-Liq.		5.5	0.00	0.00	0.307				0.136	13,011				
12.0		7	1	125	28	17.5	20.5	1.079	1.079	0.96	0.99	0.90	1.10	9.2	36	5.8	15.0	1.00	0.162	0.494	Non-Liq.	5.8	15.0	0.47	0.11	0.723	937	0.393	0.0004	0.152	7,776	1.8E-03	2.6E-03	2.3E-03	0.11
18.0		15	1	125	50	15.0	18.0	0.923	0.923	0.97	1.07	0.86	1.22	22.6	57	9.5	32.1	1.00	1.400	0.495	Non-Liq.	9.5	32.1	0.08	0.06	0.618	1,117	0.338	0.0003	0.148	8,542	7.8E-04	4.4E-04	4.1E-04	0.06
22.5		13	1	125	50	20.0	23.0	1.235	1.235	0.96	0.93	0.93	1.18	17.7	50	8.5	26.2	0.95	0.304	0.513	Non-Liq.	8.5	26.2	0.14	0.07	0.827	1,208	0.447	0.0004	0.156	7,170	1.0E-03	7.5E-04	6.9E-04	0.07
25.0		13	1	125	50	22.5	25.5	1.391	1.391	0.95	0.87	0.96	1.17	17.0	49	8.4	25.5	0.95	0.290	0.513	Non-Liq.	8.4	25.5	0.00	0.00	0.932	1,269	0.500	0.0004	0.160	6,676	1.1E-03			
30.0		27	1	125	5	25.0	28.0	1.548	1.470	0.94	0.85	0.98	1.30	39.1	75	0.0	39.1	0.88	1.400	0.578	2.42	0.0	39.1	0.00	0.00	1.037	1,544	0.551	0.0004	0.164	6,263	7.8E-04			
35.0		35	1	125	5	30.0	33.0	1.860	1.626	0.92	0.81	1.00	1.30	48.9	84	0.0	48.9	0.84	1.400	0.639	2.19	0.0	48.9	0.00	0.00	1.246	1,825	0.648	0.0004	0.172	5,608	6.8E-04			
40.0		55	1	125	5	35.0	38.0	2.173	1.783	0.89	0.77	1.00	1.30	73.4	100	0.0	73.4	0.81	1.400	0.684	2.05	0.0	73.4	0.00	0.00	1.456	2,259	0.732	0.0003	0.181	5,109	5.3E-04			
45.0		41	1	125	5	40.0	43.0	2.485	1.939	0.85	0.74	1.00	1.30	52.5	87	0.0	52.5	0.78	1.400	0.711	1.97	0.0	52.5	0.00	0.00	1.665	2,160	0.800	0.0004	0.189	4,713	6.5E-04			
50.0		40	1	125	5	45.0	48.0	2.798	2.096	0.80	0.71	1.00	1.30	49.3	84	0.0	49.3	0.76	1.400	0.721	1.94	0.0	49.3	0.00	0.00	1.874	2,243	0.850	0.0004	0.197	4,390	6.5E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-15 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 23**



Total Thickness of Liquefiable Layers: 0.0 feet

Estimated Total Ground Subsidence: 0.3 inches

CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-6

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
3.0
Total Induced Subsidence (inches)
0.6

EARTHQUAKE INFORMATION:
Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT, feet: 22.5
Calc GWT, feet: 22.5

Plot: 6
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF
Clean Sand Qc1n = C_Q*K_C*K_H*Qc
SF = $CRR_{7.5}$*Kσ/CSR

Ignore 1st/last increment into sand/silt soils: 1 yes
Ignore/remediate upper: 1.5 m
Unit Weight of unsaturated soils: 115 pcf
Unit Weight of saturated soils: 130 pcf
Limiting Ic for liquefiable soils: 2.75 Limiting Ic for K_H: 2.8

Use Moss @ P_L: 15%
Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Required SF: 1.30 Max $\Delta N_{1(60)}$ - post liquefied 5.5
Min SF of Liquefiable Layers: 0.29 Max $\Delta N_{1(60)}$ - non liquefied 10.0
Avg SF of Liquefiable Layers: 0.45

Depth (feet)	(m)	Tip Qc (tsf)	Friction Fs (tsf)	Friction Ratio Rf %	qc MPa	Total Unit Wt. (pcf)	Total Stress po (tsf)	Eff. Stress p'o (tsf)	rd	F %	n	Max 1.70 Cq	Q	Moss qc1 MPa	Moss Δqc MPa	Moss qc_{1mod} MPa	Moss eff K_C	Qc1n	Ic	Override	Liquef. Suscept. (0 or 1)	Rel. Dens. Dr (%)	K_C	K_H	Clean Sand Qc1n	1.0 Kσ	CRR	Induced M=7.5 CSR	Liquefac. Safety Factor	Qc1n $N_{1(60)}$ Ratio	Equiv. $N_{1(60)}$	FC Adj. $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	Volumetric Strain (%)
0.49	0.15	25.43	0.14	0.55	2.44	115	0.028	0.028	1.000	0.55	0.64	1.70	40.82	4.14	0.05	4.19		40.87	2.09		0			1.00		1.00		0.341	Non-Liq.	4.9	8.3			0.00
0.98	0.30	36.53	0.10	0.27	3.50	115	0.057	0.057	1.000	0.27	0.55	1.70	58.61	5.95	0.00	5.95		58.70	1.82		0			1.00		1.00		0.341	Non-Liq.	5.4	10.8			0.00
1.48	0.45	36.97	0.21	0.57	3.54	115	0.085	0.085	0.999	0.57	0.60	1.70	59.26	6.02	0.08	6.09		59.40	1.96		0			1.00		1.00		0.340	Non-Liq.	5.2	11.5			0.00
1.97	0.60	41.63	0.31	0.74	3.99	115	0.113	0.113	0.997	0.74	0.60	1.70	66.71	6.78	0.25	7.03		66.90	1.97		0			1.00		1.00		0.340	Non-Liq.	5.1	13.0			0.00
2.46	0.75	34.67	0.62	1.79	3.32	115	0.141	0.141	0.996	1.80	0.69	1.70	55.48	5.64	1.35	7.00		55.70	2.27		0			1.00		1.00		0.340	Non-Liq.	4.6	12.2			0.00
2.95	0.90	40.07	0.82	2.05	3.84	115	0.170	0.170	0.995	2.06	0.69	1.70	64.11	6.52	1.62	8.15		64.38	2.26		0			1.00		1.00		0.339	Non-Liq.	4.6	14.1			0.00
3.44	1.05	52.40	0.70	1.34	5.02	115	0.198	0.198	0.994	1.35	0.62	1.70	83.88	8.53	0.88	9.41		84.20	2.05		0			1.00		1.00		0.339	Non-Liq.	5.0	16.9			0.00
3.94	1.20	56.40	0.67	1.18	5.40	115	0.226	0.226	0.993	1.18	0.61	1.70	90.26	9.18	0.71	9.89		90.62	1.99		0			1.00		1.00		0.338	Non-Liq.	5.1	17.8			0.00
4.43	1.35	62.07	0.79	1.28	5.94	115	0.255	0.255	0.992	1.28	0.60	1.70	99.32	10.10	0.81	10.92		99.73	1.98		0			1.00		1.00		0.338	Non-Liq.	5.1	19.5			0.00
4.92	1.50	70.57	0.79	1.12	6.76	115	0.283	0.283	0.990	1.13	0.58	1.70	112.93	11.49	0.65	12.14	1.06	113.39	1.90		1	82	1.19	1.00	135.2	1.00	0.310	0.338	Non-Liq.	5.3	21.5	5.5	27.0	0.08
5.41	1.65	85.57	0.76	0.89	8.19	115	0.311	0.311	0.989	0.89	0.54	1.70	136.99	13.93	0.41	14.34	1.03	137.49	1.77		1	90	1.09	1.00	149.6	1.00	0.391	0.337	Non-Liq.	5.5	24.9	5.0	29.9	0.07
5.91	1.80	88.27	0.88	0.99	8.45	115	0.340	0.340	0.988	1.00	0.55	1.70	141.28	13.72	0.51	14.23	1.04	141.83	1.80		1	91	1.10	1.00	156.5	1.00	0.437	0.337	Non-Liq.	5.5	25.9	5.4	31.3	0.06
6.40	1.95	89.37	0.98	1.09	8.56	115	0.368	0.368	0.987	1.10	0.55	1.70	143.00	13.21	0.62	13.83	1.05	143.59	1.82		1	92	1.12	1.00	161.2	1.00	Infin.	0.336	Non-Liq.	5.4	26.4	5.8	32.2	0.06
6.89	2.10	87.90	1.01	1.15	8.42	115	0.396	0.396	0.986	1.16	0.56	1.70	140.60	12.54	0.68	13.22	1.05	141.24	1.84		1	91	1.14	1.00	160.8	1.00	Infin.	0.336	Non-Liq.	5.4	26.2	6.0	32.2	0.06
7.38	2.25	54.53	0.85	1.56	5.22	115	0.424	0.424	0.985	1.58	0.64	1.70	86.94	7.66	1.11	8.77	1.15	87.62	2.09		1	71	1.43	1.00	125.4	1.00	0.263	0.336	Non-Liq.	4.9	17.8	7.2	25.1	0.11
7.87	2.40	22.20	0.69	3.11	2.13	115	0.453	0.453	0.984	3.17	0.79	1.70	34.94	3.17	2.72	5.90		35.67	2.58		0			1.00		1.00		0.335	Non-Liq.	3.9	9.0			0.00
8.37	2.55	13.80	0.65	4.69	1.32	115	0.481	0.481	0.983	4.86	0.88	1.70	21.40	2.01	4.37	6.38		22.17	2.87		0			1.00		1.00		0.335	Non-Liq.	3.4	6.5			0.00
8.86	2.70	10.57	0.54	5.09	1.01	115	0.509	0.509	0.982	5.35	0.92	1.70	16.16	1.56	4.70	6.26		16.98	2.99		0			1.00		1.00		0.335	Non-Liq.	3.2	5.4			0.00
9.35	2.85	7.07	0.38	5.33	0.68	115	0.538	0.538	0.981	5.77	0.97	1.70	10.49	1.11	4.70	5.80		11.35	3.15		0			1.00		1.00		0.334	Non-Liq.	2.8	4.0			0.00
9.84	3.00	9.33	0.35	3.77	0.89	115	0.566	0.566	0.979	4.01	0.92	1.70	14.09	1.35	3.41	4.76		15.00	2.95		0			1.00		1.00		0.334	Non-Liq.	3.2	4.7			0.00
10.33	3.15	10.10	0.39	3.86	0.97	115	0.594	0.594	0.978	4.10	0.91	1.69	15.20	1.40	3.51	4.90		16.15	2.93		0			1.00		1.00		0.334	Non-Liq.	3.3	5.0			0.00
10.83	3.30	15.33	0.49	3.21	1.47	115	0.623	0.623	0.977	3.34	0.85	1.57	21.86	1.96	2.82	4.78		22.78	2.75		0			1.00		1.00		0.333	Non-Liq.	3.6	6.3			0.00
11.32	3.45	14.00	0.44	3.12	1.34	115	0.651	0.651	0.976	3.27	0.86	1.52	19.19	1.77	2.73	4.50		20.13	2.79		0			1.00		1.00		0.333	Non-Liq.	3.5	5.7			0.00
11.81	3.60	51.33	0.42	0.82	4.92	115	0.679	0.679	0.975	0.84	0.62	1.32	63.05	7.82	0.34	8.16		80.79	2.02		0			1.26		1.00		0.332	Non-Liq.	5.0	16.0			0.00
12.30	3.75	44.07	0.75	1.71	4.22	115	0.707	0.707	0.974	1.73	0.70	1.32	54.24	6.36	1.26	7.61	1.20	69.70	2.27		1	62	1.85	1.26	128.8	1.00	0.279	0.332	Non-Liq.	4.6	15.3	10.0	25.3	0.13
12.80	3.90	22.57	0.82	3.62	2.16	115	0.736	0.736	0.973	3.74	0.83	1.35	27.91	3.22	3.25	6.47		36.48	2.70		0			1.26		1.00		0.332	Non-Liq.	3.7	9.8			0.00
13.29	4.05	20.80	0.91	4.35	1.99	115	0.764	0.764	0.972	4.52	0.86	1.32	25.04	2.30	4.01	6.31		25.99	2.79		0			1.00		1.00		0.331	Non-Liq.	3.5	7.4			0.00
13.78	4.20	16.43	1.04	6.31	1.57	115	0.792	0.792	0.971	6.63	0.92	1.30	19.27	1.80	4.68	6.48		20.25	2.99		0			1.00		1.00		0.331	Non-Liq.	3.1	6.4			0.00
14.27	4.35	14.13	0.80	5.68	1.35	115	0.821	0.821	0.970	6.03	0.93	1.27	15.92	1.54	4.68	6.22		16.90	3.02		0			1.00		1.00		0.331	Non-Liq.	3.1	5.5			0.00
14.76	4.50	31.60	0.99	3.14	3.03	115	0.849	0.849	0.969	3.22	0.79	1.19	34.60	3.82	2.74	6.56		40.98	2.59		0			1.15		1.00		0.330	Non-Liq.	3.9	10.4			0.00
15.26	4.65	32.87	1.45	4.40	3.15	115	0.877	0.877	0.968	4.52	0.82	1.17	35.25	3.89	4.05	7.93	2.04	41.75	2.69		1	41	3.89	1.15	162.5	1.00	Infin.	0.330	Non-Liq.	3.7	11.2	10.0	21.2	0.20
15.75	4.80	46.07	1.48	3.22	4.41	115	0.906	0.906	0.967	3.28	0.76	1.13	48.04	5.37	2.82	8.20	1.53	56.49	2.49		1	53	2.73	1.15	154.3	1.00	0.422	0.330	Non-Liq.	4.1	13.7	10.0	23.7	0.15
16.24	4.95	63.13	1.20	1.91	6.05	115	0.934	0.934	0.966	1.93	0.68	1.09	64.03	7.30	1.46	8.76		74.91	2.24		0			1.15		1.00		0.329	Non-Liq.	4.6	16.3			0.00
16.73	5.10	20.70	0.86	4.16	1.98	115	0.962	0.962	0.965	4.37	0.87	1.09	20.26	2.07	3.80	5.87		21.25	2.85		0			1.00		1.00		0.329	Non-Liq.	3.4	6.2			0.00
17.22	5.25	7.60	0.53	6.93	0.73	115	0.990	0.990	0.964	7.97	1.00	1.07	6.67	0.76	4.67	5.43		7.67	3.39		0			1.00		1.00		0.328	Non-Liq.	2.4	3.2			0.00
17.72	5.40	6.90	0.26	3.70	0.66	115	1.019	1.019	0.962	4.34	1.00	1.04	5.77	0.68	3.31	3.99		6.77	3.28		0			1.00		1.00		0.328	Non-Liq.	2.6	2.6			0.00
18.21	5.55	7.60	0.21	2.81	0.73	115	1.047	1.047	0.961	3.26	0.96	1.01	6.26	0.73	2.39	3.12		7.26	3.19		0			1.00		1.00		0.328	Non-Liq.	2.8	2.6			0.00
18.70	5.70	7.73	0.20	2.61	0.74	115	1.075	1.075	0.960	3.03	0.96	0.98	6.20	0.73	2.18	2.91		7.20	3.17		0			1.00		1.00		0.327	Non-Liq.	2.8	2.6			0.00
19.19	5.85	13.87	0.40	2.86	1.33	115	1.104	1.104	0.959	3.11	0.89	0.96	11.62	1.30	2.44	3.74		12.62	2.95		0			1.00		0.99		0.327	Non-Liq.	3.2	3.9			0.00
19.69	6.00	52.20	1.01	1.93	5.00	130	1.136	1.136	0.958	1.97	0.71	0.95	45.89	6.15	1.47	7.62		59.31	2.36		0			1.26		0.99		0.326	Non-Liq.	4.4	13.5			0.00
20.18	6.15	60.60	1.77	2.92	5.80	130	1.168	1.168	0.956	2.98	0.74	0.93	52.24	7.10	2.50	9.60		67.35	2.44		0			1.26		0.98		0.326	Non-Liq.	4.2	15.9			0.00
20.67	6.30	37.30	2.20	5.91	3.57	130	1.200	1.200	0.955	6.10	0.85	0.90	30.67	3.43	4.65	8.08		31.69	2.82		0			1.00		0.98		0.326	Non-Liq.	3.5	9.1			0.00
21.16	6.45	29.20	2.19	7.49	2.80	130	1.232	1.232	0.954	7.82	0.90	0.87	23.07	2.66	4.65	7.31		24.08	2.98		0			1.00		0.97		0.325	Non-Liq.	3.2	7.6			0.00
21.65	6.60	47.57	2.16	4.54	4.56	130	1.264	1.264	0.952	4.66	0.80	0.87	37.94	4.32	4.17	8.49		39.12	2.67		0			1.00		0.97		0.325	Non-Liq.	3.8	10.4			0.00
22.15	6.75	83.60	2.27	2.71	8.01	130	1.296	1.296	0.951	2.75	0.70	0.87	67.45	7.52	2.28	9.80	1.30	68.51	2.33		1	61	2.06	1.00	141.3	0.94	0.342	0.324	Non-Liq.	4.4	15.5	10.0	25.5	0.15
22.64	6.90	96.50	2.10	2.18	9.24	130	1.328	1.328	0.950	2.21	0.67	0.86	77.24	8.60	1.99	10.59	1.23	78.31	2.22		1	67	1.73	1.00	135.4	0.93	0.311	0.486	Non-Liq.	4.6	16.9	10.0	26.9	0.00
23.13	7.05	71.73	1.95	2.71	6.87	130	1.359	1.348	0.948	2.76	0.72	0.84	55.88	6.35	2.63	8.98	1.41	56.95	2.39		1	53	2.29	1.00	130.2	0.93	0.285	0.489	**0.54**	4.3	13.2	5.5	18.7	1.59
23.62	7.20	71.77	2.03	2.82	6.87	130	1.391	1.364	0.946	2.88	0.73	0.83	55.34	6.34	2.77	9.11	1.44	56.41	2.41		1	53	2.35	1.00	132.5	0.93	0.296	0.494	**0.56**	4.3	13.2	5.5	18.7	1.59

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Overide	Liquef. Suscept.	Rel Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_c	Qc1n	Ic		(0 or 1)	Dr (%)	K_c	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
24.11	7.35	233.23	2.17	0.93	22.33	130	1.423	1.381	0.945	0.94	0.51	0.87	191.18	20.36	0.52	20.87	1.03	192.32	1.68		1	100	1.03	1.00	197.4	0.90	Infin.	0.498	Non-Liq.	5.7	33.7	5.8	39.5	0.00
24.61	7.50	230.07	2.53	1.10	22.03	130	1.455	1.397	0.943	1.11	0.53	0.86	186.49	20.11	0.72	20.83	1.04	187.63	1.74		1	100	1.07	1.00	200.1	0.89	Infin.	0.502	Non-Liq.	5.6	33.6	6.4	40.0	0.00
25.10	7.65	212.33	2.68	1.26	20.33	130	1.487	1.414	0.941	1.27	0.55	0.85	169.92	18.55	0.92	19.47	1.05	171.06	1.81		1	99	1.12	1.00	191.0	0.89	Infin.	0.506	Non-Liq.	5.4	31.4	6.8	38.2	0.00
25.59	7.80	213.30	2.37	1.11	20.43	130	1.519	1.431	0.940	1.12	0.54	0.85	170.19	18.48	0.74	19.22	1.04	171.34	1.77		1	99	1.09	1.00	186.4	0.89	Infin.	0.510	Non-Liq.	5.5	31.0	6.3	37.3	0.00
26.08	7.95	196.60	2.22	1.13	18.83	130	1.551	1.447	0.938	1.14	0.55	0.84	155.33	16.95	0.76	17.71	1.04	156.48	1.81		1	95	1.11	1.00	173.9	0.88	Infin.	0.514	Non-Liq.	5.5	28.7	6.1	34.8	0.00
26.57	8.10	170.57	2.39	1.40	16.33	130	1.583	1.464	0.936	1.41	0.58	0.83	132.29	14.72	1.09	15.81	1.07	133.43	1.92		1	89	1.21	1.00	161.6	0.88	Infin.	0.518	Non-Liq.	5.2	25.5	6.8	32.3	0.00
27.07	8.25	87.37	2.23	2.55	8.37	130	1.615	1.481	0.934	2.60	0.70	0.79	64.13	7.54	2.49	10.03		65.24	2.33		0			1.00		0.93		0.521	Non-Liq.	4.4	14.7			0.00
27.56	8.40	22.80	1.45	6.34	2.18	130	1.647	1.497	0.932	6.78	0.92	0.73	14.63	1.91	5.47	7.37		15.66	3.09		0			1.00		0.93		0.524	Non-Liq.	3.0	5.3			0.00
28.05	8.55	86.80	1.10	1.26	8.31	130	1.679	1.514	0.930	1.29	0.64	0.79	64.06	7.24	0.93	8.17		65.44	2.13		0			1.00		0.93		0.527	Non-Liq.	4.8	13.5			0.00
28.54	8.70	234.97	1.56	0.66	22.50	130	1.711	1.530	0.928	0.67	0.50	0.83	183.45	19.44	0.20	19.64	1.01	184.65	1.60		1	100	1.00	1.00	184.6	0.86	Infin.	0.530	Non-Liq.	5.9	31.4	5.5	36.9	0.00
29.04	8.85	262.37	2.02	0.77	25.12	130	1.743	1.547	0.925	0.78	0.50	0.83	203.86	21.87	0.33	22.20	1.02	205.07	1.61		1	100	1.00	1.00	205.1	0.86	Infin.	0.533	Non-Liq.	5.9	35.0	6.0	41.0	0.00
29.53	9.00	248.97	2.23	0.89	23.84	130	1.775	1.564	0.923	0.90	0.51	0.82	191.69	20.81	0.48	21.29	1.02	192.90	1.67		1	100	1.02	1.00	196.3	0.86	Infin.	0.536	Non-Liq.	5.7	33.7	5.6	39.3	0.00
30.02	9.15	238.70	2.28	0.95	22.86	130	1.807	1.580	0.920	0.96	0.52	0.81	181.99	19.92	0.55	20.47	1.03	183.20	1.71		1	100	1.04	1.00	190.8	0.85	Infin.	0.538	Non-Liq.	5.7	32.4	5.8	38.2	0.00
30.51	9.30	241.97	2.20	0.91	23.17	130	1.839	1.597	0.918	0.91	0.51	0.81	183.88	20.07	0.50	20.57	1.02	185.10	1.69		1	100	1.03	1.00	190.5	0.85	Infin.	0.541	Non-Liq.	5.7	32.5	5.6	38.1	0.00
31.00	9.45	270.23	1.81	0.67	25.88	130	1.871	1.614	0.915	0.68	0.50	0.81	205.58	22.02	0.21	22.23	1.01	206.82	1.56		1	100	1.00	1.00	206.8	0.84	Infin.	0.543	Non-Liq.	5.9	34.8	6.5	41.4	0.00
31.50	9.60	285.10	1.52	0.53	27.30	130	1.903	1.630	0.913	0.54	0.50	0.81	215.84	22.82	0.04	22.86	1.00	217.08	1.48		1	100	1.00	1.00	217.1	0.84	Infin.	0.545	Non-Liq.	6.1	35.6	7.8	43.4	0.00
31.99	9.75	323.00	1.68	0.52	30.93	130	1.935	1.647	0.910	0.52	0.50	0.80	243.45	25.82	0.03	25.85	1.00	244.69	1.43		1	100	1.00	1.00	244.7	0.84	Infin.	0.547	Non-Liq.	6.2	39.5	9.4	48.9	0.00
32.48	9.90	353.57	2.04	0.58	33.86	130	1.967	1.664	0.907	0.58	0.50	0.80	265.25	28.44	0.09	28.54	1.00	266.51	1.44		1	100	1.00	1.00	266.5	0.83	Infin.	0.548	Non-Liq.	6.2	43.1	10.0	53.1	0.00
32.97	10.05	322.37	2.31	0.72	30.87	130	1.999	1.680	0.904	0.72	0.50	0.79	240.52	26.13	0.27	26.40	1.01	241.78	1.53		1	100	1.00	1.00	241.8	0.83	Infin.	0.550	Non-Liq.	6.0	40.3	8.1	48.4	0.00
33.46	10.20	317.27	2.07	0.65	30.38	130	2.031	1.697	0.901	0.65	0.50	0.79	235.52	25.45	0.19	25.64	1.01	236.79	1.51		1	100	1.00	1.00	236.8	0.83	Infin.	0.551	Non-Liq.	6.0	39.2	8.2	47.4	0.00
33.96	10.35	313.07	1.62	0.52	29.98	130	2.063	1.713	0.898	0.52	0.50	0.79	231.25	24.59	0.02	24.61	1.00	232.52	1.45		1	100	1.00	1.00	232.5	0.82	Infin.	0.553	Non-Liq.	6.2	37.7	8.8	46.5	0.00
34.45	10.50	314.83	1.55	0.49	30.15	130	2.095	1.730	0.894	0.49	0.50	0.78	231.42	24.53	0.00	24.53	1.00	232.70	1.43		1	100	1.00	1.00	232.7	0.82	Infin.	0.554	Non-Liq.	6.2	37.6	8.9	46.5	0.00
34.94	10.65	361.80	1.90	0.52	34.65	130	2.127	1.747	0.891	0.53	0.50	0.78	264.86	28.37	0.03	28.40	1.00	266.14	1.41		1	100	1.00	1.00	266.1	0.82	Infin.	0.555	Non-Liq.	6.2	42.6	10.0	52.6	0.00
35.43	10.80	425.50	2.19	0.52	40.75	130	2.159	1.763	0.888	0.52	0.50	0.77	310.23	33.41	0.02	33.43	1.00	311.52	1.35		1	100	1.00	1.00	311.5	0.82	Infin.	0.556	Non-Liq.	6.3	49.1	10.0	59.1	0.00
35.93	10.95	404.13	2.18	0.54	38.70	130	2.191	1.780	0.884	0.54	0.50	0.77	293.19	31.67	0.05	31.72	1.00	294.49	1.38		1	100	1.00	1.00	294.5	0.81	Infin.	0.556	Non-Liq.	6.3	46.8	10.0	56.8	0.00
36.42	11.10	378.17	2.23	0.59	36.21	130	2.223	1.797	0.880	0.59	0.50	0.77	272.99	29.66	0.11	29.77	1.00	274.29	1.43		1	100	1.00	1.00	274.3	0.81	Infin.	0.557	Non-Liq.	6.2	44.3	10.0	54.3	0.00
36.91	11.25	373.90	2.03	0.54	35.80	130	2.255	1.813	0.877	0.55	0.50	0.76	268.64	29.02	0.05	29.07	1.00	269.95	1.41		1	100	1.00	1.00	269.9	0.81	Infin.	0.557	Non-Liq.	6.2	43.3	10.0	53.3	0.00
37.40	11.40	356.27	1.59	0.45	34.12	130	2.287	1.830	0.873	0.45	0.50	0.76	254.73	27.01	0.00	27.01	1.00	256.05	1.37		1	100	1.00	1.00	256.0	0.80	Infin.	0.558	Non-Liq.	6.3	40.6	10.0	50.6	0.00
37.89	11.55	297.67	1.19	0.40	28.50	130	2.319	1.847	0.869	0.40	0.50	0.76	211.64	22.06	0.00	22.06	1.00	212.97	1.41		1	100	1.00	1.00	213.0	0.80	Infin.	0.558	Non-Liq.	6.2	34.1	8.4	42.6	0.00
38.39	11.70	198.77	0.91	0.46	19.03	130	2.351	1.863	0.865	0.46	0.50	0.75	140.24	14.58	0.00	14.58	1.00	141.57	1.59		1	91	1.00	1.00	141.6	0.80	0.344	0.558	**0.49**	5.9	24.1	4.2	28.3	1.00
38.88	11.85	95.50	1.06	1.11	9.15	130	2.383	1.880	0.861	1.14	0.63	0.69	61.49	7.26	0.76	8.02		62.73	2.11		0			1.00		0.89		0.558	Non-Liq.	4.9	12.9			0.00
39.37	12.00	20.43	1.36	6.65	1.96	130	2.415	1.896	0.857	7.33	0.95	0.57	10.06	1.54	5.57	7.11		11.09	3.23		0			1.00		0.89		0.558	Non-Liq.	2.7	4.1			0.00
39.86	12.15	32.27	1.00	3.10	3.09	130	2.447	1.913	0.852	3.29	0.84	0.61	17.49	2.43	3.22	5.64		18.60	2.82		0			1.00		0.89		0.557	Non-Liq.	3.5	5.4			0.00
40.35	12.30	11.33	0.56	4.97	1.09	130	2.479	1.930	0.848	5.99	1.00	0.55	4.87	0.77	5.53	6.30		5.87	3.42		0			1.00		0.89		0.557	Non-Liq.	2.3	2.6			0.00
40.85	12.45	26.43	0.51	1.91	2.53	130	2.511	1.946	0.843	2.06	0.82	0.61	14.02	1.87	1.75	3.61		15.14	2.78		0			1.00		0.89		0.556	Non-Liq.	3.6	4.3			0.00
41.34	12.60	42.37	0.86	2.02	4.06	130	2.543	1.963	0.839	2.12	0.77	0.62	23.70	3.14	1.88	5.02		24.95	2.60		0			1.00		0.88		0.556	Non-Liq.	3.9	6.4			0.00
41.83	12.75	140.77	1.24	0.88	13.48	130	2.575	1.980	0.834	0.89	0.58	0.70	91.45	10.51	0.47	10.98	1.04	92.75	1.91		1	74	1.20	1.00	111.1	0.78	0.207	0.555	**0.29**	5.3	17.6	4.6	22.2	1.34
42.32	12.90	270.43	1.28	0.47	25.90	130	2.607	1.996	0.830	0.48	0.50	0.73	184.71	19.61	0.00	19.61	1.00	186.08	1.50		1	100	1.00	1.00	186.1	0.78	Infin.	0.554	Non-Liq.	6.1	30.7	6.5	37.2	0.00
42.81	13.05	294.77	1.44	0.49	28.23	130	2.639	2.013	0.825	0.49	0.50	0.72	200.61	21.46	0.00	21.46	1.00	201.99	1.48		1	100	1.00	1.00	202.0	0.77	Infin.	0.553	Non-Liq.	6.1	33.1	7.3	40.4	0.00
43.31	13.20	288.60	1.54	0.53	27.64	130	2.671	2.030	0.820	0.54	0.50	0.72	195.57	21.11	0.04	21.15	1.00	196.95	1.51		1	100	1.00	1.00	197.0	0.77	Infin.	0.552	Non-Liq.	6.0	32.6	6.8	39.4	0.00
43.80	13.35	277.87	1.51	0.54	26.61	130	2.703	2.046	0.816	0.55	0.50	0.72	187.46	20.26	0.05	20.32	1.00	188.85	1.53		1	100	1.00	1.00	188.9	0.77	Infin.	0.551	Non-Liq.	6.0	31.5	6.3	37.8	0.00
44.29	13.50	302.00	1.36	0.45	28.92	130	2.735	2.063	0.811	0.45	0.50	0.72	203.03	21.60	0.00	21.60	1.00	204.43	1.46		1	100	1.00	1.00	204.4	0.77	Infin.	0.550	Non-Liq.	6.1	33.3	7.6	40.9	0.00
44.78	13.65	315.27	1.11	0.35	30.19	130	2.767	2.079	0.806	0.35	0.50	0.71	211.15	21.86	0.00	21.86	1.00	212.55	1.38		1	100	1.00	1.00	212.6	0.76	Infin.	0.548	Non-Liq.	6.3	33.8	8.7	42.5	0.00
45.28	13.80	281.93	0.97	0.34	27.00	130	2.799	2.096	0.801	0.35	0.50	0.71	187.92	19.29	0.00	19.29	1.00	189.32	1.42		1	100	1.00	1.00	189.3	0.76	Infin.	0.547	Non-Liq.	6.2	30.4	7.4	37.9	0.00
45.77	13.95	294.47	1.07	0.36	28.20	130	2.831	2.113	0.796	0.37	0.50	0.71	195.55	20.26	0.00	20.26	1.00	196.96	1.42		1	100	1.00	1.00	197.0	0.76	Infin.	0.545	Non-Liq.	6.2	31.6	7.8	39.4	0.00
46.26	14.10	328.20	1.26	0.38	31.43	130	2.863	2.129	0.791	0.38	0.50	0.70	217.24	22.79	0.00	22.79	1.00	218.66	1.39		1	100	1.00	1.00	218.7	0.76	Infin.	0.544	Non-Liq.	6.3	34.8	8.9	43.7	0.00
46.75	14.25	318.97	1.57	0.49	30.54	130	2.895	2.146	0.786	0.50	0.50	0.70	210.26	22.72	0.00	22.72	1.00	211.69	1.47		1	100	1.00	1.00	211.7	0.75	Infin.	0.542	Non-Liq.	6.1	34.6	7.8	42.3	0.00
47.24	14.40	309.97	2.11	0.68	29.68	130	2.927	2.163	0.781	0.69	0.50	0.70	203.49	22.78	0.22	23.00	1.01	204.92	1.57		1	100	1.00	1.00	204.9	0.75	Infin.	0.540	Non-Liq.	5.9	34.6	6.4	41.0	0.00
47.74	14.55	302.83	2.77	0.91	29.00	130	2.959	2.179	0.776	0.92	0.51	0.69	196.85	22.82	0.51	23.33	1.02	198.28	1.67		1	100	1.02	1.00	201.6	0.75	Infin.	0.539	Non-Liq.	5.7	34.6	5.7	40.3	0.00
48.23	14.70	309.07	3.34	1.08	29.60	130	2.991	2.196	0.771	1.09	0.52	0.68	198.08	23.62	0.71	24.33	1.03	199.49	1.72		1	100	1.05	1.00	209.6	0.75	Infin.	0.537	Non-Liq.	5.6	35.4	6.5	41.9	0.00
48.72	14.85	359.83	3.44	0.96	34.46	130	3.023	2.212	0.766	0.96	0.50	0.69	233.74	27.33	0.56	27.89	1.02	235.19	1.63		1	100	1.00	1.00	235.2	0.74	Infin.	0.535	Non-Liq.	5.8	40.5	6.5	47.0	0.00
49.21	15.00	413.13	2.87	0.69	39.56	130	3.055	2.229	0.761	0.70	0.50	0.69	267.57	30.55	0.24	30.78	1.01	269.02	1.49		1	100	1.00	1.00	269.0	0.74	Infin.	0.533	Non-Liq.	6.1	44.2	9.6	53.8	0.00
49.70	15.15	405.53	2.39	0.59	38.83	130	3.087	2.246	0.756	0.59	0.50	0.69	261.63	29.35	0.11	29.46	1.00	263.09	1.45		1	100	1.00	1.00	263.1	0.74	Infin.	0.531	Non-Liq.	6.2	42.7	9.9	52.6	0.00
50.20	15.30	396.07	2.54	0.64	37.93	130	3.119	2.262	0.751	0.64	0.50	0.68	254.54	28.82	0.17	29.00	1.01	256.00	1.48		1	100	1.00	1.00	256.0	0.74	Infin.	0.529	Non-Liq.	6.1	42.0	9.2	51.2	0.00
50.69	15.45	439.83	2.36	0.54	42.12	130	3.151	2.279	0.746	0.54	0.50	0.68	281.78	31.46	0.04	31.51	1.00	283.25	1.40		1	100	1.00	1.00	283.3	0.74	Infin.	0.527	Non-Liq.	6.3	45.2	10.0	55.2	0.00
51.18	15.60	432.13	1.88	0.44	41.38	130	3.183	2.296	0.741	0.44	0.50	0.68	275.81	30.01	0.00	30.01	1.00	277.28	1.34		1	100	1.00	1.00	277.3	0.73	Infin.	0.525	Non-Liq.	6.4	43.5	10.0	53.5	0.00
51.67	15.75	426.13	1.56	0.36	40.81	130	3.215	2.312	0.736	0.37	0.50	0.68	270.97	28.78	0.00	28.78	1.00	272.45	1.30		1	100	1.00	1.00	272.4	0.73	Infin.	0.523	Non-Liq.	5.5	49.2	5.2	54.5	0.00
52.17	15.90	349.73	1.37	0.39	33.49	130	3.247	2.329	0.731	0.39	0.50	0.67	221.32	23.47	0.00	23.47	1.00	222.80	1.39		1	100	1.00	1.00	222.8	0.73	Infin.	0.521	Non-Liq.	6.3	35.5	9.1	44.6	0.00
52.66	16.05	279.20	1.52	0.54	26.74	130	3.279	2.346	0.726	0.55	0.50	0.67	175.75	19.25	0.05	19.31	1.00	177.24	1.56		1	100	1.00	1.00	177.2	0.73	Infin.	0.519	Non-Liq.	6.0	29.8	5.7	35.4	0.00
53.15	16.20	305.90	1.60	0.52	29.29	130	3.311	2.362	0.721	0.53	0.50	0.67	192.01	21.05	0.03	21.08	1.00	193.50	1.52		1	100	1.00	1.00	193.5	0.73	Infin.	0.517	Non-Liq.	6.0	32.1	6.6	38.7	0.00
53.64	16.35	310.20	1.55	0.50	29.70	130	3.343	2.379	0.716	0.50	0.50	0.67	194.03	21.16	0.00	21.16	1.00	195.53	1.50		1	100	1.00	1.00	195.5	0.72	Infin.	0.515	Non-Liq.	6.1	32.2	6.9	39.1	0.00
54.13	16.50	326.83	1.71	0.52	31.30	130	3.375	2.395	0.712	0.53	0.50	0.66	203.80	22.45	0.03	22.48	1.00	205.30	1.49		1	100	1.00	1.00	205.3	0.72	Infin.	0.513	Non-Liq.	6.1	33.8	7.2	41.1	0.00
54.63	16.65	348.37	2.06	0.59	33.36	130	3.407	2.412	0.707	0.60	0.50	0.66	216.56	24.34	0.11	24.45	1.00	218.07	1.51		1	100	1.00	1.00	218.1	0.72	Infin.	0.510	Non-Liq.	6.0	36.1	7.5	43.6	0.00
55.12	16.80	352.67	2.20	0.62	33.77	130	3.439	2.429	0.702	0.63	0.50	0.66	218.49	24.75	0.15	24.90	1.01	220.01	1.52		1	100	1.00	1.00	220.0	0.72	Infin.	0.508	Non-Liq.	6.0	36.5	7.5	44.0	0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Overide	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv.	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_C	Qc1n	Ic		(0 or 1)	Dr (%)	K_C	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
55.61	16.95	359.27	2.17	0.60	34.40	130	3.471	2.445	0.698	0.61	0.50	0.66	221.84	25.09	0.12	25.21	1.00	223.36	1.51		1	100	1.00	1.00	223.4	0.72	Infin.	0.506	Non-Liq.	6.0	36.9	7.7	44.7	0.00
56.10	17.10	373.70	2.26	0.61	35.79	130	3.503	2.462	0.693	0.61	0.50	0.66	230.02	26.10	0.13	26.23	1.00	231.55	1.50		1	100	1.00	1.00	231.5	0.71	Infin.	0.504	Non-Liq.	6.1	38.2	8.2	46.3	0.00
56.59	17.25	391.37	2.18	0.56	37.48	130	3.535	2.479	0.689	0.56	0.50	0.65	240.15	27.05	0.07	27.12	1.00	241.68	1.46		1	100	1.00	1.00	241.7	0.71	Infin.	0.502	Non-Liq.	6.1	39.3	9.0	48.3	0.00
57.09	17.40	353.77	2.06	0.58	33.88	130	3.567	2.495	0.684	0.59	0.50	0.65	216.19	24.38	0.10	24.48	1.00	217.73	1.51		1	100	1.00	1.00	217.7	0.71	Infin.	0.500	Non-Liq.	6.1	36.0	7.6	43.5	0.00
57.58	17.55	326.50	1.96	0.60	31.27	130	3.599	2.512	0.680	0.61	0.50	0.65	198.74	22.42	0.12	22.54	1.01	200.28	1.54		1	100	1.00	1.00	200.3	0.71	Infin.	0.498	Non-Liq.	6.0	33.5	6.6	40.1	0.00
58.07	17.70	317.07	1.75	0.55	30.36	130	3.631	2.529	0.675	0.56	0.50	0.65	192.31	21.42	0.06	21.49	1.00	193.85	1.53		1	100	1.00	1.00	193.9	0.71	Infin.	0.496	Non-Liq.	6.0	32.3	6.5	38.8	0.00
58.56	17.85	329.63	2.00	0.61	31.57	130	3.663	2.545	0.671	0.61	0.50	0.64	199.33	22.57	0.13	22.69	1.01	200.88	1.54		1	100	1.00	1.00	200.9	0.70	Infin.	0.494	Non-Liq.	6.0	33.6	6.6	40.2	0.00
59.06	18.00	370.53	2.35	0.63	35.48	130	3.695	2.562	0.667	0.64	0.50	0.64	223.51	25.64	0.16	25.80	1.01	225.07	1.52		1	100	1.00	1.00	225.1	0.70	Infin.	0.492	Non-Liq.	6.0	37.4	7.6	45.0	0.00
59.55	18.15	363.23	2.26	0.62	34.78	130	3.727	2.578	0.663	0.63	0.50	0.64	218.36	24.98	0.15	25.13	1.01	219.92	1.52		1	100	1.00	1.00	219.9	0.70	Infin.	0.490	Non-Liq.	6.0	36.5	7.4	44.0	0.00
60.04	18.30	347.30	2.16	0.62	33.26	130	3.759	2.595	0.659	0.63	0.50	0.64	208.03	23.76	0.15	23.91	1.01	209.60	1.54		1	100	1.00	1.00	209.6	0.70	Infin.	0.488	Non-Liq.	6.0	35.0	6.9	41.9	0.00
60.53	18.45	330.47	2.09	0.63	31.65	130	3.791	2.612	0.655	0.64	0.50	0.64	197.23	22.53	0.16	22.69	1.01	198.80	1.56		1	100	1.00	1.00	198.8	0.70	Infin.	0.486	Non-Liq.	5.9	33.4	6.3	39.8	0.00
61.02	18.60	153.27	2.15	1.40	14.68	130	3.823	2.628	0.651	1.43	0.62	0.57	80.88	10.88	1.07	11.95	1.10	82.29	2.08		1	69	1.42	1.00	116.9	0.76	0.229	0.484	0.36	4.9	16.7	5.5	22.2	1.34
61.52	18.75	78.33	2.82	3.60	7.50	130	3.855	2.645	0.647	3.73	0.77	0.49	35.24	5.77	3.67	9.44	1.64	36.47	2.63		1	35	3.50	1.00	127.7	0.83	0.274	0.482	0.47	3.9	9.5	5.5	15.0	1.91
62.01	18.90	256.13	2.88	1.12	24.53	130	3.887	2.662	0.643	1.13	0.55	0.60	143.94	18.30	0.74	19.04	1.04	145.45	1.83		1	92	1.13	1.00	164.1	0.69	Infin.	0.480	Non-Liq.	5.4	26.9	6.0	32.8	0.00
62.50	19.05	327.13	2.33	0.71	31.33	130	3.919	2.678	0.640	0.72	0.50	0.63	192.75	22.43	0.25	22.68	1.01	194.34	1.60		1	100	1.00	1.00	194.3	0.69	Infin.	0.479	Non-Liq.	5.9	33.1	5.7	38.9	0.00
62.99	19.20	344.47	2.24	0.65	32.99	130	3.951	2.695	0.636	0.65	0.50	0.63	202.41	23.35	0.18	23.53	1.01	204.00	1.56		1	100	1.00	1.00	204.0	0.69	Infin.	0.477	Non-Liq.	5.9	34.3	6.5	40.8	0.00
63.48	19.35	347.30	2.08	0.60	33.26	130	3.983	2.711	0.633	0.60	0.50	0.62	203.45	23.24	0.12	23.35	1.00	205.05	1.53		1	100	1.00	1.00	205.0	0.69	Infin.	0.475	Non-Liq.	6.0	34.2	6.8	41.0	0.00
63.98	19.50	420.33	2.21	0.52	40.25	130	4.015	2.728	0.629	0.53	0.50	0.62	245.80	27.90	0.03	27.93	1.00	247.41	1.43		1	100	1.00	1.00	247.4	0.68	Infin.	0.473	Non-Liq.	6.2	40.0	9.5	49.5	0.00
64.47	19.65	473.00	2.90	0.61	45.29	130	4.047	2.745	0.626	0.62	0.50	0.62	275.95	32.29	0.13	32.42	1.00	277.57	1.44		1	100	1.00	1.00	277.6	0.68	Infin.	0.472	Non-Liq.	6.2	45.0	10.0	55.0	0.00

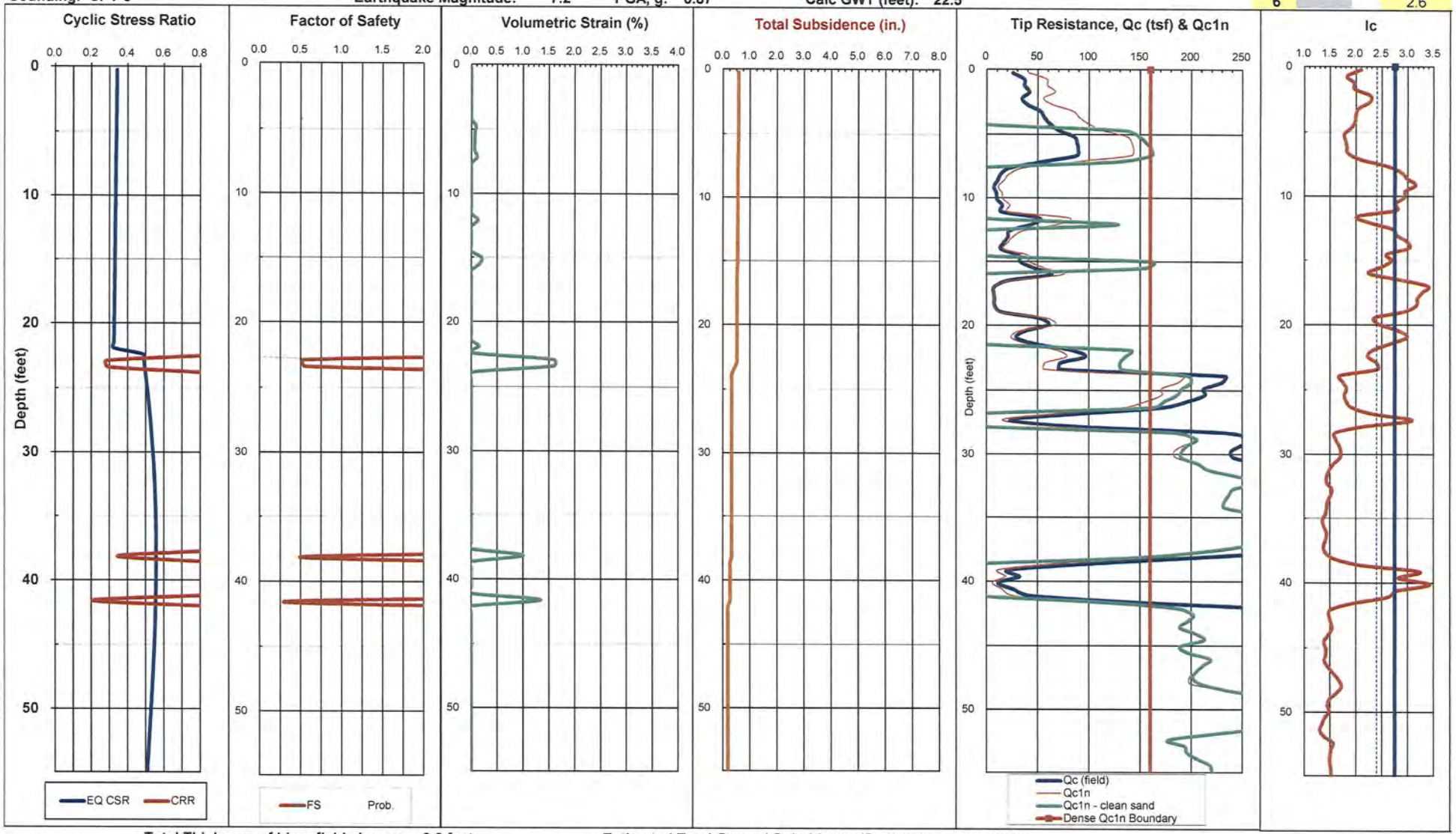
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-6 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 22.5

Plot 6 Limiting Ic: 2.6



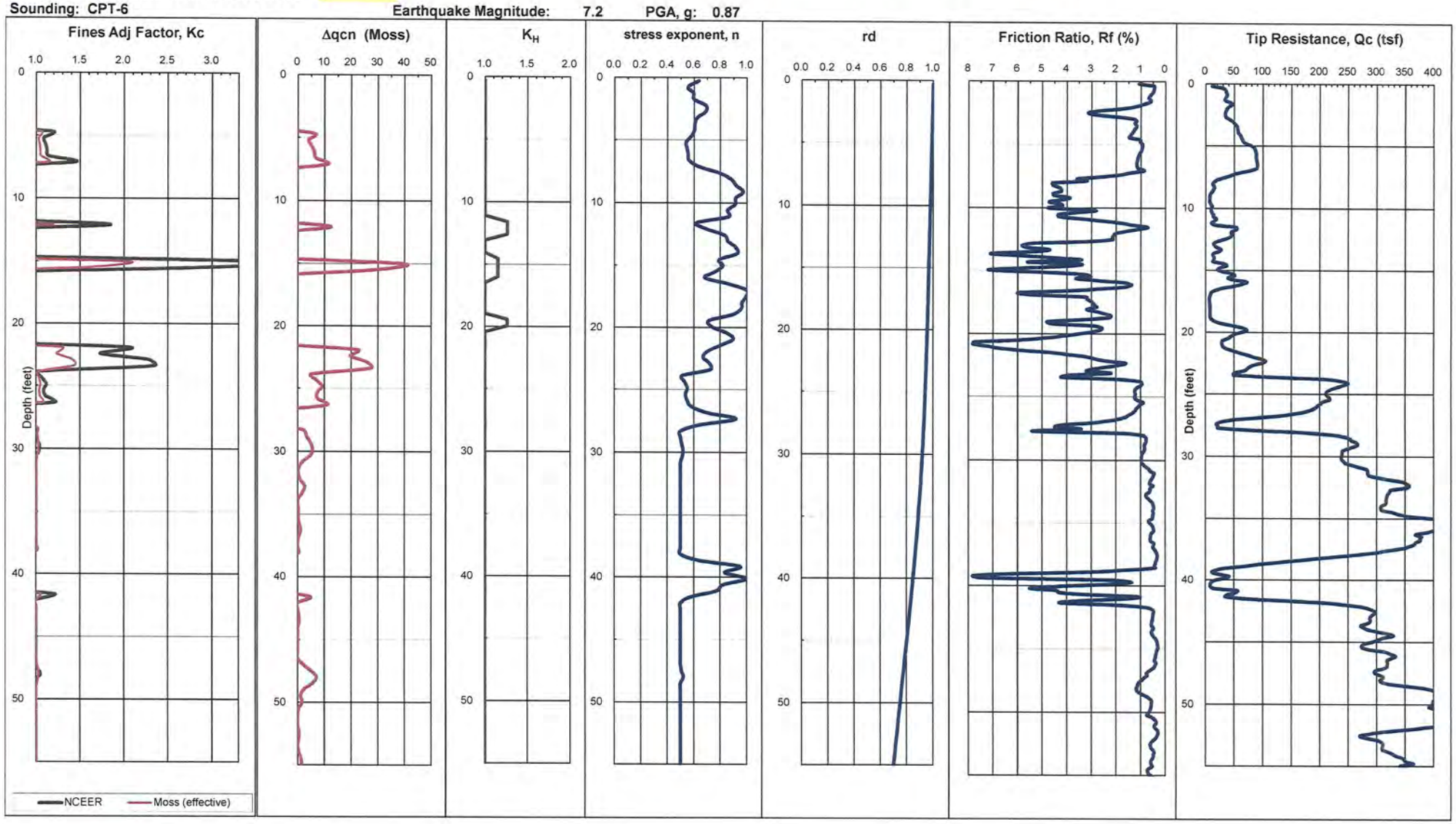
Total Thickness of Liquefiable Layers: 3.0 feet Estimated Total Ground Subsidence (Settlement): 0.6 inches

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5
Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-6 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



CPT-LIQUEFY.XLS - A SPREADSHEET FOR EMPIRICAL ESTIMATION OF LIQUEFACTION POTENTIAL USING CPT DATA
Developed 2003 by Shelton L. Stringer, GE, Earth Systems Southwest

Project: Doris and Patterson
Job No: VT-24867-10
Date: 9/28/2017
Sounding: CPT-10

Liquefaction Analysis using 1998 NCEER (Robertson & Wride) method
Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Total Liquefied Thickness (feet)
3.4
Total Induced Subsidence (inches)
0.8

EARTHQUAKE INFORMATION:
Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT, feet: 22.5
Calc GWT, feet: 22.5

Plot: 10
Method Used: 1 1998 NCEER (Robertson & Wride)
Averaging Increment: 3 0.15 m
Induced CSR (M=7.5) = 0.65*PGA*(po/p'o)*rd/MSF
Clean Sand Qc1n = C_Q*K_C*K_H*Qc
SF = $CRR_{7.5}$*Kσ/CSR

Ignore 1st/last increment into sand/silt soils: 1 yes
Ignore/remediate upper: 1.5 m
Unit Weight of unsaturated soils: 115 pcf
Unit Weight of saturated soils: 130 pcf
Limiting Ic for liquefiable soils: 2.75 Limiting Ic for K_H: 2.8

Use Moss @ P_L: 15%
Use Tokimatsu & Seed (0) or Ishihara &Yoshmine (1): 0
Required SF: 1.30 Max $\Delta N_{1(60)}$ - post liquefied 5.5
Min SF of Liquefiable Layers: 0.23 Max $\Delta N_{1(60)}$ - non liquefied 10.0
Avg SF of Liquefiable Layers: 0.37

Depth (feet)	(m)	Tip Qc (tsf)	Friction Fs (tsf)	Friction Ratio Rf %	qc MPa	Total Unit Wt. (pcf)	Total Stress po (tsf)	Eff. Stress p'o (tsf)	rd	F %	n	Max 1.70 Cq	Q	Moss qc1 MPa	Moss Δqc MPa	Moss qc_{1mod} MPa	Moss eff K_C	Qc1n	Ic	Override	Liquef. Suscept. (0 or 1)	Rel. Dens. Dr (%)	K_C	K_H	Clean Sand Qc1n	1.0 Kσ	CRR	Induced M=7.5 CSR	Liquefac. Safety Factor	Qc1n $N_{1(60)}$ Ratio	Equiv. $N_{1(60)}$	FC Adj. $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	*Volumetric Strain (%)*
0.49	0.15	21.67	0.14	0.65	2.07	115	0.028	0.028	1.000	0.65	0.66	1.70	34.77	3.53	0.15	3.68		34.81	2.19		0			1.00		1.00		0.341	Non-Liq.	4.7	7.4			0.00
0.98	0.30	49.80	0.15	0.29	4.77	115	0.057	0.057	1.000	0.29	0.52	1.70	79.93	8.11	0.00	8.11		80.02	1.71		0			1.00		1.00		0.341	Non-Liq.	5.6	14.2			0.00
1.48	0.45	52.70	0.38	0.72	5.05	115	0.085	0.085	0.999	0.72	0.57	1.70	84.54	8.58	0.23	8.81		84.68	1.88		0			1.00		1.00		0.340	Non-Liq.	5.3	15.9			0.00
1.97	0.60	44.87	0.43	0.96	4.30	115	0.113	0.113	0.997	0.96	0.61	1.70	71.91	7.30	0.48	7.79		72.09	2.01		0			1.00		1.00		0.340	Non-Liq.	5.1	14.2			0.00
2.46	0.75	36.43	0.39	1.08	3.49	115	0.141	0.141	0.996	1.08	0.64	1.70	58.31	5.93	0.61	6.54		58.54	2.12		0			1.00		1.00		0.340	Non-Liq.	4.9	12.1			0.00
2.95	0.90	37.80	0.38	1.00	3.62	115	0.170	0.170	0.995	1.01	0.63	1.70	60.46	6.15	0.53	6.68		60.74	2.08		0			1.00		1.00		0.339	Non-Liq.	4.9	12.4			0.00
3.44	1.05	79.40	0.99	1.25	7.60	115	0.198	0.198	0.994	1.25	0.58	1.70	127.26	12.93	0.78	13.71		127.58	1.90		0			1.00		1.00		0.339	Non-Liq.	5.3	24.1			0.00
3.94	1.20	68.93	1.55	2.25	6.60	115	0.226	0.226	0.993	2.26	0.65	1.70	110.40	11.22	1.84	13.06		110.76	2.12		0			1.00		1.00		0.338	Non-Liq.	4.8	22.9			0.00
4.43	1.35	29.43	0.99	3.36	2.82	115	0.255	0.255	0.992	3.39	0.76	1.70	46.88	4.79	3.00	7.79		47.29	2.51		0			1.00		1.00		0.338	Non-Liq.	4.1	11.6			0.00
4.92	1.50	15.50	0.35	2.28	1.48	115	0.283	0.283	0.990	2.32	0.79	1.70	24.45	2.52	1.86	4.39	1.74	24.91	2.62		1	19	3.43	1.00	85.5	1.00	0.138	0.338	Non-Liq.	3.9	6.4	10.0	16.4	0.28
5.41	1.65	20.87	0.27	1.28	2.00	115	0.311	0.311	0.989	1.30	0.72	1.70	33.03	3.40	0.81	4.21	1.24	33.53	2.36		1	31	2.17	1.00	72.7	1.00	0.116	0.337	Non-Liq.	4.4	7.7	6.9	14.5	0.40
5.91	1.80	25.70	0.31	1.19	2.46	115	0.340	0.340	0.988	1.20	0.69	1.70	40.75	4.18	0.72	4.90	1.17	41.29	2.27		1	40	1.85	1.00	76.6	1.00	0.122	0.337	Non-Liq.	4.6	9.1	6.2	15.3	0.35
6.40	1.95	28.93	0.41	1.40	2.77	115	0.368	0.368	0.987	1.42	0.69	1.70	45.90	4.71	0.94	5.65	1.20	46.49	2.27		1	45	1.85	1.00	86.2	1.00	0.140	0.336	Non-Liq.	4.6	10.2	7.0	17.2	0.26
6.89	2.10	32.67	0.51	1.56	3.13	115	0.396	0.396	0.986	1.58	0.69	1.70	51.85	5.07	1.10	6.18	1.22	52.49	2.26		1	50	1.82	1.00	95.3	1.00	0.160	0.336	Non-Liq.	4.6	11.5	7.6	19.1	0.21
7.38	2.25	48.23	0.52	1.07	4.62	115	0.424	0.424	0.985	1.08	0.62	1.70	76.82	7.21	0.60	7.81	1.08	77.50	2.02		1	66	1.33	1.00	103.0	1.00	0.182	0.336	Non-Liq.	5.0	15.4	5.2	20.6	0.18
7.87	2.40	48.17	0.56	1.16	4.61	115	0.453	0.453	0.984	1.17	0.63	1.70	76.67	6.91	0.69	7.60	1.10	77.39	2.04		1	66	1.36	1.00	105.2	1.00	0.188	0.335	Non-Liq.	5.0	15.5	5.6	21.0	0.17
8.37	2.55	22.77	0.77	3.38	2.18	115	0.481	0.481	0.983	3.46	0.80	1.70	35.81	3.13	3.01	6.14	1.96	36.58	2.60		1	35	3.33	1.00	121.8	1.00	0.248	0.335	Non-Liq.	3.9	9.4	10.0	19.4	0.21
8.86	2.70	23.63	0.91	3.86	2.26	115	0.509	0.509	0.982	3.95	0.81	1.70	37.16	3.11	3.51	6.63	2.13	37.97	2.63		1	37	3.51	1.00	133.2	1.00	0.300	0.335	Non-Liq.	3.9	9.9	10.0	19.9	0.20
9.35	2.85	23.30	0.87	3.73	2.23	115	0.538	0.538	0.981	3.82	0.81	1.70	36.57	3.01	3.37	6.39		37.44	2.62		0			1.00		1.00		0.334	Non-Liq.	3.9	9.7			0.00
9.84	3.00	10.27	0.72	6.96	0.98	115	0.566	0.566	0.979	7.37	0.96	1.70	15.59	1.40	4.69	6.10		16.50	3.09		0			1.00		1.00		0.334	Non-Liq.	3.0	5.6			0.00
10.33	3.15	9.20	0.45	4.84	0.88	115	0.594	0.594	0.978	5.17	0.94	1.70	13.83	1.28	4.52	5.80		14.78	3.03		0			1.00		1.00		0.334	Non-Liq.	3.1	4.8			0.00
10.83	3.30	12.57	0.33	2.59	1.20	115	0.623	0.623	0.977	2.72	0.86	1.58	17.80	1.67	2.17	3.85		18.73	2.77		0			1.00		1.00		0.333	Non-Liq.	3.6	5.2			0.00
11.32	3.45	11.77	0.34	2.86	1.13	115	0.651	0.651	0.976	3.03	0.88	1.53	16.09	1.53	2.46	3.99		17.03	2.83		0			1.00		1.00		0.333	Non-Liq.	3.5	4.9			0.00
11.81	3.60	16.90	0.43	2.53	1.62	115	0.679	0.679	0.975	2.64	0.83	1.44	22.14	2.61	2.12	4.73		29.16	2.69		0			1.26		1.00		0.332	Non-Liq.	3.7	7.8			0.00
12.30	3.75	20.43	0.67	3.25	1.96	115	0.707	0.707	0.974	3.37	0.83	1.40	26.04	3.00	2.87	5.87	1.95	34.11	2.70		1	32	3.98	1.26	135.6	1.00	0.312	0.332	Non-Liq.	3.7	9.2	10.0	19.2	0.24
12.80	3.90	21.87	0.79	3.60	2.09	115	0.736	0.736	0.973	3.72	0.83	1.35	27.04	3.13	3.22	6.35		35.38	2.71		0			1.26		1.00		0.332	Non-Liq.	3.7	9.6			0.00
13.29	4.05	12.97	0.68	5.22	1.24	115	0.764	0.764	0.972	5.55	0.92	1.35	15.58	1.48	4.68	6.16		16.56	3.01		0			1.00		1.00		0.331	Non-Liq.	3.1	5.3			0.00
13.78	4.20	10.40	0.56	5.35	1.00	115	0.792	0.792	0.971	5.79	0.95	1.32	11.96	1.18	4.68	5.86		12.95	3.11		0			1.00		1.00		0.331	Non-Liq.	2.9	4.4			0.00
14.27	4.35	12.43	0.57	4.56	1.19	115	0.821	0.821	0.970	4.88	0.92	1.26	13.87	1.37	4.22	5.59		14.85	3.01		0			1.00		1.00		0.331	Non-Liq.	3.1	4.8			0.00
14.76	4.50	12.30	0.65	5.24	1.18	115	0.849	0.849	0.969	5.63	0.94	1.23	13.30	1.33	4.68	6.00		14.29	3.06		0			1.00		1.00		0.330	Non-Liq.	3.0	4.8			0.00
15.26	4.65	13.03	0.70	5.36	1.25	115	0.877	0.877	0.968	5.74	0.93	1.19	13.69	1.38	4.67	6.05		14.68	3.06		0			1.00		1.00		0.330	Non-Liq.	3.0	4.9			0.00
15.75	4.80	12.87	0.62	4.82	1.23	115	0.906	0.906	0.967	5.18	0.93	1.16	13.06	1.34	4.48	5.82		14.05	3.05		0			1.00		1.00		0.330	Non-Liq.	3.0	4.6			0.00
16.24	4.95	39.57	0.63	1.58	3.79	115	0.934	0.934	0.966	1.62	0.72	1.09	39.93	5.65	1.12	6.77		57.54	2.35		0			1.41		1.00		0.329	Non-Liq.	4.4	13.1			0.00
16.73	5.10	50.47	0.90	1.78	4.83	115	0.962	0.962	0.965	1.81	0.70	1.07	50.02	7.07	1.33	8.40		71.74	2.31		0			1.41		1.00		0.329	Non-Liq.	4.5	16.0			0.00
17.22	5.25	12.93	0.79	6.10	1.24	115	0.990	0.990	0.964	6.60	0.95	1.06	12.02	1.28	4.67	5.95		13.02	3.14		0			1.00		1.00		0.328	Non-Liq.	2.9	4.6			0.00
17.72	5.40	11.53	0.46	3.99	1.10	115	1.019	1.019	0.962	4.37	0.93	1.04	10.30	1.13	3.62	4.75		11.29	3.08		0			1.00		1.00		0.328	Non-Liq.	3.0	3.8			0.00
18.21	5.55	10.57	0.46	4.38	1.01	115	1.047	1.047	0.961	4.87	0.95	1.01	9.09	1.02	4.02	5.04		10.09	3.15		0			1.00		1.00		0.328	Non-Liq.	2.8	3.6			0.00
18.70	5.70	8.43	0.35	4.19	0.81	115	1.075	1.075	0.960	4.80	0.96	0.98	6.84	0.80	3.82	4.62		7.85	3.25		0			1.00		1.00		0.327	Non-Liq.	2.6	3.0			0.00
19.19	5.85	10.77	0.27	2.46	1.03	115	1.104	1.104	0.959	2.74	0.91	0.96	8.79	1.00	2.03	3.03		9.79	3.02		0			1.00		0.99		0.327	Non-Liq.	3.1	3.2			0.00
19.69	6.00	34.00	0.44	1.30	3.26	130	1.136	1.136	0.958	1.34	0.73	0.95	29.50	3.15	0.83	3.98		30.63	2.41		0			1.00		0.99		0.326	Non-Liq.	4.3	7.2			0.00
20.18	6.15	73.23	0.66	0.90	7.01	130	1.168	1.168	0.956	0.92	0.62	0.94	64.09	6.70	0.41	7.12	1.06	65.12	2.04		1	59	1.36	1.00	88.3	0.97	0.144	0.326	Non-Liq.	5.0	13.0	4.7	17.7	0.32
20.67	6.30	110.23	0.74	0.67	10.56	130	1.200	1.200	0.955	0.68	0.55	0.93	96.14	9.96	0.17	10.13	1.02	97.20	1.82		1	76	1.12	1.00	109.0	0.95	0.201	0.326	Non-Liq.	5.4	17.9	3.9	21.8	0.20
21.16	6.45	131.87	0.98	0.74	12.63	130	1.232	1.232	0.954	0.75	0.54	0.92	113.69	11.83	0.25	12.08	1.02	114.76	1.79		1	83	1.10	1.00	126.0	0.94	0.266	0.325	Non-Liq.	5.5	20.9	4.3	25.2	0.15
21.65	6.60	169.00	1.43	0.84	16.18	130	1.264	1.264	0.952	0.85	0.53	0.91	144.29	15.11	0.35	15.46	1.02	145.38	1.74		1	92	1.07	1.00	155.1	0.93	0.427	0.325	Non-Liq.	5.6	26.0	5.0	31.0	0.10
22.15	6.75	228.13	1.87	0.82	21.85	130	1.296	1.296	0.951	0.82	0.50	0.90	193.75	20.28	0.33	20.61	1.02	194.86	1.64		1	100	1.00	1.00	194.9	0.92	Infin.	0.324	Non-Liq.	5.8	33.7	5.3	39.0	0.06
22.64	6.90	261.93	2.28	0.87	25.08	130	1.328	1.328	0.950	0.88	0.50	0.89	219.90	23.18	0.44	23.62	1.02	221.02	1.62		1	100	1.00	1.00	221.0	0.91	Infin.	0.486	Non-Liq.	5.8	37.9	6.3	44.2	0.00
23.13	7.05	267.87	2.61	0.97	25.65	130	1.359	1.348	0.948	0.98	0.50	0.89	223.05	23.67	0.56	24.23	1.02	224.18	1.65		1	100	1.00	1.00	224.9	0.91	Infin.	0.489	Non-Liq.	5.8	38.9	6.1	45.0	0.00
23.62	7.20	275.60	2.76	1.00	26.39	130	1.391	1.364	0.946	1.01	0.50	0.88	228.06	24.29	0.60	24.89	1.02	229.19	1.65		1	100	1.01	1.00	230.3	0.90	Infin.	0.494	Non-Liq.	5.8	39.8	6.3	46.1	0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff K_c	Qc1n	Ic	Override	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv. $N_{1(60)}$	FC Adj. $\Delta N_{1(60)}$	Equiv. $N_{1(60)cs}$	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_c	Qc1n	Ic		(0 or 1)	Dr (%)	K_c	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio				(%)
24.11	7.35	317.43	3.03	0.95	30.40	130	1.423	1.381	0.945	0.96	0.50	0.88	261.49	27.90	0.54	28.44	1.02	262.63	1.60		1	100	1.00	1.00	262.6	0.90	Infin.	0.498	Non-Liq.	5.9	44.7	7.8	52.5	0.00
24.61	7.50	335.60	3.50	1.04	32.14	130	1.455	1.397	0.943	1.05	0.50	0.87	274.85	29.50	0.65	30.15	1.02	276.00	1.61		1	100	1.00	1.00	276.0	0.89	Infin.	0.502	Non-Liq.	5.8	47.3	7.9	55.2	0.00
25.10	7.65	297.90	3.32	1.12	28.53	130	1.487	1.414	0.941	1.12	0.51	0.86	241.76	26.09	0.74	26.83	1.03	242.91	1.67		1	100	1.02	1.00	247.3	0.89	Infin.	0.506	Non-Liq.	5.7	42.4	7.0	49.5	0.00
25.59	7.80	276.10	3.18	1.15	26.44	130	1.519	1.431	0.940	1.16	0.52	0.85	221.96	24.09	0.78	24.87	1.03	223.12	1.71		1	100	1.04	1.00	232.4	0.89	Infin.	0.510	Non-Liq.	5.7	39.4	7.1	46.5	0.00
26.08	7.95	260.20	3.20	1.23	24.92	130	1.551	1.447	0.938	1.24	0.53	0.85	207.06	22.64	0.88	23.53	1.04	208.21	1.75		1	100	1.07	1.00	222.8	0.88	Infin.	0.514	Non-Liq.	5.6	37.3	7.2	44.6	0.00
26.57	8.10	210.10	2.94	1.40	20.12	130	1.583	1.464	0.936	1.41	0.56	0.83	164.23	18.22	1.09	19.31	1.06	165.38	1.86		1	98	1.15	1.00	190.3	0.88	Infin.	0.518	Non-Liq.	5.4	30.8	7.2	38.1	0.00
27.07	8.25	222.90	2.99	1.34	21.35	130	1.615	1.481	0.934	1.35	0.55	0.83	173.70	19.26	1.02	20.28	1.05	174.86	1.83		1	100	1.13	1.00	197.0	0.87	Infin.	0.521	Non-Liq.	5.4	32.3	7.2	39.4	0.00
27.56	8.40	214.03	3.01	1.41	20.50	130	1.647	1.497	0.932	1.42	0.56	0.82	165.20	18.45	1.10	19.55	1.06	166.37	1.86		1	98	1.15	1.00	191.5	0.87	Infin.	0.524	Non-Liq.	5.4	31.0	7.3	38.3	0.00
28.05	8.55	225.03	2.54	1.13	21.55	130	1.679	1.514	0.930	1.14	0.54	0.82	174.22	19.18	0.77	19.94	1.04	175.40	1.77		1	100	1.09	1.00	190.5	0.87	Infin.	0.527	Non-Liq.	5.5	31.7	6.4	38.1	0.00
28.54	8.70	259.70	2.31	0.89	24.87	130	1.711	1.530	0.928	0.89	0.50	0.83	202.65	21.89	0.47	22.36	1.02	203.85	1.65		1	100	1.00	1.00	204.7	0.86	Infin.	0.530	Non-Liq.	5.8	35.4	5.6	40.9	0.00
29.04	8.85	277.97	2.65	0.95	26.62	130	1.743	1.547	0.925	0.96	0.50	0.83	215.72	23.46	0.55	24.02	1.02	216.93	1.65		1	100	1.01	1.00	218.3	0.86	Infin.	0.533	Non-Liq.	5.8	37.7	6.0	43.7	0.00
29.53	9.00	281.57	2.80	0.99	26.96	130	1.775	1.564	0.923	1.00	0.51	0.82	217.08	23.74	0.60	24.34	1.03	218.29	1.66		1	100	1.01	1.00	221.3	0.86	Infin.	0.536	Non-Liq.	5.7	38.0	6.2	44.3	0.00
30.02	9.15	302.70	2.38	0.79	28.99	130	1.807	1.580	0.920	0.79	0.50	0.82	232.87	25.17	0.35	25.52	1.01	234.09	1.57		1	100	1.00	1.00	234.1	0.85	Infin.	0.538	Non-Liq.	5.9	39.5	7.3	46.8	0.00
30.51	9.30	331.10	2.22	0.67	31.71	130	1.839	1.597	0.918	0.67	0.50	0.81	253.49	27.25	0.21	27.46	1.01	254.72	1.50		1	100	1.00	1.00	254.7	0.85	Infin.	0.541	Non-Liq.	6.1	42.0	9.0	50.9	0.00
31.00	9.45	304.10	2.17	0.71	29.12	130	1.871	1.614	0.915	0.72	0.50	0.81	231.50	24.96	0.26	25.22	1.01	232.74	1.54		1	100	1.00	1.00	232.7	0.84	Infin.	0.543	Non-Liq.	6.0	38.9	7.6	46.5	0.00
31.50	9.60	259.63	1.35	0.52	24.86	130	1.903	1.630	0.913	0.52	0.50	0.81	196.45	20.69	0.03	20.71	1.00	197.69	1.51		1	100	1.00	1.00	197.7	0.84	Infin.	0.545	Non-Liq.	6.0	32.7	6.9	39.5	0.00
31.99	9.75	257.23	0.85	0.33	24.63	130	1.935	1.647	0.910	0.33	0.50	0.80	193.62	19.67	0.00	19.67	1.00	194.87	1.40		1	100	1.00	1.00	194.9	0.84	Infin.	0.547	Non-Liq.	6.3	31.1	7.9	39.0	0.00
32.48	9.90	234.23	1.02	0.44	22.43	130	1.967	1.664	0.907	0.44	0.50	0.80	175.30	18.18	0.00	18.18	1.00	176.56	1.50		1	100	1.00	1.00	176.6	0.83	Infin.	0.548	Non-Liq.	6.1	29.1	6.2	35.3	0.00
32.97	10.05	275.63	1.11	0.40	26.39	130	1.999	1.680	0.904	0.40	0.50	0.79	205.47	21.29	0.00	21.29	1.00	206.73	1.42		1	100	1.00	1.00	206.7	0.83	Infin.	0.550	Non-Liq.	6.2	33.3	8.1	41.3	0.00
33.46	10.20	291.07	1.13	0.39	27.87	130	2.031	1.697	0.901	0.39	0.50	0.79	215.97	22.36	0.00	22.36	1.00	217.24	1.40		1	100	1.00	1.00	217.2	0.83	Infin.	0.551	Non-Liq.	6.3	34.7	8.8	43.4	0.00
33.96	10.35	277.37	1.28	0.46	26.56	130	2.063	1.713	0.898	0.46	0.50	0.79	204.73	21.47	0.00	21.47	1.00	206.00	1.46		1	100	1.00	1.00	206.0	0.82	Infin.	0.553	Non-Liq.	6.1	33.5	7.7	41.2	0.00
34.45	10.50	272.23	1.47	0.54	26.07	130	2.095	1.730	0.894	0.54	0.50	0.78	199.94	21.25	0.05	21.30	1.00	201.22	1.51		1	100	1.00	1.00	201.2	0.82	Infin.	0.554	Non-Liq.	6.0	33.3	6.9	40.2	0.00
34.94	10.65	262.33	1.45	0.55	25.12	130	2.127	1.747	0.891	0.56	0.50	0.78	191.69	20.40	0.06	20.47	1.00	192.97	1.53		1	100	1.00	1.00	193.0	0.82	Infin.	0.555	Non-Liq.	6.0	32.2	6.4	38.6	0.00
35.43	10.80	263.80	1.20	0.46	25.26	130	2.159	1.763	0.888	0.46	0.50	0.77	191.84	20.11	0.00	20.11	1.00	193.13	1.48		1	100	1.00	1.00	193.1	0.82	Infin.	0.556	Non-Liq.	6.1	31.7	7.0	38.6	0.00
35.93	10.95	292.23	1.59	0.54	27.98	130	2.191	1.780	0.884	0.55	0.50	0.77	211.65	22.62	0.05	22.68	1.00	212.95	1.49		1	100	1.00	1.00	212.9	0.81	Infin.	0.556	Non-Liq.	6.1	35.1	7.5	42.6	0.00
36.42	11.10	353.87	2.72	0.77	33.89	130	2.223	1.797	0.880	0.77	0.50	0.77	255.36	28.25	0.33	28.58	1.01	256.67	1.54		1	100	1.00	1.00	256.7	0.81	Infin.	0.557	Non-Liq.	6.0	42.8	8.5	51.3	0.00
36.91	11.25	423.73	2.92	0.69	40.58	130	2.255	1.813	0.877	0.69	0.50	0.76	304.62	33.67	0.23	33.90	1.01	305.93	1.45		1	100	1.00	1.00	305.9	0.81	Infin.	0.557	Non-Liq.	6.2	49.6	10.0	59.6	0.00
37.40	11.40	442.87	2.69	0.61	42.41	130	2.287	1.830	0.873	0.61	0.50	0.76	316.97	34.79	0.13	34.93	1.00	318.28	1.40		1	100	1.00	1.00	318.3	0.80	Infin.	0.558	Non-Liq.	6.3	50.8	10.0	60.8	0.00
37.89	11.55	362.47	2.47	0.68	34.71	130	2.319	1.847	0.869	0.68	0.50	0.76	258.00	28.43	0.22	28.65	1.01	259.33	1.49		1	100	1.00	1.00	259.3	0.80	Infin.	0.558	Non-Liq.	6.1	42.7	9.1	51.9	0.00
38.39	11.70	319.03	1.69	0.53	30.55	130	2.351	1.863	0.865	0.53	0.50	0.75	225.90	24.27	0.04	24.31	1.00	227.23	1.46		1	100	1.00	1.00	227.2	0.80	Infin.	0.558	Non-Liq.	6.1	37.1	8.4	45.4	0.00
38.88	11.85	313.97	1.36	0.43	30.07	130	2.383	1.880	0.861	0.44	0.50	0.75	221.30	23.34	0.00	23.34	1.00	222.63	1.42		1	100	1.00	1.00	222.6	0.79	Infin.	0.558	Non-Liq.	6.2	35.8	8.8	44.5	0.00
39.37	12.00	316.00	1.54	0.49	30.26	130	2.415	1.896	0.857	0.49	0.50	0.75	221.75	23.68	0.00	23.68	1.00	223.09	1.45		1	100	1.00	1.00	223.1	0.79	Infin.	0.558	Non-Liq.	6.2	36.2	8.4	44.6	0.00
39.86	12.15	305.23	1.75	0.57	29.23	130	2.447	1.913	0.852	0.58	0.50	0.74	213.20	23.10	0.09	23.18	1.00	214.55	1.50		1	100	1.00	1.00	214.5	0.79	Infin.	0.557	Non-Liq.	6.1	35.4	7.5	42.9	0.00
40.35	12.30	319.43	1.75	0.55	30.59	130	2.479	1.930	0.848	0.55	0.50	0.74	222.21	24.04	0.06	24.10	1.00	223.56	1.48		1	100	1.00	1.00	223.6	0.79	Infin.	0.557	Non-Liq.	6.1	36.6	8.1	44.7	0.00
40.85	12.45	311.07	1.70	0.55	29.79	130	2.511	1.946	0.843	0.55	0.50	0.74	215.41	23.30	0.06	23.36	1.00	216.77	1.49		1	100	1.00	1.00	216.8	0.78	Infin.	0.556	Non-Liq.	6.1	35.6	7.7	43.4	0.00
41.34	12.60	304.83	1.60	0.52	29.19	130	2.543	1.963	0.839	0.53	0.50	0.73	210.16	22.64	0.03	22.67	1.00	211.53	1.48		1	100	1.00	1.00	211.5	0.78	Infin.	0.556	Non-Liq.	6.1	34.7	7.6	42.3	0.00
41.83	12.75	270.27	1.42	0.53	25.88	130	2.575	1.980	0.834	0.53	0.50	0.73	185.38	19.89	0.03	19.92	1.00	186.75	1.53		1	100	1.00	1.00	186.7	0.78	Infin.	0.555	Non-Liq.	6.0	31.1	6.3	37.3	0.00
42.32	12.90	128.13	1.68	1.31	12.27	130	2.607	1.996	0.830	1.33	0.62	0.67	80.47	9.81	1.00	10.81		81.75	2.06		0			1.00		0.88		0.554	Non-Liq.	5.0	16.5			0.00
42.81	13.05	46.37	1.97	4.26	4.44	130	2.639	2.013	0.825	4.45	0.83	0.59	24.64	3.60	4.64	8.24		25.76	2.79		0			1.00		0.88		0.553	Non-Liq.	3.5	7.3			0.00
43.31	13.20	51.03	2.19	4.28	4.89	130	2.671	2.030	0.820	4.46	0.82	0.59	27.19	3.98	4.67	8.65		28.32	2.76		0			1.00		0.88		0.552	Non-Liq.	3.6	7.9			0.00
43.80	13.35	86.37	2.01	2.33	8.27	130	2.703	2.046	0.816	2.38	0.71	0.63	49.89	6.72	2.25	8.97		51.29	2.39		0			1.00		0.88		0.551	Non-Liq.	4.3	11.8			0.00
44.29	13.50	112.40	1.51	1.34	10.76	130	2.735	2.063	0.811	1.37	0.64	0.65	68.18	8.46	1.04	9.50	1.12	69.46	2.13		1	62	1.50	1.00	104.4	0.82	0.186	0.550	**0.28**	4.8	14.4	5.5	19.9	**1.51**
44.78	13.65	47.90	1.57	3.27	4.59	130	2.767	2.079	0.806	3.42	0.80	0.58	25.20	3.62	3.41	7.03	1.94	26.34	2.71		1	21	4.08	1.00	107.5	0.87	0.196	0.548	**0.31**	3.7	7.1	5.5	12.6	**2.17**
45.28	13.80	89.03	1.38	1.54	8.53	130	2.799	2.096	0.801	1.58	0.67	0.63	51.86	6.64	1.29	7.92	1.19	53.11	2.26		1	51	1.82	1.00	96.6	0.81	0.164	0.547	**0.24**	4.6	11.6	5.5	17.1	**1.72**
45.77	13.95	61.40	1.14	1.86	5.88	130	2.831	2.113	0.796	1.93	0.73	0.60	33.86	4.51	1.67	6.19	1.37	35.06	2.46		1	33	2.55	1.00	89.6	0.87	0.147	0.545	**0.23**	4.2	8.4	5.5	13.9	**2.03**
46.26	14.10	227.10	1.50	0.66	21.75	130	2.863	2.129	0.791	0.67	0.51	0.70	149.17	16.45	0.20	16.65	1.01	150.58	1.66		1	94	1.01	1.00	152.6	0.76	0.411	0.544	**0.57**	5.7	26.2	4.3	30.5	**0.71**
46.75	14.25	204.30	1.98	0.97	19.56	130	2.895	2.146	0.786	0.98	0.55	0.68	129.45	15.25	0.58	15.82	1.04	130.83	1.82		1	88	1.12	1.00	146.7	0.75	0.374	0.542	**0.52**	5.4	24.1	5.3	29.3	**0.85**
47.24	14.40	177.27	2.25	1.27	16.98	130	2.927	2.163	0.781	1.28	0.59	0.66	108.68	13.41	0.94	14.35	1.07	110.02	1.95		1	81	1.24	1.00	137.0	0.75	0.319	0.540	**0.44**	5.2	21.3	5.5	26.8	**1.07**
47.74	14.55	336.13	2.23	0.66	32.19	130	2.959	2.179	0.776	0.67	0.50	0.70	219.93	24.67	0.20	24.87	1.01	221.37	1.54		1	100	1.00	1.00	221.4	0.75	Infin.	0.539	Non-Liq.	6.0	37.0	7.3	44.3	0.00
48.23	14.70	366.87	2.40	0.66	35.13	130	2.991	2.196	0.771	0.66	0.50	0.69	239.25	26.94	0.19	27.13	1.01	240.69	1.51		1	100	1.00	1.00	240.7	0.75	Infin.	0.537	Non-Liq.	6.0	39.8	8.3	48.1	0.00
48.72	14.85	333.43	2.78	0.83	31.93	130	3.023	2.212	0.766	0.84	0.50	0.69	216.49	24.90	0.41	25.31	1.02	217.93	1.61		1	100	1.00	1.00	217.9	0.74	Infin.	0.535	Non-Liq.	5.8	37.3	6.3	43.6	0.00
49.21	15.00	308.73	2.50	0.81	29.56	130	3.055	2.229	0.761	0.82	0.50	0.69	199.58	22.84	0.38	23.22	1.02	201.04	1.63		1	100	1.00	1.00	201.0	0.74	Infin.	0.533	Non-Liq.	5.8	34.6	5.6	40.2	0.00
49.70	15.15	310.63	2.22	0.71	29.75	130	3.087	2.246	0.756	0.72	0.50	0.69	200.07	22.63	0.26	22.89	1.01	201.52	1.59		1	100	1.00	1.00	201.5	0.74	Infin.	0.531	Non-Liq.	5.9	34.2	6.1	40.3	0.00
50.20	15.30	355.57	2.37	0.67	34.05	130	3.119	2.262	0.751	0.67	0.50	0.68	228.36	25.84	0.20	26.04	1.01	229.82	1.53		1	100	1.00	1.00	229.8	0.74	Infin.	0.529	Non-Liq.	6.0	38.3	7.7	46.0	0.00
50.69	15.45	367.20	2.50	0.68	35.16	130	3.151	2.279	0.746	0.68	0.50	0.68	235.01	26.72	0.22	26.94	1.01	236.48	1.52		1	100	1.00	1.00	236.5	0.74	Infin.	0.527	Non-Liq.	6.0	39.3	8.0	47.3	0.00
51.18	15.60	363.43	2.49	0.68	34.80	130	3.183	2.296	0.741	0.69	0.50	0.68	231.73	26.38	0.22	26.60	1.01	233.20	1.53		1	100	1.00	1.00	233.2	0.73	Infin.	0.525	Non-Liq.	6.0	38.9	7.8	46.6	0.00
51.67	15.75	351.30	2.09	0.60	33.64	130	3.215	2.312	0.736	0.60	0.50	0.68	223.12	24.98	0.12	25.10	1.00	224.60	1.50		1	100	1.00	1.00	224.6	0.73	Infin.	0.523	Non-Liq.	6.1	37.1	7.8	44.9	0.00
52.17	15.90	311.27	1.67	0.53	29.81	130	3.247	2.329	0.731	0.54	0.50	0.67	196.81	21.63	0.04	21.67	1.00	198.30	1.51		1	100	1.00	1.00	198.3	0.73	Infin.	0.521	Non-Liq.	6.0	32.9	6.8	39.7	0.00
52.66	16.05	156.00	1.95	1.25	14.94	130	3.279	2.346	0.726	1.27	0.60	0.62	89.80	11.38	0.91	12.29		91.17	2.01		0			1.00		0.85		0.519	Non-Liq.	5.1	18.0			0.00
53.15	16.20	55.33	2.24	4.04	5.30	130	3.311	2.362	0.721	4.22	0.81	0.52	26.07	4.13	4.28	8.41		27.24	2.76		0			1.00		0.85		0.517	Non-Liq.	3.6	7.6			0.00
53.64	16.35	246.33	2.32	0.94	23.59	130	3.343	2.379	0.716	0.95	0.53	0.65	149.52	17.94	0.53	18.48		151.54	1.76		0			1.00		0.85		0.515	Non-Liq.	5.5	27.3			0.00
54.13	16.50	282.57	2.49	0.88	27.06	130	3.375	2.395	0.712	0.89	0.52	0.66	173.74	20.47	0.46	20.93	1.02	175.23	1.70		1	100	1.04	1.00	181.4	0.72	Infin.	0.513	Non-Liq.	5.7	30.9	5.4	36.3	0.00
54.63	16.65	302.27	2.15	0.71	28.95	130	3.407	2.412	0.707	0.72	0.50	0.66	187.70	21.41	0.25	21.67	1.01	189.21	1.61		1	100	1.00	1.00	189.2	0.72	Infin.	0.510	Non-Liq.	5.8	32.4	5.5	37.8	0.00
55.12	16.80	291.33	1.93	0.66	27.90	130	3.439	2.429	0.702	0.67	0.50	0.66	180.23	20.36	0.19	20.55	1.01	181.74	1.60		1	100	1.00	1.00	181.7	0.72	Infin.	0.508	Non-Liq.	5.9	31.0	5.3	36.3	0.00

Depth		Tip Qc	Friction Fs	Friction Ratio	qc	Total Unit Wt.	Total Stress	Eff. Stress		F		Max 1.70		Moss qc1	Moss Δqc	Moss qc_{1mod}	Moss eff			Override	Liquef. Suscept.	Rel. Dens.			Clean Sand	1.0		Induced M=7.5	Liquefac. Safety	Qc1n $N_{1(60)}$	Equiv.	FC Adj.	Equiv	Volumetric Strain
(feet)	(m)	(tsf)	(tsf)	Rf %	MPa	(pcf)	po (tsf)	p'o (tsf)	rd	%	n	Cq	Q	MPa	MPa	MPa	K_C	Qc1n	Ic		(0 or 1)	Dr (%)	K_C	K_H	Qc1n	Kσ	CRR	CSR	Factor	Ratio	$N_{1(60)}$	$\Delta N_{1(60)}$	$N_{1(60)cs}$	(%)
55.61	16.95	290.80	2.48	0.85	27.85	130	3.471	2.445	0.698	0.86	0.51	0.65	177.61	20.88	0.42	21.31	1.02	179.11	1.68		1	100	1.02	1.00	183.5	0.72	Infin.	0.506	Non-Liq.	5.7	31.4	5.3	36.7	0.00
56.10	17.10	360.03	3.26	0.90	34.48	130	3.503	2.462	0.693	0.91	0.50	0.66	221.55	26.29	0.48	26.78	1.02	223.08	1.63		1	100	1.00	1.00	223.1	0.71	Infin.	0.504	Non-Liq.	5.8	38.4	6.2	44.6	0.00
56.59	17.25	400.57	3.01	0.75	38.36	130	3.535	2.479	0.689	0.76	0.50	0.65	245.83	28.77	0.30	29.07	1.01	247.36	1.54		1	100	1.00	1.00	247.4	0.71	Infin.	0.502	Non-Liq.	6.0	41.4	8.1	49.5	0.00
57.09	17.40	418.17	2.54	0.61	40.04	130	3.567	2.495	0.684	0.61	0.50	0.65	255.83	29.27	0.13	29.40	1.00	257.36	1.46		1	100	1.00	1.00	257.4	0.71	Infin.	0.500	Non-Liq.	6.1	42.0	9.5	51.5	0.00
57.58	17.55	414.93	2.90	0.70	39.73	130	3.599	2.512	0.680	0.70	0.50	0.65	252.99	29.47	0.24	29.70	1.01	254.53	1.51		1	100	1.00	1.00	254.5	0.71	Infin.	0.498	Non-Liq.	6.0	42.1	8.8	50.9	0.00
58.07	17.70	379.50	3.12	0.82	36.34	130	3.631	2.529	0.675	0.83	0.50	0.65	230.48	27.27	0.38	27.65	1.01	232.03	1.59		1	100	1.00	1.00	232.0	0.71	Infin.	0.496	Non-Liq.	5.9	39.4	7.0	46.4	0.00
58.56	17.85	355.73	3.27	0.92	34.07	130	3.663	2.545	0.671	0.92	0.50	0.64	215.06	25.73	0.50	26.22	1.02	216.61	1.64		1	100	1.00	1.00	216.3	0.70	Infin.	0.494	Non-Liq.	5.8	37.5	5.8	43.3	0.00
59.06	18.00	343.13	3.57	1.04	32.86	130	3.695	2.562	0.667	1.05	0.52	0.63	203.89	25.06	0.64	25.70	1.03	205.43	1.70		1	100	1.04	1.00	213.0	0.70	Infin.	0.492	Non-Liq.	5.7	36.2	6.4	42.6	0.00
59.55	18.15	327.50	3.54	1.08	31.36	130	3.727	2.578	0.663	1.09	0.52	0.63	192.50	23.90	0.69	24.58	1.03	194.02	1.73		1	100	1.06	1.00	205.0	0.70	Infin.	0.490	Non-Liq.	5.6	34.6	6.4	41.0	0.00
60.04	18.30	335.07	3.18	0.95	32.09	130	3.759	2.595	0.659	0.95	0.51	0.63	198.81	24.08	0.53	24.61	1.02	200.36	1.68		1	100	1.02	1.00	204.8	0.70	Infin.	0.488	Non-Liq.	5.7	35.1	5.9	41.0	0.00
60.53	18.45	365.90	2.57	0.70	35.04	130	3.791	2.612	0.655	0.71	0.50	0.64	218.55	25.45	0.24	25.69	1.01	220.12	1.56		1	100	1.00	1.00	220.1	0.70	Infin.	0.486	Non-Liq.	6.0	37.0	7.0	44.0	0.00
61.02	18.60	319.70	2.06	0.64	30.61	130	3.823	2.628	0.651	0.65	0.50	0.63	190.14	21.74	0.17	21.91	1.01	191.72	1.58		1	100	1.00	1.00	191.7	0.69	Infin.	0.484	Non-Liq.	5.9	32.4	5.9	38.3	0.00
61.52	18.75	381.50	1.88	0.49	36.53	130	3.855	2.645	0.647	0.50	0.50	0.63	226.48	25.23	0.00	25.23	1.00	228.06	1.44		1	100	1.00	1.00	228.1	0.69	Infin.	0.482	Non-Liq.	6.2	36.9	8.7	45.6	0.00
62.01	18.90	443.73	1.88	0.42	42.49	130	3.887	2.662	0.643	0.43	0.50	0.63	262.84	28.92	0.00	28.92	1.00	264.43	1.35		1	100	1.00	1.00	264.4	0.69	Infin.	0.480	Non-Liq.	6.4	41.6	10.0	51.6	0.00
62.50	19.05	409.80	2.03	0.50	39.24	130	3.919	2.678	0.640	0.50	0.50	0.63	241.86	27.13	0.00	27.13	1.00	243.45	1.42		1	100	1.00	1.00	243.4	0.69	Infin.	0.479	Non-Liq.	6.2	39.2	9.5	48.7	0.00
62.99	19.20	385.13	1.98	0.51	36.88	130	3.951	2.695	0.636	0.52	0.50	0.63	226.49	25.45	0.02	25.47	1.00	228.09	1.45		1	100	1.00	1.00	228.1	0.69	Infin.	0.477	Non-Liq.	6.1	37.1	8.5	45.6	0.00
63.48	19.35	379.33	1.76	0.46	36.33	130	3.983	2.711	0.633	0.47	0.50	0.62	222.36	24.60	0.00	24.60	1.00	223.96	1.43		1	100	1.00	1.00	224.0	0.69	Infin.	0.475	Non-Liq.	6.2	36.2	8.6	44.8	0.00
63.98	19.50	400.87	1.82	0.45	38.39	130	4.015	2.728	0.629	0.46	0.50	0.62	234.35	25.95	0.00	25.95	1.00	235.95	1.41		1	100	1.00	1.00	236.0	0.68	Infin.	0.473	Non-Liq.	6.2	37.8	9.4	47.2	0.00
64.47	19.65	455.93	1.97	0.43	43.66	130	4.047	2.745	0.626	0.43	0.50	0.62	265.94	29.47	0.00	29.47	1.00	267.55	1.35		1	100	1.00	1.00	267.6	0.68	Infin.	0.472	Non-Liq.	6.4	42.1	10.0	52.1	0.00

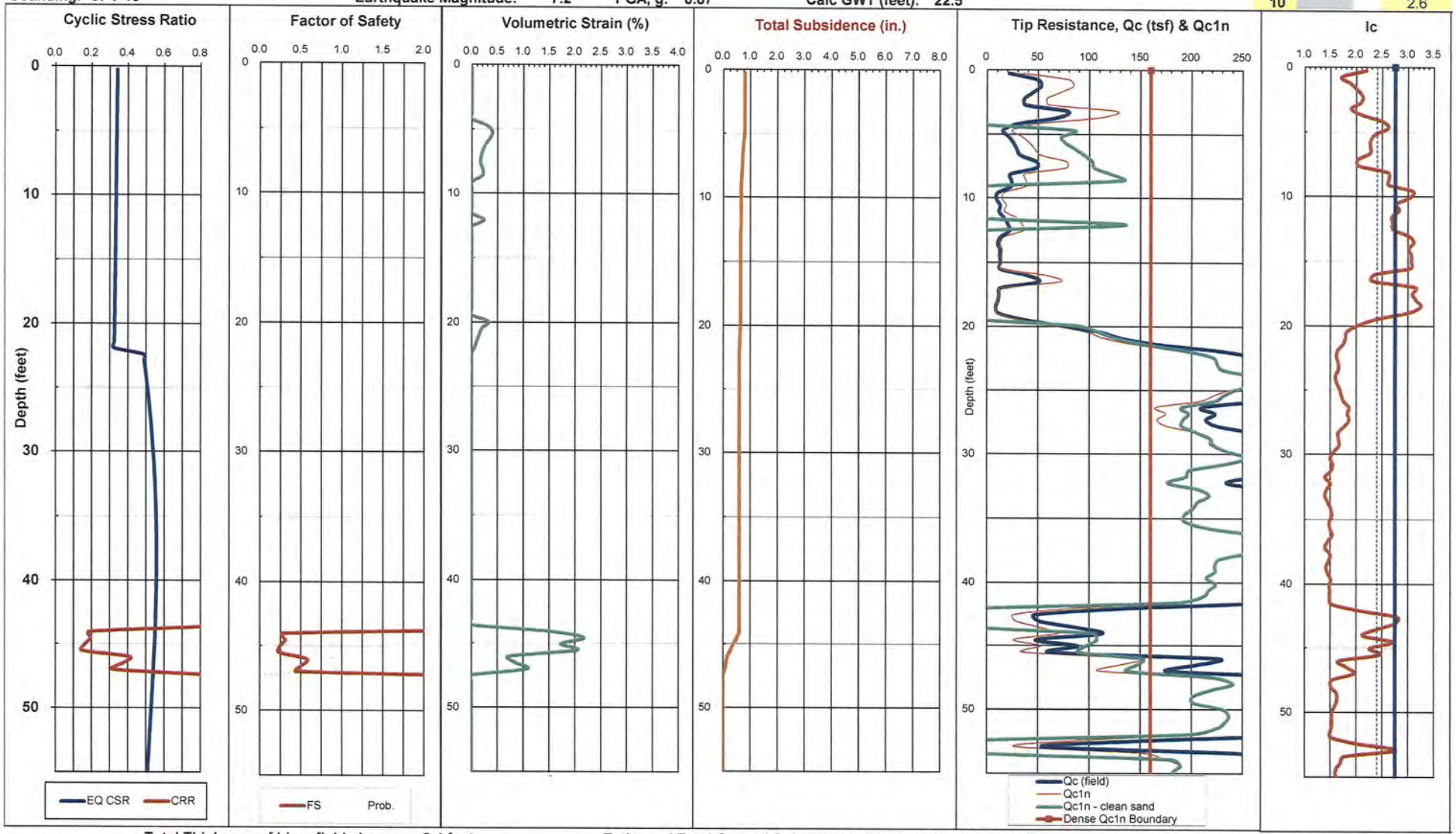
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Doris and Patterson Project No: VT-24867-10 Method Used: 1 1998 NCEER (Robertson & Wride)

Settlement Analysis using Tokimatsu & Seed (1987), clean sand Qc1n/N1(60) ratio =5

Sounding: CPT-10 Earthquake Magnitude: 7.2 PGA, g: 0.87 Calc GWT (feet): 22.5

Plot 10 Limiting Ic: 2.6



Total Thickness of Liquefiable Layers: 3.4 feet Estimated Total Ground Subsidence (Settlement): 0.8 inches

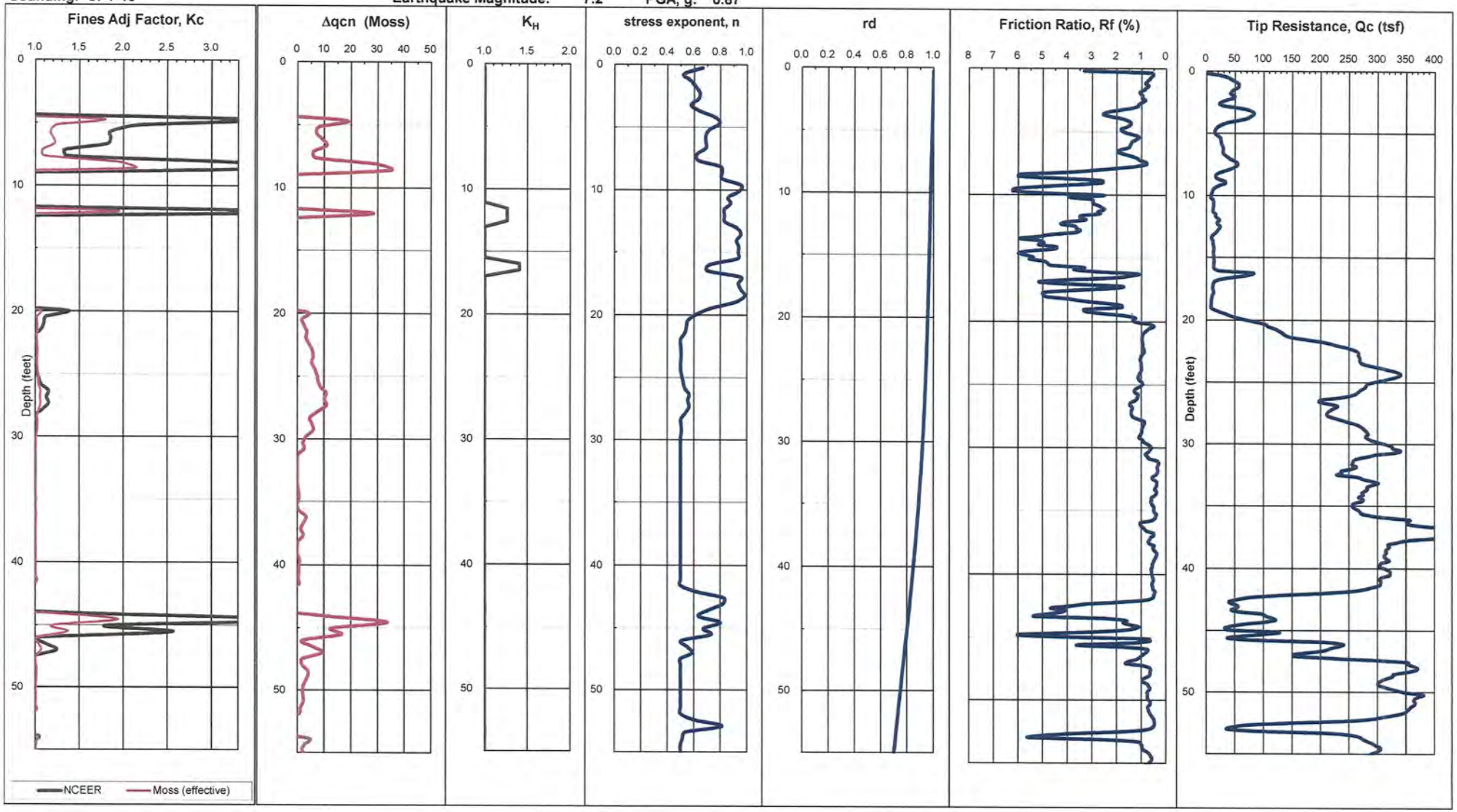
EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

3 avg increment =0.15m Qc1n/N1(60): 5

Ignore 1st/last increment into sand/silt soils: 0

Method Used: 1998 NCEER (Robertson & Wride)

Sounding: CPT-10 **Earthquake Magnitude: 7.2** **PGA, g: 0.87**



LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-13 **Data Set:** 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude:	7.2	7.5
PGA, g:	0.87	0.79
MSF:	1.11	
GWT:	22.5	feet
Calc GWT:	22.5	feet
Remediate to:	5.0	feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E):	1.33	Automatic Hammer
Drive Rod Corr. (C_R):	1	Default
Rod Length above ground (feet):	3.0	
Borehole Dia. Corr. (C_B):	1.00	
Sampler Liner Correction for SPT?:	1	Yes
Cal Mod/ SPT Ratio:	0.63	

Total (ft) Liquefied Thickness	Total (in.) Induced Subsidence
0	0.2

Required SF: 1.25
Threshold Acceler., g: 1.69 **Minimum Calculated SF:** 1.94

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

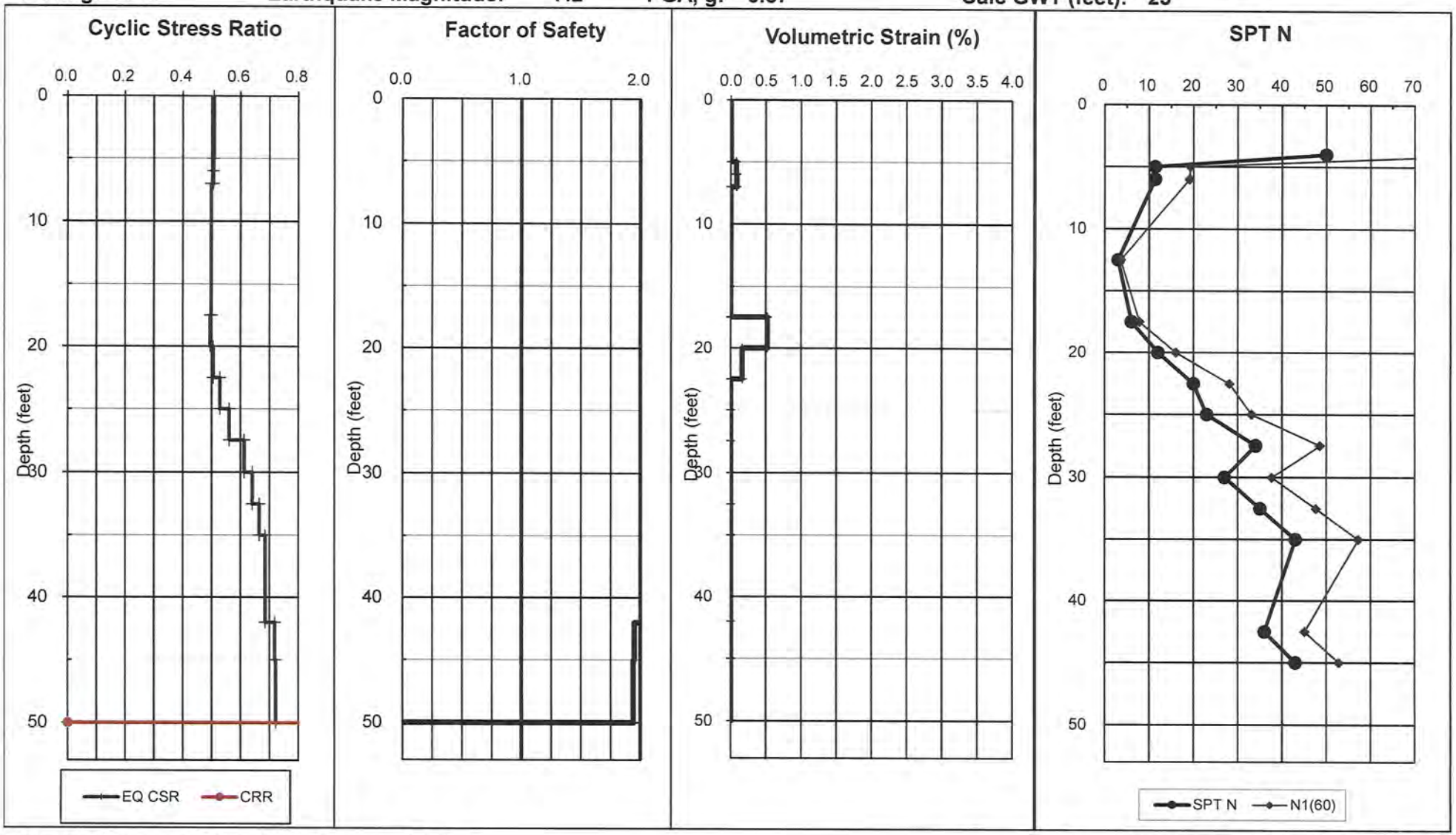
Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot.Stress at SPT po (tsf)	Eff.Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel Dens. Dr (%)	*Trigger FC Adj* $\Delta N_{1(60)}$	*Equiv. Sand* $N_{1(60)CS}$	Kσ	M = 7.5 Available CRR	M =7.5 Induced CSR*	Liquefac. Safety Factor	*Post FC Adj* $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric *Strain (%)*	Induced Subsidence (in.)	p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{15}	Strain Enc	Dry Sand Subsidence (in.)
								0.000																											
5.0	18	50	1	124	75	4.0	7.0	0.248	0.248	0.99	1.70	0.75	1.00	85.0	100	10.0	95.0	1.00	1.400	0.508	Non-Liq.	10.0	95.0	0.01	0.00	0.166	831	0.093	0.0001	0.130	18,787	2.1E-04	3.2E-05	2.9E-05	0.00
6.0	18	11	1	124	75	5.0	8.0	0.310	0.310	0.99	1.70	0.75	1.00	19.3	52	8.9	28.1	1.00	0.347	0.506	Non-Liq.	8.9	28.1	0.08	0.01	0.208	620	0.116	0.0002	0.132	16,433	6.4E-04	4.3E-04	3.9E-04	0.01
7.0	18	11	1	124	75	6.0	9.0	0.372	0.372	0.99	1.69	0.75	1.00	19.1	52	8.8	27.9	1.00	0.342	0.505	Non-Liq.	8.8	27.9	0.08	0.01	0.249	677	0.139	0.0002	0.134	14,730	6.8E-04	4.5E-04	4.2E-04	0.01
17.5		3		125	75	12.5	15.5	0.778	0.778	0.97	1.00	0.82	1.10	3.6				1.00	Infin.	0.498	Non-Liq.		3.6	0.00	0.00	0.521				0.144	9,463				
20.0		6	1	125	43	17.5	20.5	1.090	1.090	0.96	0.99	0.90	1.10	7.8	33	6.6	14.4	0.99	0.156	0.495	Non-Liq.	6.6	14.4	0.52	0.16	0.730	929	0.397	0.0004	0.152	7,727	1.9E-03	2.8E-03	2.6E-03	0.16
22.5		12	1	125	43	20.0	23.0	1.247	1.247	0.96	0.92	0.93	1.17	16.0	48	8.2	24.2	0.97	0.271	0.506	Non-Liq.	8.2	24.2	0.16	0.05	0.835	1,182	0.451	0.0004	0.156	7,130	1.1E-03	8.9E-04	8.2E-04	0.05
25.0		20	1	125	43	22.5	25.5	1.403	1.403	0.95	0.87	0.96	1.27	28.2	63	10.0	38.2	0.92	1.400	0.529	Non-Liq.	10.0	38.2	0.00	0.00	0.940	1,459	0.504	0.0003	0.161	6,643	7.7E-04			
27.5		23	1	125	30	25.0	28.0	1.559	1.481	0.94	0.85	0.98	1.30	33.1	69	9.8	43.0	0.90	1.400	0.561	2.50	9.8	43.0	0.00	0.00	1.045	1,600	0.555	0.0003	0.165	6,235	7.3E-04			
30.0		34	1	125	30	27.5	30.5	1.715	1.559	0.93	0.82	1.00	1.30	48.5	83	10.0	58.5	0.86	1.400	0.612	2.29	10.0	58.5	0.00	0.00	1.149	1,861	0.605	0.0003	0.169	5,888	6.0E-04			
32.5		27	1	125	5	30.0	33.0	1.872	1.638	0.92	0.80	1.00	1.30	37.6	73	0.0	37.6	0.84	1.400	0.641	2.19	0.0	37.6	0.00	0.00	1.254	1,677	0.652	0.0004	0.173	5,588	8.3E-04			
35.0		35	1	125	5	32.5	35.5	2.028	1.716	0.91	0.79	1.00	1.30	47.6	82	0.0	47.6	0.82	1.400	0.665	2.11	0.0	47.6	0.00	0.00	1.359	1,889	0.696	0.0004	0.177	5,325	7.1E-04			
42.0		43	1	125	5	35.0	38.0	2.184	1.794	0.89	0.77	1.00	1.30	57.2	90	0.0	57.2	0.81	1.400	0.685	2.04	0.0	57.2	0.00	0.00	1.463	2,084	0.736	0.0004	0.181	5,093	6.3E-04			
45.0		36	1	125	5	42.5	45.5	2.653	2.029	0.83	0.72	1.00	1.30	45.1	80	0.0	45.1	0.77	1.400	0.718	1.95	0.0	45.1	0.00	0.00	1.777	2,121	0.831	0.0004	0.193	4,532	7.0E-04			
50.0		43	1	125	5	45.0	48.0	2.809	2.107	0.80	0.71	1.00	1.30	52.8	87	0.0	52.8	0.76	1.400	0.722	1.94	0.0	52.8	0.00	0.00	1.882	2,301	0.854	0.0004	0.197	4,379	6.2E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-13 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 23**



Total Thickness of Liquefiable Layers: 0.0 feet

Estimated Total Ground Subsidence: 0.2 inches

LIQUEFY-v 2.3.XLS - A SPREADSHEET FOR EMPIRICAL ANALYSIS OF LIQUEFACTION POTENTIAL AND INDUCED GROUND SUBSIDENCE

Developed 2006 by Shelton L. Stringer, PE, GE, PG - Earth Systems Southwest

Project: Doris & Patterson K-8 School
Job No: VT-24867-10
Date: 9/29/2017
Boring: B-16 Data Set: 1

Methods: **Liquefaction Analysis using 1996 & 1998 NCEER workshop method (Youd & Idriss, editors)**
Journal of Geotechnical and Enviromental Engineering (JGEE), October 2001, Vol 127, No. 10, ASCE
Settlement Analysis from Tokimatsu and Seed (1987), JGEE,Vol 113, No.8, ASCE
Modified by Pradel, JGEE, Vol 124, No. 4, ASCE

EARTHQUAKE INFORMATION:

Magnitude: 7.2 7.5
PGA, g: 0.87 0.79
MSF: 1.11
GWT: 22.5 feet
Calc GWT: 22.5 feet
Remediate to: 5.0 feet

SPT N VALUE CORRECTIONS:

Energy Correction to N60 (C_E): 1.33 Automatic Hammer
Drive Rod Corr (C_R): 1 Default
Rod Length above ground (feet): 3.0
Borehole Dia. Corr (C_B): 1.00
Sampler Liner Correction for SPT?: 1 Yes
Cal Mod/ SPT Ratio: 0.63

Total (ft) Liquefied Thickness
0

Total (in.) Induced Subsidence
0.4

Required SF: 1.30
Threshold Acceler., g: 1.70 **Minimum Calculated SF:** 1.94

SETTLEMENT (SUBSIDENCE) OF DRY SANDS

Nc = 12.5

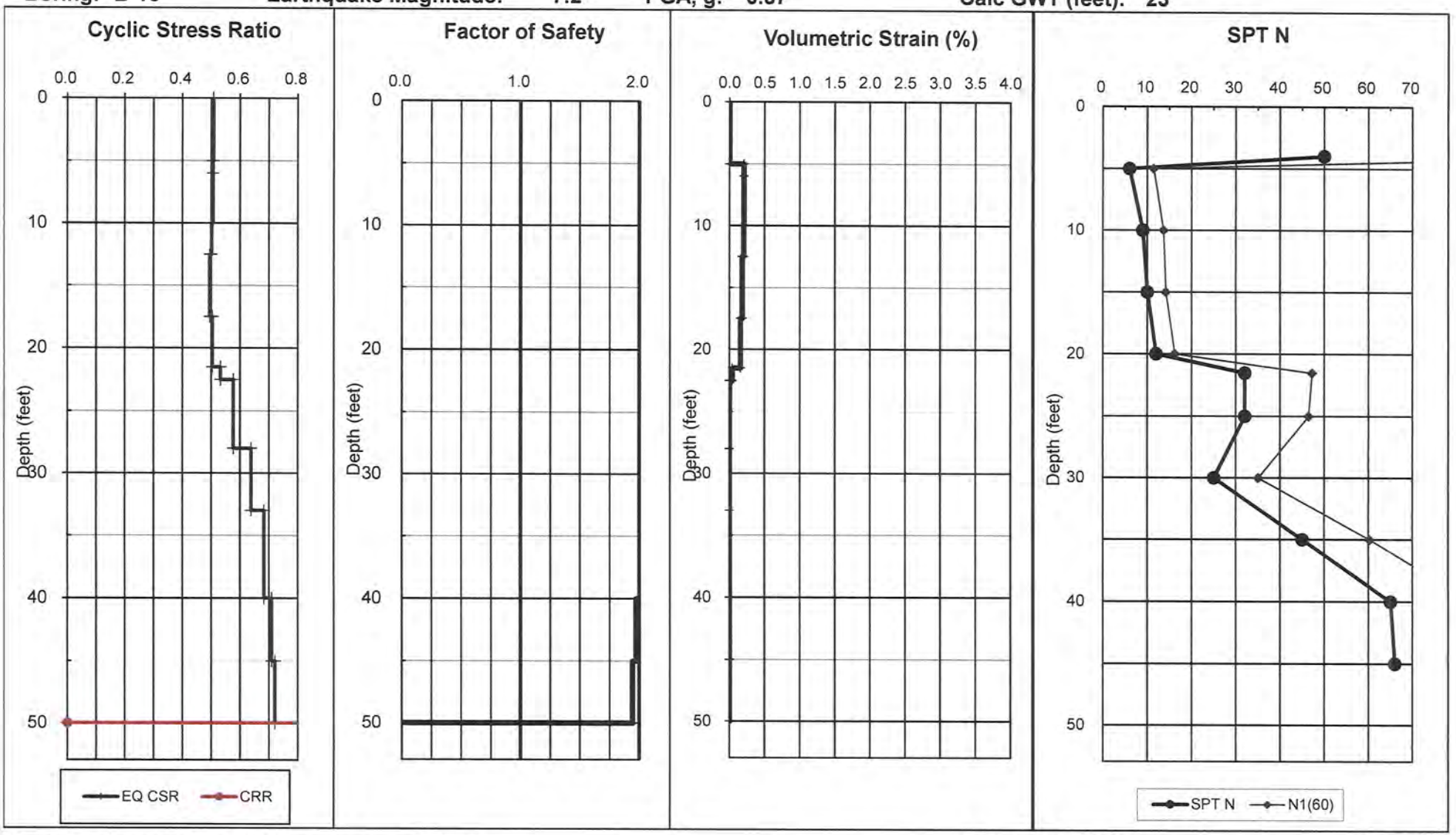
Base Depth (feet)	Cal Mod N	SPT N	Liquef. Suscept. (0 or 1)	Total Unit Wt. (pcf)	Fines Content (%)	Depth of SPT (feet)	Rod Length (feet)	Tot.Stress at SPT po (tsf)	Eff.Stress at SPT p'o (tsf)	rd	C_N	C_R	C_S	$N_{1(60)}$	Rel Dens Dr (%)	*Trigger FC Adj.* $\Delta N_{1(60)}$	*Equiv. Sand* $N_{1(60)CS}$	K_σ	M = 7.5 Available CRR	M =7.5 Induced CSR*	Liquefac. Safety Factor	*Post FC Adj* $\Delta N_{1(60)}$	$N_{1(60)CS}$	Volumetric *Strain* (%)	Induced Subsidence (in.)	p (tsf)	G_{max} (tsf)	τ_{av} (tsf)	tav/Gmax	a	b	Shear Strain γ	Strain E_{15}	Strain Enc	Dry Sand Subsidence (in.)
								0.000																											
5.0		50	1	122	63	4.0	7.0	0.244	0.244	0.99	1.70	0.75	1.30	110.5	100	10.0	120.5	1.00	1.400	0.508	Non-Liq.	10.0	120.5	0.00	0.00	0.163	893	0.092	0.0001	0.130	18,971	1.7E-04	2.0E-05	1.9E-05	0.00
6.0		6	1	122	63	5.0	8.0	0.305	0.305	0.99	1.70	0.75	1.12	11.4	40	7.3	18.7	1.00	0.202	0.506	Non-Liq.	7.3	18.7	0.21	0.02	0.204	537	0.114	0.0002	0.132	16,594	1.0E-03	1.1E-03	1.0E-03	0.02
10.0		6	1	122	63	5.0	8.0	0.305	0.305	0.99	1.70	0.75	1.12	11.4	40	7.3	18.7	1.00	0.202	0.506	Non-Liq.	7.3	18.7	0.21	0.10	0.204	537	0.114	0.0002	0.132	16,594	1.0E-03	1.1E-03	1.0E-03	0.10
12.5		9	1	122	28	10.0	13.0	0.610	0.610	0.98	1.32	0.76	1.14	13.7	44	6.5	20.1	1.00	0.218	0.501	Non-Liq.	6.5	20.1	0.20	0.06	0.409	778	0.226	0.0003	0.140	10,948	1.1E-03	1.1E-03	1.0E-03	0.06
17.5		10	1	122	50	15.0	18.0	0.915	0.915	0.97	1.08	0.86	1.15	14.2	45	7.8	22.1	1.00	0.241	0.495	Non-Liq.	7.8	22.1	0.18	0.11	0.613	982	0.335	0.0003	0.148	8,584	1.1E-03	1.0E-03	9.2E-04	0.11
21.5		12	1	125	50	20.0	23.0	1.224	1.224	0.96	0.93	0.93	1.17	16.2	48	8.2	24.4	0.97	0.274	0.504	Non-Liq.	8.2	24.4	0.16	0.08	0.820	1,175	0.443	0.0004	0.156	7,210	1.1E-03	8.6E-04	7.9E-04	0.08
22.5		32	1	125	5	21.5	24.5	1.318	1.318	0.95	0.90	0.95	1.30	47.2	82	0.0	47.2	0.92	1.400	0.532	Non-Liq.	0.0	47.2	0.04	0.01	0.883	1,518	0.475	0.0003	0.158	6,897	6.4E-04	2.3E-04	2.1E-04	0.01
28.0		32	1	125	5	25.0	28.0	1.536	1.458	0.94	0.85	0.98	1.30	46.5	81	0.0	46.5	0.88	1.400	0.577	2.43	0.0	46.5	0.00	0.00	1.029	1,630	0.547	0.0003	0.164	6,290	6.8E-04			
33.0		25	1	125	5	30.0	33.0	1.849	1.615	0.92	0.81	1.00	1.30	35.1	71	0.0	35.1	0.84	1.400	0.638	2.19	0.0	35.1	0.00	0.00	1.239	1,629	0.644	0.0004	0.172	5,629	8.7E-04			
40.0		45	1	125	5	35.0	38.0	2.161	1.771	0.89	0.77	1.00	1.30	60.3	93	0.0	60.3	0.81	1.400	0.683	2.05	0.0	60.3	0.00	0.00	1.448	2,109	0.728	0.0003	0.180	5,125	6.0E-04			
45.0		65	1	125	5	40.0	43.0	2.474	1.928	0.85	0.74	1.00	1.30	83.5	100	0.0	83.5	0.79	1.400	0.710	1.97	0.0	83.5	0.00	0.00	1.657	2,515	0.796	0.0003	0.188	4,726	4.9E-04			
50.0		66	1	125	5	45.0	48.0	2.786	2.084	0.80	0.71	1.00	1.30	81.5	100	0.0	81.5	0.76	1.400	0.720	1.94	0.0	81.5	0.00	0.00	1.867	2,648	0.847	0.0003	0.197	4,401	4.8E-04			

EARTH SYSTEMS - EVALUATION OF LIQUEFACTION POTENTIAL AND INDUCED SUBSIDENCE

Doris & Patterson K-8 School **Project No: VT-24867-10**

1996/1998 NCEER Method
Ground Compaction Remediated to 5 foot depth

Boring: B-16 **Earthquake Magnitude: 7.2** **PGA, g: 0.87** **Calc GWT (feet): 23**



Total Thickness of Liquefiable Layers: 0.0 feet

Estimated Total Ground Subsidence: 0.4 inches

Liquefaction Induced Lateral Spreading with Ground Slope Conditions

(Groundwater at the Historical Highest Level of 6 Feet Below Ground Surface)

Job Number: VT-24867-10
Job Name: Doris & Patterson K-8 School
CPT Number: CPT-1
Date: September 26, 2017
Calculated By: PVB

Prediction of Liquifaction Induced Lateral Spreading with Ground Slope Conditions

Based on Data Published in the ASCE Journal of Geotechnicial and Geoenvironmental Engineering December 2002
(Bartlett and Youd 2002)

Variables Used in Calculation Defined

Earthquake Magnitude (M)
Horizontal Distance to Nearest Seismic Energy Source, km (R)
Percent Slope (S)
Cumulative Thickness in Meters of Saturated Cohesionless Sediments with SPT $(N1)_{60}$ Values <= 15 (T_{15})
Average Fines Content in Percent (F_{15})
Mean Grain size in milimeters ($D50_{15}$)

$$\text{Log } D_H = -16.213 + 1.532M - 1.406\text{Log}(R + 10^{(0.89M - 5.64)}) - 0.012R + 0.338\text{Log}S + 0.540\text{Log}T_{15} + 3.413\text{Log}(100 - F_{15}) - 0.795\text{Log}(D50_{15} + 0.1\text{mm})$$

Requirements and Limitations Used to Develop this Model

Soils must be Liquefiable
Saturated Cohesionless Sediments with SPT $(N1)_{60}$ less than 15
Earthquake Magnitude (M) must be between 6 and 8
Percent Slope (S) must be between 0.1% and 6%
Cumulative Thickness (T15) must be between 1 and 15 meters
Depth to top of Liquefied layer must be between 1 and 10 meters
Distance to Fault Rupture (R_{eq}) must be determined using Figure 10 if soft soils are present.
F_{15} and $D50_{15}$ must be within bounds shown in Fig. 5.
If R or R_{eq} < 0.5 km use 0.5; otherwise use R or R_{eq}.

Input Values	
M = 7.2	
R = 4.5	km
S = 0.3	%
T_{15} = 2.4	m
F_{15} = 50	%
$D50_{15}$ = 0.4	mm

Horizontal Ground Displacement in meters (D_H) = 0.25
Horizontal Ground Displacement in feet (D_H) = 0.8

Displacements should be between 0.1 and 6 meters and should be multiplied by a FOS of 2 for a conservative estimate. Any displacement greater than 6 meters is outside of the data set used in the analysis and may not be an accurate estimate.

Job Number: VT-24867-10
Job Name: Doris & Patterson K-8 School
CPT Number: CPT-4
Date: September 1, 2017
Calculated By: PVB

Prediction of Liquifaction Induced Lateral Spreading with Ground Slope Conditions

Based on Data Published in the ASCE Journal of Geotechnicial and Geoenvironmental Engineering December 2002
(Bartlett and Youd 2002)

Variables Used in Calculation Defined

Earthquake Magnitude (M)
Horizontal Distance to Nearest Seismic Energy Source, km (R)
Percent Slope (S)
Cumulative Thickness in Meters of Saturated Cohesionless Sediments with SPT $(N1)_{60}$ Values <= 15 (T_{15})
Average Fines Content in Percent (F_{15})
Mean Grain size in milimeters ($D50_{15}$)

$$\text{Log } D_H = -16.213 + 1.532M - 1.406\text{Log}(R + 10^{(0.89M - 5.64)}) - 0.012R + 0.338\text{Log}S + 0.540\text{Log}T_{15} + 3.413\text{Log}(100 - F_{15}) - 0.795\text{Log}(D50_{15} + 0.1\text{mm})$$

Requirements and Limitations Used to Develop this Model

Soils must be Liquefiable
Saturated Cohesionless Sediments with $(N1)_{60}$ less than 15
Earthquake Magnitude (M) must be between 6 and 8
Percent Slope (S) must be between 0.1% and 6%
Cumulative Thickness (T15) must be between 1 and 15 meters
Depth to top of Liquefied layer must be between 1 and 10 meters
Distance to Fault Rupture (R_{eq}) must be determined using Figure 10 if soft soils are present.
F_{15} and $D50_{15}$ must be within bounds shown in Fig. 5.
If R or R_{eq} < 0.5 km use 0.5; otherwise use R or R_{eq}.

Input Values	
M = 7.2	
R = 4.5	km
S = 0.3	%
T_{15} = 2.2	m
F_{15} = 30	%
$D50_{15}$ = 0.6	mm

Horizontal Ground Displacement in meters (D_H) = 0.58
Horizontal Ground Displacement in feet (D_H) = 1.9

Displacements should be between 0.1 and 6 meters and should be multiplied by a FOS of 2 for a conservative estimate. Any displacement greater than 6 meters is outside of the data set used in the analysis and may not be an accurate estimate.

Job Number: VT-24867-10
Job Name: Doris & Patterson K-8 School
CPT Number: CPT-6
Date: September 26, 2017
Calculated By: PVB

Prediction of Liquifaction Induced Lateral Spreading with Ground Slope Conditions

Based on Data Published in the ASCE Journal of Geotechnicial and Geoenvironmental Engineering December 2002
(Bartlett and Youd 2002)

Variables Used in Calculation Defined

Earthquake Magnitude (M)
Horizontal Distance to Nearest Seismic Energy Source, km (R)
Percent Slope (S)
Cumulative Thickness in Meters of Saturated Cohesionless Sediments with SPT $(N1)_{60}$ Values <= 15 (T_{15})
Average Fines Content in Percent (F_{15})
Mean Grain size in milimeters ($D50_{15}$)

$$\text{Log } D_H = -16.213 + 1.532M - 1.406\text{Log}(R + 10^{(0.89M - 5.64)}) - 0.012R + 0.338\text{Log}S + 0.540\text{Log}T_{15} + 3.413\text{Log}(100 - F_{15}) - 0.795\text{Log}(D50_{15} + 0.1\text{mm})$$

Requirements and Limitations Used to Develop this Model

Soils must be Liquefiable
Saturated Cohesionless Sediments with $(N1)_{60}$ less than 15
Earthquake Magnitude (M) must be between 6 and 8
Percent Slope (S) must be between 0.1% and 6%
Cumulative Thickness (T15) must be between 1 and 15 meters
Depth to top of Liquefied layer must be between 1 and 10 meters
Distance to Fault Rupture (R_{eq}) must be determined using Figure 10 if soft soils are present.
F_{15} and $D50_{15}$ must be within bounds shown in Fig. 5.
If R or R_{eq} < 0.5 km use 0.5; otherwise use R or R_{eq}.

Input Values	
M = 7.2	
R = 4.5	km
S = 0.3	%
T_{15} = 0.9	m
F_{15} = 30	%
$D50_{15}$ = 0.6	mm

Horizontal Ground Displacement in meters (D_H) = 0.36
Horizontal Ground Displacement in feet (D_H) = 1.2

Displacements should be between 0.1 and 6 meters and should be multiplied by a FOS of 2 for a conservative estimate. Any displacement greater than 6 meters is outside of the data set used in the analysis and may not be an accurate estimate.

Job Number: VT-24867-10
Job Name: Doris & Patterson K-8 School
CPT Number: CPT-10
Date: September 26, 2017
Calculated By: PVB

Prediction of Liquifaction Induced Lateral Spreading with Ground Slope Conditions

Based on Data Published in the ASCE Journal of Geotechnicial and Geoenvironmental Engineering December 2002
(Bartlett and Youd 2002)

Variables Used in Calculation Defined

Earthquake Magnitude (M)
Horizontal Distance to Nearest Seismic Energy Source, km (R)
Percent Slope (S)
Cumulative Thickness in Meters of Saturated Cohesionless Sediments with SPT $(N1)_{60}$ Values <= 15 (T_{15})
Average Fines Content in Percent (F_{15})
Mean Grain size in milimeters ($D50_{15}$)

$$\text{Log } D_H = -16.213 + 1.532M - 1.406\text{Log}(R + 10^{(0.89M - 5.64)}) - 0.012R + 0.338\text{Log}S + 0.540\text{Log}T_{15} + 3.413\text{Log}(100 - F_{15}) - 0.795\text{Log}(D50_{15} + 0.1\text{mm})$$

Requirements and Limitations Used to Develop this Model

Soils must be Liquefiable
Saturated Cohesionless Sediments with $(N1)_{60}$ less than 15
Earthquake Magnitude (M) must be between 6 and 8
Percent Slope (S) must be between 0.1% and 6%
Cumulative Thickness (T15) must be between 1 and 15 meters
Depth to top of Liquefied layer must be between 1 and 10 meters
Distance to Fault Rupture (R_{eq}) must be determined using Figure 10 if soft soils are present.
F_{15} and $D50_{15}$ must be within bounds shown in Fig. 5.
If R or R_{eq} < 0.5 km use 0.5; otherwise use R or R_{eq}.

Input Values	
M = 7.2	
R = 4.5	km
S = 0.3	%
T_{15} = 1.1	m
F_{15} = 50	%
$D50_{15}$ = 0.4	mm

Horizontal Ground Displacement in meters (D_H) = 0.17
Horizontal Ground Displacement in feet (D_H) = 0.5

Displacements should be between 0.1 and 6 meters and should be multiplied by a FOS of 2 for a conservative estimate. Any displacement greater than 6 meters is outside of the data set used in the analysis and may not be an accurate estimate.

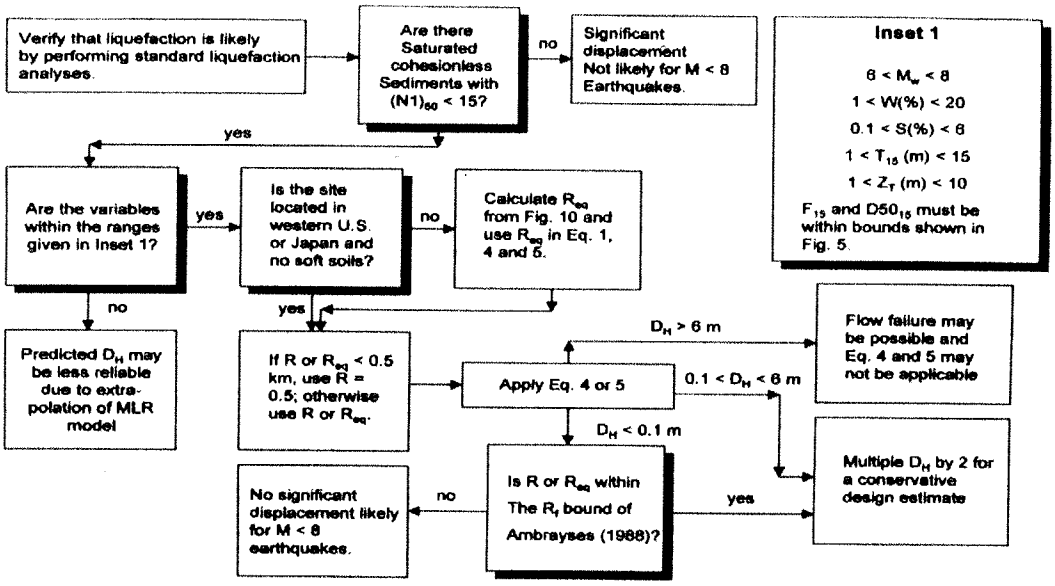


Fig. 9. Flow chart [for application of Eq. (6)]

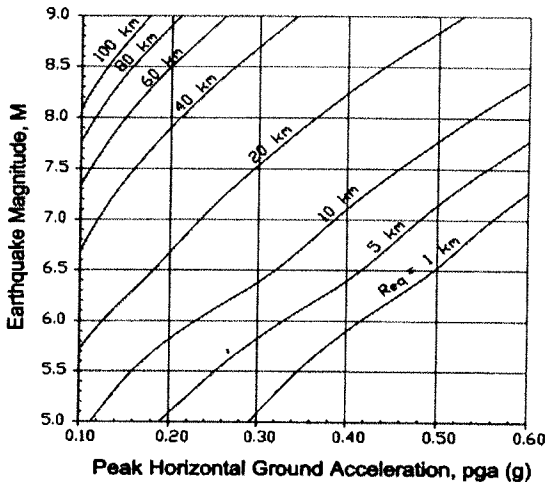


Fig. 10. Graph for determining equivalent source distance, R_{eq}, from magnitude, M, and peak acceleration, a_{max} (revised from Bartlett and Youd 1992, 1995). The above curves are the averages of pga from three different attenuation relations: Abrahamson and Silva (1997); Boore et al. (1997); and Campbell (1997). For the Abrahamson and Silva (1997) relation, the following parameters were used in the regression equation: a) R equals the distance to the fault rupture, b) fault type was set to "otherwise", c) HW=hanging wall factor was set to 1, which implies that sites are found on the hanging wall, d) site classification was set to 1 for deep soil sites. For the Boore, Joyner and Fumal (1997) relation, the following parameters were used in the regression equation: a) R is the closest horizontal distance (km) to a vertical projection of fault rupture surface (km), b) Vs in the upper 30 meters was set to 270 m/s, which is the mid range for a medium stiff soil (site class D), c) fault type was set to "fault mechanism not specified." For the Campbell (1997) relation, the following parameters were used in the regression equation: a) R is the closest distance to the seismogenic rupture surface (km), b) fault style factor was set to "otherwise", c) soft rock and hard rock site factors were set to "otherwise", which implies a stiff soil site.

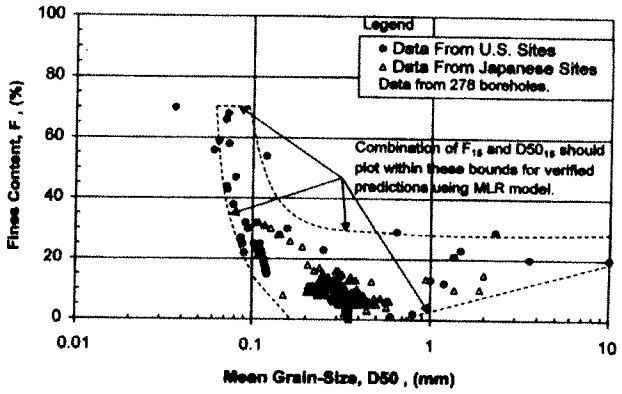


Fig. 5. Compiled grain-size data with ranges of F_{15} and $D50_{15}$ [for which Eq. (6) is applicable]

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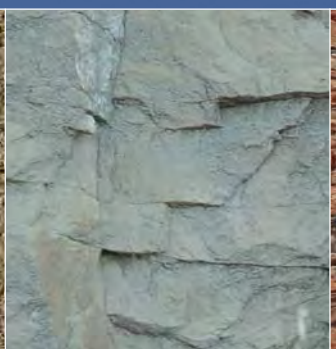
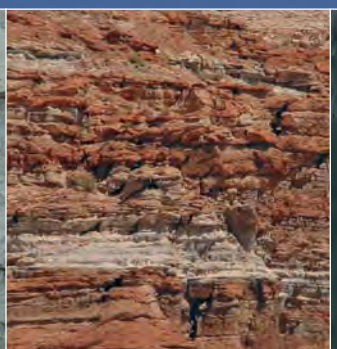
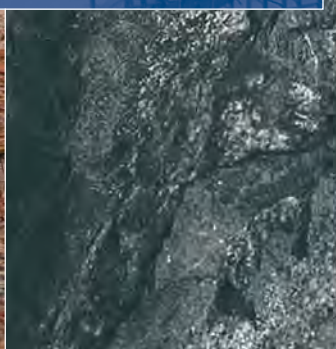
GRADING AND SOILS MONITORING AND TESTING

GEOHAZARD STUDY REPORT

PROPOSED TEAL CLUB MIDDLE SCHOOL ACADEMY
2292 – 2372 DORIS AVENUE, OXNARD CA

PREPARED FOR:
OXNARD SCHOOL DISTRICT
ATTN: CALDWELL FLORES WINTERS, INC., *PROGRAM MANAGER*
1051 SOUTH A STREET
OXNARD, CA 93030

PREPARED BY:
KOURY GEOTECHNICAL SERVICES
14280 EUCLID AVENUE
CHINO, CALIFORNIA 91710

PROJECT NO. 13-0637
FEBRUARY 18, 2014

February 18, 2014
Project No.: 13-0637

Oxnard School District
c/o Caldwell Flores Winters, Inc.,
Attn: Tylor Middlestadt
1051 South A Street
Oxnard, CA 93030

Attn: Tylor Middlestadt

SUBJECT: Geohazard Study Report
Teal Club Middle School Academy
2292-2372 Doris Avenue
Oxnard, California

1. INTRODUCTION

This report presents the results of a Geotechnical and Geological Investigation performed by Koury Geotechnical Services Inc. (Koury) Engineering & Testing Services, Inc., (Koury) at 2292 – 2372 Doris Avenue Oxnard, California for the proposed middle school academy. The Geotechnical Investigation was performed to provide geotechnical/geohazard information for the school site development.

The recommendations provided within this submittal are based on the results of our field exploration, laboratory testing, and engineering analyses. Our services were performed in general accordance with our Proposal No. 13-0637, dated December 17, 2013.

Our professional services have been performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in this or similar localities. No other warranty, express or implied, is made as to the professional advice included in this report. This report has been prepared exclusively for the Oxnard School District and their consultants for application to the subject project. The

report has not been prepared for use by other parties, and may not contain sufficient information for the purposes of other parties or other uses.

2. SITE CONDITIONS

The site for the proposed school presently consists of 20 acres of agricultural land located at the corner of Patterson Road and Doris Avenue in Oxnard, California. Ventura Road is the major point of access for Doris Avenue. Local access to the site is via unimproved "dirt" roads. The site is presently bounded on the north by Doris Avenue, on the west by Patterson Road and on the south and east by farm access unimproved roads. The relatively flat site slopes very gently to the southwest between approximate elevations 45 and 40 feet mean sea level. There are localized ditches along the property boundary. A site vicinity map, Figure A-1, is presented in Appendix A.

At the time of our field exploration, the site was used for agricultural purpose, and was supporting plantations of lettuce. The main water supply for onsite irrigation is from an onsite private well located along the southern boundary of the site. Except for the well and ancillary facilities, some underground and above ground utilities and power lines, we are unaware of other structures on site.

3. PROPOSED DEVELOPMENT

Koury understands that the Oxnard School District will develop the site for a new middle school academy. The site measures roughly 850 feet in the north-south direction and 1,070 feet in the east-west direction. The site will be developed for classrooms, gymnasium, administration, library, cafeteria, and a number of multi-purpose buildings. The buildings will be a combination of one and two story structures.

The proposed buildings will be located in an area measuring about 250 by 800 feet in the western portion of the site, about 200 feet east of Patterson Road. There will also be playfields such as soccer, baseball, softball and volleyball courts in the eastern portion of the site. The main parking areas will be along Patterson Road. The main access to the site

will be from Patterson Road through short driveways. Infrastructures such as roads, parking and underground utilities will also be constructed. The locations of the proposed buildings, parking and playfields are shown on Figure A-2.

Architectural and structural design details of the buildings were not provided. We understand that no basements are planned. We have assumed that the buildings will be constructed with structural steel framing, steel brace or light-framed shear walls. We have also assumed wall loading of 1 kip and 3 kips per linear foot for the one story and two story buildings, respectively. Column loads have been assumed to be less than 60 kips for one-story buildings and 150 kips for two-story buildings.

No grading plan was available at the time of preparation of this report. We have assumed that the finished grades will be within 2 feet of elevation of existing grades.

4. FIELD EXPLORATION

The field exploration program consisted of drilling three soil test borings within the proposed building areas and three percolation borings outside the building areas on January 24, 2014. The borings were drilled using a truck-mounted hollow-stem auger drill rig except for the percolation borings that were drilled with a hand auger. The hollow stem borings were drilled to approximate depths of 26 to 51 feet. In addition, we advanced three cone penetration tests (CPTs) to a maximum depth of 65 feet on January 22, 2014.

Standard penetration test samples, California ring samples, and bulk samples were obtained from the borings for soil classification and laboratory testing. The depths, blow counts, and description of the samples are shown on the attached Boring Logs presented in Appendix B of this report. The CPT profiles follow the boring logs in Appendix B. The boring contractor used a 140-lb automatic hammer to drive the samplers 18 inches into the soils. The locations of the borings and CPTs are shown on Figure A-2 presented in Appendix A.

5. LABORATORY TESTING

Laboratory tests, including moisture content, dry unit weight, Atterberg Limits, #200 sieve wash, consolidation, direct shear and pocket penetrometer, were performed on selected samples obtained from the borings to aid in the classification of the materials encountered and to evaluate their engineering properties. Sulfates, chlorides, resistivity, and PH tests (corrosivity tests) were also performed on selected samples. The results of the laboratory tests are presented on the boring logs in Appendix B, and/or in Appendix C.

6. SUBSURFACE SOIL CONDITIONS

The site is generally covered by a thin mantle of fill about 2 feet thick. Greater fill depths are locally present at utility locations and where ditches were previously excavated. The fill generally consists of sandy silt, sandy lean clay, and fine silty sand.

The fill is underlain by alluvium consisting predominantly of sandy silt and sandy clay within the upper 24 feet. The clay and silt are interbedded and also contains layers of silty sand. Below 24 feet to a depth of 65 feet, the soils consist predominantly of interbedded silty sand and poorly graded sand with some interbeds of sandy silt or sandy clay.

The alluvial clay and silt within the upper 24 feet were generally found to be firm to stiff. The sands below the silt and clay were generally medium dense to dense. The moisture contents of the silt and clay sample tested ranged from 18 to 31 percent with an average of about 22 percent. The dry unit weights of these soils ranged from 96 to 112 pcf with an average of about 103 pcf.

The laboratory consolidation test data indicates that the fine-grained soils are generally overconsolidated and, therefore, low to moderately compressible under the anticipated static load increase except for the soils near the ground surface. The CPT data also suggest that the silt and clay are moderately overconsolidated. No significant hydrocollapse was observed in the consolidation tests upon addition of water to the samples.

To verify the soil classification and characteristics, thirty seven No. 200 wash tests were performed on samples of the borings as shown on the attached boring logs. Three tests performed on the cleaner sands indicated 5 to 11 percent fines contents. The eight tests performed on silty sand materials indicated 13 to 47 percent fines with an average of about 30 percent. Twenty three tests on the silt and clay soils indicated 50 to 87 percent fines with an average of about 69 percent. Two Atterberg Limits indicated liquid limits of 21 and 28 and plasticity index of 5 and 8, respectively. Most laboratory test results are presented on the boring logs.

The soil conditions described in this report are based on the soils observed in the test borings drilled and the CPTs for this investigation and the laboratory test results. Variations between and beyond the borings and CPTs should be anticipated.

7. GROUNDWATER

The proposed development is located at approximate elevations 40 to 45 feet Above Mean Sea Level (AMSL). Based on our review of the groundwater map presented in the "Seismic Hazard Zone Report for the Oxnard Quadrangle; Seismic Hazard Zone Report 052" (Plate 1.2), published by "Department of Conservation, California Division of Mine and Geology", the historic high groundwater level is 8 feet below ground surface (Figure A-3 in Appendix A). We encountered groundwater at a depth of approximately 15 to 19 feet during drilling. Fluctuations of the groundwater level should be anticipated, including higher groundwater during the rainy season.

8. SITE GEOLOGY

The site is located on the Oxnard Plain within the Transverse Range province, which extends along the coast from the Santa Ynez Mountains to the Los Angeles Basin. The Transverse Range Province is an east-west trending belt of mountains and uplands bounded on the north by the Santa Ynez fault, on the east by the San Bernardino Mountains, on the south by the Transverse Ranges frontal fault zone, and on the west by the Pacific Ocean.

The Oxnard Plain is part of the Ventura Basin which is bounded on the north by the Santa Ynez-Topatopa Mountains and on the south by the Channel Islands, the western Santa Monica Mountains, and the Simi Hills. To the east, the basin is bounded by the San Gabriel fault zone. To the west, the Santa Barbara Channel separates the offshore islands from the mainland. Near the Santa Barbara Channel, the Ventura Basin is a transitional zone consisting of a coastal plain and shoreline. The coastal plain is composed of a broad alluvial plain, some of which forms estuaries and lagoons.

Based on the Ventura County Geologic Map for the Oxnard Quadrangle, the site is underlain by Holocene alluvial fan deposit composed predominantly of clay with interbeds of sand and occasional gravel (Calhan, 2003, Figure A-4). The borings drilled and CPTs advanced during our investigation encountered clay and silt over sand.

9. SEISMIC CONSIDERATIONS

9.1. General

The site, like the rest of Southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The principal source of seismic activity is movement along the northwest-trending regional faults such as the San Andreas, San Jacinto, Newport-Inglewood and Whittier-Elsinore fault zones.

By definition of the California Geological Survey (CGS), an active fault is one which has had surface displacement within the Holocene Epoch (roughly the last 11,000 years). The CGS has defined a potentially active fault as any fault which has been active during the Quaternary Period (approximately the last 1,600,000 years). These definitions are used in delineating Earthquake Fault Zones as mandated by the Alquist-Priolo Geologic Hazard Zones Act of 1972 and as subsequently revised in 1997 as the Alquist-Priolo Earthquake Fault Zones. The intent of the act is to require fault investigations on sites located within Special Studies Zone to preclude new construction of certain inhabited structures across the trace of active faults.

The subject site is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest Alquist-Priolo Earthquake Fault Zones are the Simi-Santa Rosa Fault zone, the Ventura Fault, and the Oak Ridge Fault Zone. The Oak Ridge Fault surface expression is located about 4 miles north of the site and the Pita Point-Ventura about 5 miles north of the site (Figure A-5 in Appendix A). The Simi-Santa Rosa Fault zone is located about 6 miles east of the site. No evidence of active or potentially active faulting was observed on the subject site during our investigation. Surface rupture is not considered to be a potential hazard to the site.

Based on the information available at this time, it is our opinion that a M6.9 earthquake may occur on the Simi-Santa Rosa Fault and M7.2 earthquakes may occur on the Oak Ridge and on the Pitas Point-Ventura faults. Large earthquakes could occur on other faults in the general area, but because of their greater distance and/or lower probability of occurrence, they are less important to the site from a seismic shaking standpoint.

Due to the proximity of the site to the Simi-Santa Rosa Fault, Pita Point-Ventura Fault and the Oak Ridge Fault, near field effects from strong ground motion associated with a large earthquake along this fault may occur at the site. These near field effects, including "fling" and directivity of strong ground motion, may result in significantly higher accelerations at the site.

9.2. Landsliding

The site is not located in a Landslide Hazard Zone on the State of California Seismic Hazard Zones Map (Figure A-6, Appendix A). No evidence for landsliding was observed on or in the immediate vicinity of the site. Therefore, due to the lack of significant topographic variations at the project site, landsliding is not a potential problem on the site.

9.3. Liquefaction

The term liquefaction describes a phenomenon in which saturated, cohesionless soils temporarily lose shear strength (liquefy) due to increased pore water pressures induced by

strong, cyclic ground motions during an earthquake. When the pore water pressure is equal to or exceeds the overburden pressure, liquefaction of the affected soil layers occurs. For liquefaction to occur, three conditions are required:

- Ground shaking of sufficient magnitude and duration;
- Groundwater level at or above the level of the susceptible soils during the ground shaking; and
- Soils that are susceptible to liquefaction.

The Liquefaction Hazard zone on the State of California Seismic Hazards Zones Map (Figure A-6, Appendix A) indicates that the site is located in a generalized liquefaction susceptibility zone (CDMG, 2002). Because of the depth of historic groundwater and the soil types encountered during our investigation, the potential for liquefaction at the site is high.

Liquefaction hazard analyses were performed using the computer program HYAT2008, which is based on the updated method of analysis as presented in Monograph MNO 12 (Idriss and Boulanger 2008) published by the Engineering Research Institute (EERI). The analyses with the CPT data were also checked using the Cliq software program developed by GeoLogismiki in collaboration with Gregg Drilling & Testing Inc. and Professor Peter Robertson. The computer program HYAT2008 uses either SPT or CPT data and is capable of screening non-liquefiable plastic soils, analyzing liquefaction triggering versus depth, and computing the lateral index and liquefaction-induced settlements. Liquefaction triggering resistance for CPT data is computed using the relationship by Idriss and Boulanger (2004). Post liquefaction reconsolidation settlements were computed using volumetric strain charts provided by Ishihara and Yoshimine (1992) and Idriss and Boulanger.

We evaluated the liquefaction potential at the site using the CPT and SPT data. CPTs were used primarily because they provide a continuous measurement of the site stratigraphy. We used an earthquake magnitude of 7.2 along with a site acceleration of 0.66g and a historic high groundwater level of 8 feet below the ground surface. The seismic settlement

calculations were performed for the CPTs to a depth of 60 feet. Based on the boring and CPT data and our engineering analyses, some layers of loose to medium dense sandy silt, silty sand, and sand below the groundwater are subject to liquefaction in the event of a major earthquake occurring on a nearby fault. The calculated liquefaction is in the order of 4 to 6 inches to a depth of 60 feet.

To calculate the dry settlement, we used the methods proposed by Tokimatsu and Seed (1987), Pradel (1998) and other methods recently published. These dry settlement calculation methods utilize the standard penetration test (SPT) blow count or CPT data to estimate the amount of volumetric compaction or settlement during an earthquake. The dry settlements calculated for the CPT and borings are generally in the range of ¼ inch to ½ inch. The seismic settlement profiles for the CPTs are included in Appendix E.

9.4. Lateral Spreading

The site and the surrounding areas are relatively flat with no significant descending slopes. Due to the relatively flat ground, the potential for lateral spreading is considered low.

9.5. Tsunamis and Seiche

The site is located at an average mean sea level (AMSL) elevation of approximately 40 to 45 feet, and there are no enclosed large bodies of water in the immediate vicinity of the property. The site is located outside the area mapped as subject to Tsunami/Seiche as delineated in the City of Oxnard General Plan, Seismic/Flooding and Tsunami/Seiche Potential Map. Therefore, tsunamis and seiche are not considered to be potential hazards to the site.

10. FLOODING

The site does not lie within a 100-year flood zone area or in a dam inundation area as shown on the FEMA Flood Map. The site is in an area of 0.2% annual chance of flooding or 1% annual chance flood with average depths of less than one foot. The Flood Map (Figure A-7) in Appendix A depicts the flood zone.

11. OIL WELLS AND OTHER HAZARDS

The State of California Department of Conservation does not report any oil well on site. The nearest known oil well was drilled about 1,300 feet south of the site. According to the available records this well was a dry hole. The nearest plugged well is located approximately ½ mile southwest of the site. The nearest active oil well reported is located about 1 mile to the northwest of the site as shown on the DOGGR Map, Figure A-8. Based on these dry wells and the distance from active wells, no hazardous materials associated with oil fields are expected.

Land subsidence is the sinking or gradual lowering of the earth surface. Man-made causes of land subsidence most often include groundwater pumping, mining, oil and gas production and river channelization. Based on the City of Oxnard General Plan, Seismic/Geologic Hazard map, there is some land subsidence occurring at about 0.05 feet per year in the general area, including most of the City of Oxnard.

12. SOIL EXPANSION POTENTIAL

The upper fill and alluvial soils are generally cohesive in nature (clay or silt with various amounts of fine sand). One test indicated an expansion index of 38. The clayey soil tested is considered to have a low expansion potential (EI ranges between 20 and 50). The consolidation tests did not indicate significant expansion upon wetting due to their relatively high in situ degree of saturation. Due to the nature of the deposits, medium expansive soils should also be expected in some areas of the site. Further evaluation of the expansion potential should be performed during subsequent subsurface investigation.

13. SOIL HYDROCONSOLIDATION POTENTIAL

Soils susceptible to hydroconsolidation will reduce in volume upon wetting from water. Naturally occurring soils that are susceptible to hydroconsolidation are generally porous with a structure of clay and silt particles held together by soluble salts or/and have a low

moisture content. Based on the samples obtained during the field exploration, the soils are generally non porous and have moisture contents above optimum.

The potential for hydroconsolidation has been evaluated based on the consolidation test results and soil moisture contents. The consolidation results do not indicate significant settlement upon addition of water. Based on the consolidation test results, the in situ moisture contents, and the dry unit weights of the soils measured in the laboratory to date, we consider the alluvium to have a low potential for hydroconsolidation. The upper soils should be recompacted to prevent hydroconsolidation near the ground surface. Further evaluation of the hydroconsolidation potential should be performed during a subsequent subsurface investigation.

14. CONCLUSIONS AND RECOMMENDATIONS

14.1. General

In our opinion, the proposed development is feasible from a geotechnical engineering point of view. However; special consideration needs to be given to foundation support due to the potential for seismic settlement.

The following sections contain a preliminary geotechnical evaluation for the design and construction of the subject improvements and include discussions about bearing capacity, settlement, flatworks, slabs-on-grade, temporary excavations, and utility trenches.

14.2. Earthwork

14.2.1 Site Preparation

All environmentally undesirable materials, surficial vegetation, deleterious, organic, and oversized materials (greater than 4-inches in maximum dimension), and demolition debris should be stripped from the development areas and exported or stockpiled away from the work area. Areas to receive fill should be stripped of all dry, loose or soft earth materials

and undocumented fill materials to the satisfaction of the Geotechnical Engineer. We recommend removing all existing utilities and other improvements to be abandoned.

14.2.2. Building Pads

Any existing abandoned underground utilities, organic material and other debris should be removed from the proposed building areas. The onsite shallow soils are generally not suitable to support the proposed improvements without overexcavation and recompaction. The depth of overexcavation will depend upon the ground improvement method selected. As a minimum, we recommend overexcavating the subgrade at least 4 feet below existing and proposed grades, whichever is deeper. The overexcavation should extend laterally at least 5 feet or the depth of the excavation beyond the building foundation perimeters, whichever is greater. Where the overexcavation cannot be extended to the full extent laterally, as recommended, due to existing facilities, property lines and easement, the overexcavation should be extended vertically by an additional one to two feet depending upon subsurface and site conditions observed. All existing fill should be overexcavated and replaced as new engineered fill.

Due to the soil expansion potential, for preliminary cost estimate, we recommend that the upper two feet of backfill below the footings and slabs consist of non-expansive soils. The bottom of the removal excavation should be scarified to 8 inches, moisture conditioned and recompacted to at least 92% relative compaction as determined by ASTM D1557. All sands and other granular fill placed below building pads and foundations should be compacted to at least 95% relative compaction at moisture content within 2½ percent of optimum unless approved otherwise by the Geotechnical Consultant at the time of construction. All sandy silt and clay should be compacted to at least 92% relative compaction at moisture content above optimum for the silt and 2 percent above optimum for the clay unless determined otherwise at the time of construction by the Geotechnical Engineer due to “pumping conditions”.

14.2.3. Subgrade for Exterior Flatwork

For exterior flatwork for pedestrian access, we recommend the placement of at least 18 inches of non-expansive granular material. The same moisture conditioning and compaction as recommended for the building pads apply. The minimum thickness of new fill below the

pedestrian walkway should be 2½ feet. The overexcavation below the existing grade in these areas should be at least 2½ feet. Prior to fill placement, the subgrade should be scarified to 8 inches, moisture conditioned and recompacted to 90% relative compaction.

Exterior concrete slabs for pedestrian traffic or landscape should be at least four inches thick. If there are areas where maintenance carts will be used or where heavy furniture or other supplies will be repeatedly moved with dollies, the placement of 3 to 4 inches of aggregate base compacted to 95% relative compaction is advisable to prolong the life of the walkway. Weakened plane joints should be located at intervals of no more than about 6 feet. The need for reinforcement in exterior flatwork should be evaluated, as necessary, on a site-specific basis following grading or the site design.

14.2.4. Subgrade for Pavement

We recommend overexcavating the subgrade at least 2½ feet below the existing grade and 2½ feet below the proposed aggregate base, whichever is greater. The subgrade should then be checked for moisture content. Onsite clayey soils may be used as backfill below the pavement up to the design subgrade provided proper moisture conditioning is achieved. For pavement subgrade, all clayey soils should be placed in about 6-inch thick loose lifts and compacted to at least 2 percent above optimum at 90 percent relative compaction. "Pumping pavement subgrade" should not be accepted.

14.3. General Grading Requirements

1. All clayey soil fills, unless otherwise specifically stated in the report, should be compacted to at least 90 percent of the maximum dry density as determined by ASTM D1557 Method of Soil Compaction. All sand and other granular fill below building pads should be compacted to at least 95% relative compaction unless indicated otherwise.

2. No fill should be placed until the area to receive the fill has been adequately prepared and approved by the Geotechnical Consultant.

3. Fill soils should be kept free of debris and organic material.

4. Rocks or hard fragments larger than 3 inches may not be placed in the fill without approval of the Geotechnical Consultant or his representative, and in a manner specified for each occurrence.

5. The fill material should be placed in lifts which, when loose, should not exceed 8 inches per lift. Each lift should be spread evenly and should be thoroughly mixed during the spreading to obtain uniformity of material and moisture.

6. When the moisture content of the fill material is too low to obtain adequate compaction, water should be added and thoroughly dispersed until the soil has a moisture within 2½ percent of optimum moisture content for granular soils, above optimum for silt and 2 percent above optimum for clayey soils unless indicated otherwise by the Geotechnical Engineer at the time of construction. The fill should be considered as "failing" if the specified moisture requirements are not met. Any vacated fill should be moisture reconditioned prior to placement of additional fill.

7. When the moisture content of the fill material is too high to obtain adequate compaction, the fill material should be aerated by blading or other satisfactory methods until the soil has a moisture content as specified herein.

8. Permanent fill and cut slopes should not be constructed at gradients steeper than 2.5:1(H:V). Due to shallow groundwater and liquefaction potential, the slopes should be kept at a height below 5 feet unless approved otherwise by the geotechnical consultant.

It should be noted that the onsite shallow soils consist generally of silt, clay and silty sand that may be subject to "pumping" (deflection) at moisture content slightly above optimum. Based on our plasticity index tests and expansion index test, the optimum moisture of some of the clayey soils is on the order of 12 to 15 percent; the optimum moisture for the various mixtures

of sand and silt will be lower. Our laboratory moisture content test results are predominantly in the range of 18 to 31 percent with an average of about 24 percent. Some of these soils are considered to have moisture content in the range of 10 to 15 percent above optimum. Drying back these soils during grading and utility trench backfill will be required to achieve compaction. When weather and/or time does not allow drying back the excavation bottoms, "bridging" of bottom excavations for exterior flatwork may be performed by overexcavating some of the moist/wet soils and backfilling with ¾-inch crushed rock wrapped with geosynthetics.

"Bridging" of disturbed soils should not be allowed below building pads. Any disturbed soils should be removed from beneath the buildings. The contractor will have to select appropriate excavation and compaction equipment to avoid disturbing the subgrade and to be able to compact the fill to the project specifications above a relatively soft subgrade. Track-mounted excavators, tracked backhoes, and appropriate towed non-vibratory sheepsfoot combined with very thin backfill lifts should be used as necessary to reduce subgrade disturbance.

14.4. Fill Materials

14.4.1. Onsite Materials and Shrinkage

The shallow onsite soils appear to be predominantly mixtures of silt, clay and fine sand. Due to the use of fertilizer for agricultural purpose, environmental sampling and testing should be performed to determine the concentrations of herbicide and pesticide. If the concentrations of pesticide and herbicide are low and no debris and organic material are present, the material should be suitable as general fill where expansive soils are allowed such as within the vehicular pavement areas, landscape and below the non-expansive backfill zone below walkways and buildings.

Overexcavation and re-compaction will induce fill shrinkage. Many factors such as mixing, relative compaction of the fill, and topographic approximations will affect shrinkage. We cannot estimate the exact amount of shrinkage; however, in our opinion, the shrinkage may be on the order of 12 to 20 percent. In addition, 0.1 foot of subsidence should be considered. This subsidence will occur during grading.

14.4.2. Import

Import materials should contain sufficient fines (binder material) so as to be relatively impermeable and result in a stable subgrade when compacted. The imported materials should have an expansion index (EI) less than 20 and should be free of organic materials, debris, and cobbles larger than 3 inches, with no more than 10 percent of the materials being larger than 2 inches in size and no more than 35% passing the # 200 sieve. A bulk sample of potential import material, weighing at least 30 pounds, should be submitted to the Geotechnical Consultant at least 48 hours before fill operations. All proposed import materials should be approved by the Geotechnical Consultant prior to being placed at the site. All import soils should be tested for corrosivity potential if used within the proximity of structures or metallic piping. The soils should be cleared of environmental contamination prior to importing on site.

14.5. Temporary Excavations

The shallow undisturbed site soils are expected to be temporarily stable when excavated vertically to a depth of 4½ feet. For deeper excavations up to a depth of 8 feet, we recommend cut slope gradients no steeper than ¾H:1V unless shoring is used. For excavations between 8 and 12 feet, slope ratios no steeper than 1H:1V should be used. Sloughing and slumping of the excavation slope surface should be anticipated.

The top of slopes should be barricaded to prevent vehicles and storage loads within 6 feet of the tops of the slopes. A greater setback may be necessary when considering heavy vehicles such as concrete trucks and cranes; the Geotechnical Engineer should be advised of such heavy vehicle loadings so that specific setback requirements can be established.

When excavating adjacent to existing footings or building supports, proper means should be employed to prevent any possible damage to the existing structures. Un-shored excavations should not extend below a 1:1 (H:V) plane extending downward from the lower edge of adjacent footings and should start at least three feet away from the footing. Where there is insufficient space to slope back an excavation, shoring or sequential excavation (slot cut) will be required. All regulations of State or Federal OSHA should be followed.

Temporary excavations are assumed to be those that will remain un-shored for a period of time not exceeding one week. In dry weather, the excavation slopes should be kept moist, but not soaked. If excavations are made during the rainy season (normally from November through April), particular care should be taken to protect slopes against erosion. Mitigative measures, such as installation of berms, plastic sheeting, or other devices, may be warranted to prevent surface water from flowing over or ponding at the top of excavations.

14.6. Floor Slabs

14.6.1. General

The grading recommendations for the new building floor slabs are provided in Section 14.2.1. It is recommended that the compacted subgrade be properly moistened prior to casting floor slabs.

14.6.2 Moisture Sensitive Floor Coverings

Water vapor transmitted through floor slabs is a common cause of floor covering problems. In areas where moisture-sensitive floor coverings (such as tile, hardwood floors, linoleum or carpeting) are planned, a vapor retarder should be installed below the concrete slab to reduce excess vapor transmission through the slab.

The function of the recommended impermeable membrane (vapor retarder) is to reduce the amount of soil moisture or water vapor that is transmitted through the floor slab. The membrane should be at least 10-mil thick, Class A, and care should be taken to preserve the continuity and integrity of the membrane beneath the floor slab. A 4-inch thick layer of free drainage gravel or coarse sand, with no more than 2 percent passing ASTM No. 200 sieve, is normally recommended to be placed below the vapor retarder to serve as a capillary break.

Another factor affecting vapor transmission through floor slabs is the water to cement ratio in the concrete used for the floor slab. A high water to cement ratio increases the porosity of the concrete, thereby facilitating the transmission of water vapor through the slab. The

project Structural Engineer should provide recommendations for design of concrete for foundations and floor slabs in accordance with the latest version of the applicable codes. The placement of sand above the vapor retarder is the purview of the Structural Engineer.

14.7. Seismic Coefficients

Under the Earthquake Design Regulations of Chapter 16, Section 1613 of the CBC 2013, and based on the mapped values, the coefficients and factors presented in the following table apply to the lateral-force design for the proposed new structures at the site. The mapped acceleration parameters were obtained from the USGS website using the latitude (N34.2066^{o}) and longitude (W119.2077^{o}), the site soil classification (alluvium), and the design code reference document (2010 ASCE 7). A response spectrum is presented on Figure A-9.

For New Structures Site Class (CBC 2013 – 1613A.5.2)	D
Seismic Design Category based on Occupancy Category III (CBC 2013-1604.5 &1613.5.6)	E
Mapped Acceleration Parameter for Short Period (0.2 Second), S_S	2.485
Mapped Acceleration Parameter for 1.0 Second, S_1	0.912
Adjusted Maximum Spectral Response Parameter for Short Period (0.2 Second), S_{MS}	2.485
Adjusted Maximum Spectral Response Parameter for 1.0 Second Period , S_{M1}	1.368
Design Spectral Response Acceleration Parameter, S_{DS}	1.657
Design Spectral Response Acceleration Parameter, S_{D1}	0.912

14.8. Building Foundations

General: Special consideration needs to be given to foundation design due to the potential for significant ground shaking and settlement that may occur as a result of that ground shaking. The total seismic settlement is on the order of 4 to 6 inches. This level of settlement is deemed greater than generally acceptable in the industry for a structural solution. Ground improvement is, therefore, recommended.

The most common types of ground improvement to mitigate liquefaction include stone columns, compaction grouting, and deep soil cement mixing. These methods can be combined with mat foundations depending upon the site conditions. For this site, the use of stone columns with conventional spread footing foundations may be one of the less expensive mitigation measures.

Ground improvements are typically design-build projects and the specialty contractors are ultimately responsible for the performance of their designs since both the construction methods and designs affect the ultimate performance. For the areas recommended to be improved, the stone columns should be designed to limit the total seismic settlement to no more than one inch with differential settlement of less than ¾ inch within the upper 50 feet. The static settlement should be no greater than ½ inch. In addition to the settlement criteria, the replacement ratio should not be less than 10 percent. The stone columns should not have a diameter less than 24 inches and the center to center spacing should not be greater than 8½ feet.

The tips of stone columns should extend 50 feet below the existing ground surface. Because of the lack of lateral confinement, the top two feet of the stone columns will not be adequately compacted upon completion of the columns and will require overexcavation and recompaction. We recommend a minimum of 2½ feet of overexcavation below the footing bottoms. The backfill for the overexcavation above the stone columns should consist of ¾-inch crushed rock. The construction of stone columns will result in soil bulking that may require exporting or placement in other areas of the site.

For preliminary design purpose, we recommend 3-foot diameter stone columns at center spacing (rectangular pattern) not exceeding 7.5 feet or equilateral pattern not exceeding 8 feet on center. In addition, to balance the building column loads, DSA may require that 4 stone columns be installed under each isolated footings. Continuous footings may be used to circumvent this requirement for isolated footings.

Footings should have a minimum width of 2½ feet for isolated footings and 1½ feet for continuous footings. The bottom of footings should be located at least 24 inches below the

lowest adjacent finish grade. Due to soil expansion potential, the footing reinforcement should consist of a minimum of 3 No. 5 bars, top and bottom or equivalent as determined by the structural engineer.

The proposed structures may be supported on isolated and/or continuous footings designed using a net allowable bearing pressure of 2,000 pounds per square foot (psf). A one-third increase in the bearing value may be used when considering wind or seismic loads.

The design-build contractor will adjust the diameter and spacing within the limits provided to meet the settlement design criteria based on the anticipated subsurface conditions and their methods of construction. A stone column testing program, including load tests and verification CPTs and test borings with SPTs is recommended. The number of tests, locations, and depths recommended will be presented in the performance specifications.

Lateral Extension of Stone Columns: The stone columns should extend approximately 20 feet beyond the building footprints per Special Publication 117. At least two rows of columns should be installed outside the building perimeters. At some locations, the space may be limited due to property lines and/or utility easement. In these locations, the stone column rows can be brought closer together to fit within the available space.

Continuous Footings: Footings are anticipated to be used for screen walls and other minor structures where seismic settlement is not a major concern. Footings should have a minimum width of 2 feet for isolated footings and 1½ feet for continuous footings. The bottom of footings should be located at least 24 inches below the lowest adjacent finish grade.

For lightly loaded structures such as screen/fence walls, the overexcavation below footings should be at least 18 inches. A net allowable bearing pressure of 1200 psf may be used. A one-third increase in this value may be used when considering wind or seismic loads.

Lateral Resistance: Lateral load resistance may be derived from passive resistance along the vertical sides of the foundations, friction acting at the base of the foundations, or a

combination of the two. A coefficient of friction of 0.35 may be used between the footings, floor slabs, and the supporting soils comprised of compacted granular earth materials. The passive resistance of level properly compacted fill soils in direct contact with the footings may be assumed to be equal to the pressure developed by a fluid with a density of 250 pcf, to a maximum pressure of 2,000 psf.

A one-third increase in the passive value may be used for wind or seismic loads. The frictional and passive resistances of the soils may be combined. Due to the low bearing pressure, the passive resistance does not need to be reduced by one-third. We recommend that the first foot of soil cover be neglected in the passive resistance calculations if the ground surface is not protected from erosion or disturbance by a slab, pavement or in a similar manner.

Estimated Settlement for Footings: Based on the results of our analyses and provided that our recommendations in the preceding sections of this report are followed, we estimate that the total static settlement of isolated and/or continuous footings under sustained loads would be on the order of ½ inch for the anticipated structural loads indicated in this report. The seismic settlements for footings are anticipated to be on the order of ¾ inches where stone columns are constructed. Where no stone columns are constructed, the seismic settlement is anticipated to exceed 4 inches.

14.9. Utility Trench Backfill

A minimum of 4-inch thick bedding material should be placed below the bottom of the utility lines, on a firm and unyielding subgrade. Bedding material should extend 12 inches above the lines. Bedding material should consist of either sand, fine-grained gravel, or sand-cement slurry to support and/or to protect the lines. The bedding material should meet the specifications provided in the latest edition of the "Standard Specifications for Public Works Construction" (Greenbook). Sand or gravel should be compacted in accordance with the Greenbook specifications.

The upper two feet of trench backfill below the buildings and the upper 18 inches below exterior flatwork should consist of non-expansive granular material and/or sand. The

backfill should be mechanically compacted to at least 90% of the maximum dry density of the soils except for buildings where 95% is required. Below pavements, a minimum relative compaction of 95% is required in the upper one foot of the backfill. For utility trenches within the buildings, the backfill should be compacted to the minimum required relative compaction indicated under the "Grading" section of this report. The material should be observed, tested and approved by the Geotechnical Consultant. The trench backfill materials should be placed in accordance with Sections 306-1.2.1 and 306-1.3 of the "Standard Specifications for Public Works Construction" (Greenbook).

When adjacent to a conventional footing, utility trenches and pipes should be laid above an imaginary line measured at a gradient of 1:1 (H:V) projected down from 12 inches above the bottom edges of any footings. Otherwise, the pipe should be designed to accept the lateral effect from the footing load, or the footing bottom should be deepened as needed to comply with this requirement. Backfill consisting of 2-sack sand cement slurry may also be used.

Due to the anticipated site seismic settlement, flexible utility connections to the buildings should be considered, including smaller diameter pipes enclosed in casings that will allow some movement without stressing the pipes. Automatic shut off valves should also be considered.

14.10. Drainage

Foundation, slabs, flatwork, and pavement performance depends greatly on proper drainage within and along the boundary of the development. Perimeter grades around the buildings should be sloped in a manner allowing water to drain away from the structures and not pond next to the foundations. Roof downdrains should be connected to underground pipes carrying water away from the building area or have extenders so water does not drain and pond next to the buildings. Per the 2013 CBC, landscape areas within 10 feet of buildings should slope away at gradients of at least 5 percent. Paved areas within 10 feet of buildings should slope away at gradients of at least 2 percent.

14.11. On Site Water Infiltration

At the time of our field exploration the types, locations and depths of the proposed Best Management Practices (BMPs) had not been finalized. Normally, percolation testing is performed about one foot below the invert of the BMPs. Since the historic groundwater is only about 8 feet below the existing ground surface, we performed percolation tests at depths of 3 to 4 and 4 to 5 feet below the existing ground surface. The locations of the three percolation tests are shown on the Boring Location Map, Figure A-2. It should be noted that many agencies prohibit infiltration when the historic high groundwater table is less than 10 feet below the bottom of the BMPs or require pre-filtering/treatment of the water prior to infiltration.

Borings were drilled and sampled at close intervals in the immediate vicinity of the percolation tests to determine the subsurface soil profile, which affects percolation. The subsurface conditions were found to be similar to the borings drilled in the vicinity of the proposed building locations. The soils were found to consist predominantly of fine grained materials such as sandy silt, sandy clay and fine silty sand.

Koury performed the tests in general conformance with the boring percolation test procedures of the County of Los Angeles as defined in County document GS200.1 dated June 1, 2011. The test procedures consisted of drilling 6-inch diameter boreholes to depths of about 3 and 5 feet below the existing ground surface, placing a 2-inch diameter perforated pipe in the hole and backfilling the annulus with clean gravel to avoid caving in the test zone. The procedure involved pre-soaking the percolation zone prior to testing. Following pre-soaking, percolation testing began by filling the bottom 2 to 3 feet with water and measuring the drop in water level at intervals of 30 minutes.

The percolation testing data was converted to infiltration rates as presented in Appendix D. The in-situ field percolation tests performed provide short-term infiltration rates, which apply mainly to the initiation of the infiltration process due to the short time of the test (minutes to hours instead of days) and the amount of water used. Where appropriate the short-term infiltration rates should be converted to long-

term infiltration rates using reduction factors ranging from 3 to 12 depending upon the degree of infiltrate quality, maintenance access and frequency, site variability, subsurface stratigraphy variation, hydraulic gradient, and other factors. The gradation tests indicate long term infiltration rate on the order of 0.2 in/hr.

The rate of infiltration is also a function of the hydraulic gradient that is reduced when there is a water table or low permeable layer closer than 20 feet from the bottom of the infiltration system. In this case, the groundwater level is about 12 feet below the bottom of the tests. Also, the small scale percolation testing cannot model the complexity of the effect of interbedded layers of different soil composition. Because of the shallow groundwater, the water to be disposed of will have to move horizontally and "mounding" of the water may reduce the percolation rate. In addition, the clay layers will reduce the infiltration substantially. Additional percolation tests should be performed once the BMP locations and depths have been determined.

Infiltration facilities should be kept at least 50 feet away or more from structures or foundations and 25 feet from property lines.

The site soils generally have a low to medium expansion potential and high moisture contents; the effects of storm water infiltration on soil expansion should be small. There is potential for minor settlement and heave of the pavement and other flatwork due to expansion and hydroconsolidation, and some maintenance should be anticipated in the vicinity of the infiltration facilities. The infiltration facilities should be designed to overflow to the storm drain in the event that the drainage capacity is exceeded or in case of future failure to infiltrate sufficiently. Utility pipelines should be located outside the infiltration facilities or special measures should be taken to prevent water from entering the bedding and shading materials placed around utilities.

No infiltration facility should be designed to infiltrate water into fill material except if coarse-grained clean sand and gravel are used as fill. Any construction method should prevent compaction of the area where infiltration is proposed. Any soil processing and

compaction may reduce the infiltration by factors ranging between 10 and 100. We recommend that the lower 18 inches of the excavations for infiltration facilities be performed using an excavator; no rubber tire equipment should be allowed at the bottom of the excavations. No disturbance to the bottom of the excavations should be allowed. If silty or clayey fill is encountered at the bottom of the excavations, it should be removed and replaced with coarse clean sand or crushed rock. The proposed infiltration design system should be reviewed by the Geotechnical Consultant prior to construction.

14.12. Retaining Wall

Due to the potential for seismic settlement, the use of retaining walls should be avoided as much as possible except for small planter walls. Design earth pressures for retaining walls depend primarily on the allowable wall movement, wall inclination, type of backfill materials, backfill slopes, surcharges, and drainage. The earth pressures provided assume that a non-expansive backfill will be used and a drainage system will be installed behind the walls, so that external water pressure will not develop. If a drainage system is not installed, the wall should be designed to resist hydrostatic pressure in addition to the earth pressure. Determination of whether the active or at-rest condition is appropriate for design will depend on the flexibility of the walls. Walls that are free to rotate at least 0.002 radians (deflection at the top of the wall of at least 0.002 x H, where H is the unbalanced wall height) may be designed for the active condition. Walls that are not capable of this movement should be assumed rigid and designed for the at-rest condition. The recommended active and at-rest earth pressures are provided in the following table.

Earth Pressures for Retaining Walls
(Non-Expansive Backfill)

Wall movement	Backfill Condition	Equivalent Fluid Pressure (pcf)
Free to Deflect (active condition)	Level	40
Restrained (at-rest condition)	Level	60

The above lateral earth pressures do not include the effects of surcharges (e.g., traffic, footings), compaction, or truck-induced wall pressures. Any surcharge (live, including traffic, or dead load) located within a 1:1 plane drawn upward from the base of the

excavation should be added to the lateral earth pressures. The lateral contribution of a uniform surcharge load located immediately behind walls may be calculated by multiplying the surcharge by 0.33 for cantilevered walls and 0.5 for restrained walls. Walls adjacent to areas subject to vehicular traffic should be designed for a 2-foot equivalent soil surcharge (240 psf).

Care must be taken during the compaction operation not to overstress the wall. Wall backfill should be compacted to a least 90 percent relative compaction; however, heavy construction equipment should be maintained at a distance of at least 3 feet away from the walls while the backfill soils are being placed.

Walls should be waterproofed, and properly drained or designed to resist hydrostatic pressures. Except for the upper 18 inches, the backfill immediately behind retaining walls (minimum horizontal distance of 2 feet measured perpendicular to the wall) should consist of free-draining ¾-inch crushed rock wrapped with filter fabric. The upper 18 inches of cover backfill should consist of relatively impervious material. Four inch diameter perforated PVC pipes, placed perforations down at the bottom of the rock layer leading to a suitable gravity outlet, should be installed at the base of the walls.

14.13. Asphalt Concrete (AC) Pavement

The required pavement structural sections depend on the expected wheel loads, volume of traffic, and subgrade soils. An R-value of 10 was used for preliminary pavement design assuming a clayey soil pavement subgrade.

The following pavement sections were calculated based on assumed traffic indices of 4 through 7. The project Civil Engineer should determine the traffic index to be used for different areas of the site.

Traffic Index	Asphalt Thickness (Inches)	Base Course (CAB) Thickness
4	3.0	6.0
4.5	3.0	8.0

5	3.0	9.0
5.5	3.0	11.0
6	3.5	12.0
6.5	4.0	13.0
7.0	4.0	15.0

Base course material should consist of Crushed Aggregate Base (CAB) as defined by Section 200-2.2 of the Standard Specifications for Public Works Construction ("Greenbook"). Base course should be compacted to at least 95 percent of the maximum dry density of that material. The base should be underlain by at least 2½ feet of engineered fill. The engineered fill should extend at least 3 feet beyond the edge of the pavement. See Earthwork section for grading recommendations.

In order to increase pavement performance and extend the pavement life, concrete curbs and gutters could be deepened to extend below the base course material and be seated in the compacted subgrade. Priority should be given to areas where heavier traffic is anticipated and where irrigation may be greater. The intent of deepening the curbs and gutters is to form a "cut-off" wall to reduce the amount of water flow through the base course material from adjacent landscaped areas. Subgrade soils, which become soaked as a result of water flowing through base course material, can reduce the life of the pavement and cause heaving of the pavement. The curbs should be deepened to an elevation of at least 6 inches below the bottom level of the proposed base course section.

14.14. Portland Cement Concrete (PCC) Pavement

The grading recommendations for vehicular PCC pavement are provided in Section 14.2.2 of this report. Base course material, used in the pavement sections, should consist of Crushed Aggregate Base (CAB) as defined by Section 200-2.2, respectively, of the Standard Specifications for Public Works Construction (Greenbook 2012). The aggregate base course should be compacted to at least 95% of the maximum dry density of that material.

The recommendations presented herein should be used for design and construction of the slabs and pertaining grading work underlying the pavement area. A minimum modulus of rupture of 550 psi for concrete has been assumed in designing of the PCC pavement sections; this corresponds to a concrete compressive strength of approximately 4,000 psi at 28 days. A qualified design professional should specify where heavy duty and standard duty concrete pavement slabs are used based on the anticipated type and frequency of traffic.

A weighted design k-value of 150 pounds per cubic inch (pci) was used assuming 6 inches of compacted Class II CAB material is placed over the compacted subgrade, as recommended. The recommended PCC pavement sections are provided in the following table:

PCC Pavement Sections

Pavement Type	Portland Cement Concrete Thickness (inches)	Base Course (CAB) Thickness (inches)
Light Duty	6.0	6.0
Heavy Duty	7.5	6.0

The following recommendations should also be incorporated into the design and construction of PCC pavement section:

- The pavement sections should be reinforced with No. 3 rebars spaced at 18 inches on centers each way to reduce the potential for shrinkage cracking.
- Joint spacing in feet should not exceed twice the slab thickness in inches, e.g., 12 feet for a 6-inch slab thickness. Regardless of slab thickness, joint spacing should not exceed 15 feet.
- Layout joints should form square panels. When this is not practical, rectangular panels can be used if the long dimension is no more than 1½ times the short one.
- Control joints should have a depth of at least 1/4 the slab thickness, e.g., 1 inch for a 4-inch slab.

- Pavement section design assumes that proper maintenance such as sealing and repair of localized distress will be performed on a periodic basis.

The PCC pavement material should conform to Section 201 of the Greenbook and the pavement should be constructed in accordance with Section 302-6 of the Greenbook.

15. SOIL CORROSIVITY

The corrosion potential of the on-site materials to steel and buried concrete was preliminarily evaluated. Laboratory testing was performed on selected soil samples to evaluate pH, minimum resistivity, chloride and soluble sulfate content. The test results are presented in the following table.

Corrosion Test Results

Boring	Depth (ft)	Minimum Resistivity (ohm-cm)	pH	Soluble Sulfate Content (ppm)	Soluble Chloride Content (ppm)
B-2	2	1540	7.9	384	48
P-1	4	-	-	8180	-

These tests are only an indicator of soil corrosivity for the samples tested. Other soils found on site may be more, less, or of a similar corrosive nature. Imported fill materials should be tested to confirm that their corrosion potential is not more severe than those tested. Based on the minimum resistivity results from the soil tested, some of the near-surface site soils may be considered to have a high corrosion potential towards buried ferrous metals. The concentrations of soluble sulfates indicate that the potential of sulfate attack on concrete in contact with the on-site soils is low for the soil from Boring B-2 and very high for Boring P-1, based on ACI 318 Table 4.3.1. Cement Type IV are recommended for concrete in contact with soils. Low water-cement ratios (maximum 0.45) with high concrete strength (minimum 4,500 psi) should be used for concrete in contact with onsite soils in order to mitigate concrete deterioration. Further interpretation of the

corrosivity test results, including the resistivity value, and providing corrosion design and construction recommendations are the purview of corrosion specialists/consultants.

16. ADDITIONAL EXPLORATION AND TESTING

This report has been prepared for a preliminary determination of soil conditions and geologic hazard to determine some of the site constraint from a geotechnical standpoint. This report should not be considered a design level study. Additional field exploration, laboratory testing and engineering analysis should be performed for the design level study.

17. CLOSURE

The findings and recommendations presented in this report were based on the results of our field and laboratory investigations, combined with professional engineering experience and judgment. Variations of soil conditions between borings should be anticipated. The report was prepared in accordance with generally accepted engineering principles and practice. We make no other warranty, either express or implied.

Should you have any questions concerning this submittal, or the recommendations contained herewith, please do not hesitate to call our office.

Respectfully submitted,

KOURY GEOTECHNICAL SERVICES, INC.

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APPENDICES

Appendix A: Maps and Plans

Vicinity Map - Figure A-1
Boring Location Plan - Figure A-2
Historic High Groundwater – Figure A-3
Geology Map – Figure A-4
Fault Map – Figure A-5
Seismic Hazard Zone Map – Figure A-6
Flood Map – Figure A-7
Oil Wells Map – Figure A-8
Response Spectrum – Figure A-9

Appendix B: Boring and CPT Logs

Legend
Borings B-1 through B-3
Borings P-1 through P-3
CPT Reports

Appendix C: Laboratory Test Results

Appendix D: Percolation Test Results

Appendix E: Seismic Settlement Calculations

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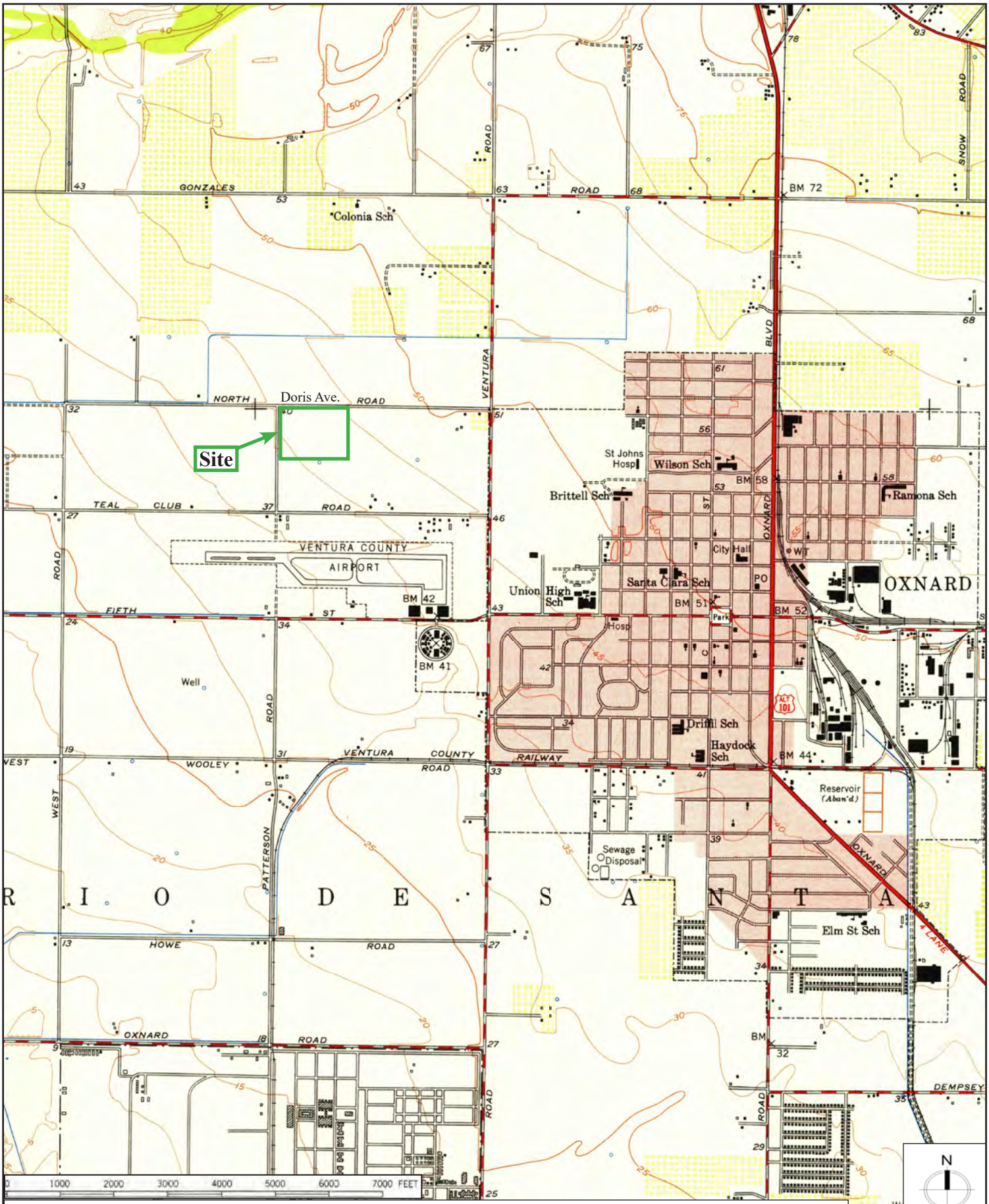
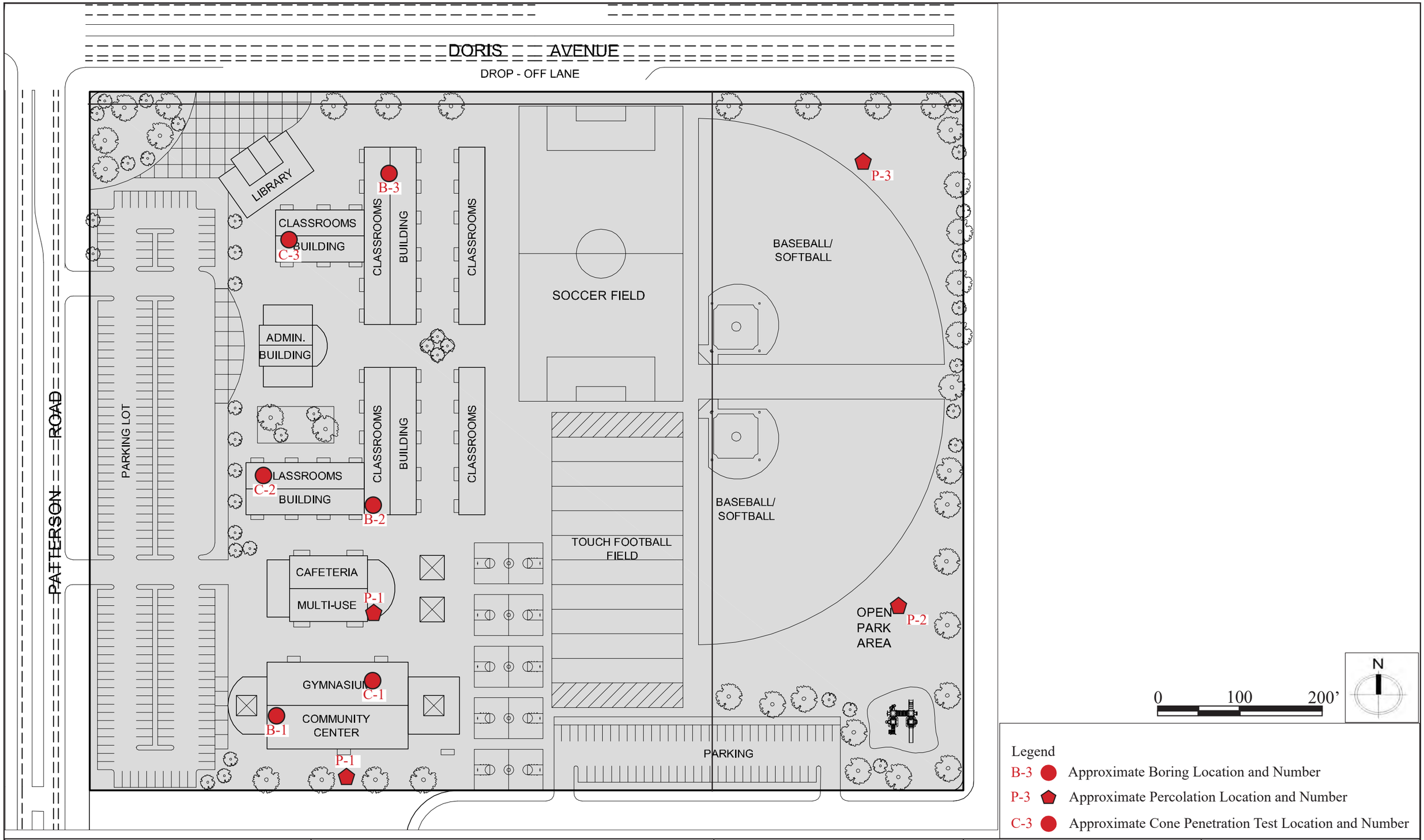
APPENDIX A

MAPS AND PLANS



Reference: USGS Topographic Map, Oxnard Quadrangle -Ventura County, 7.5 Minutes Series, California, 1949

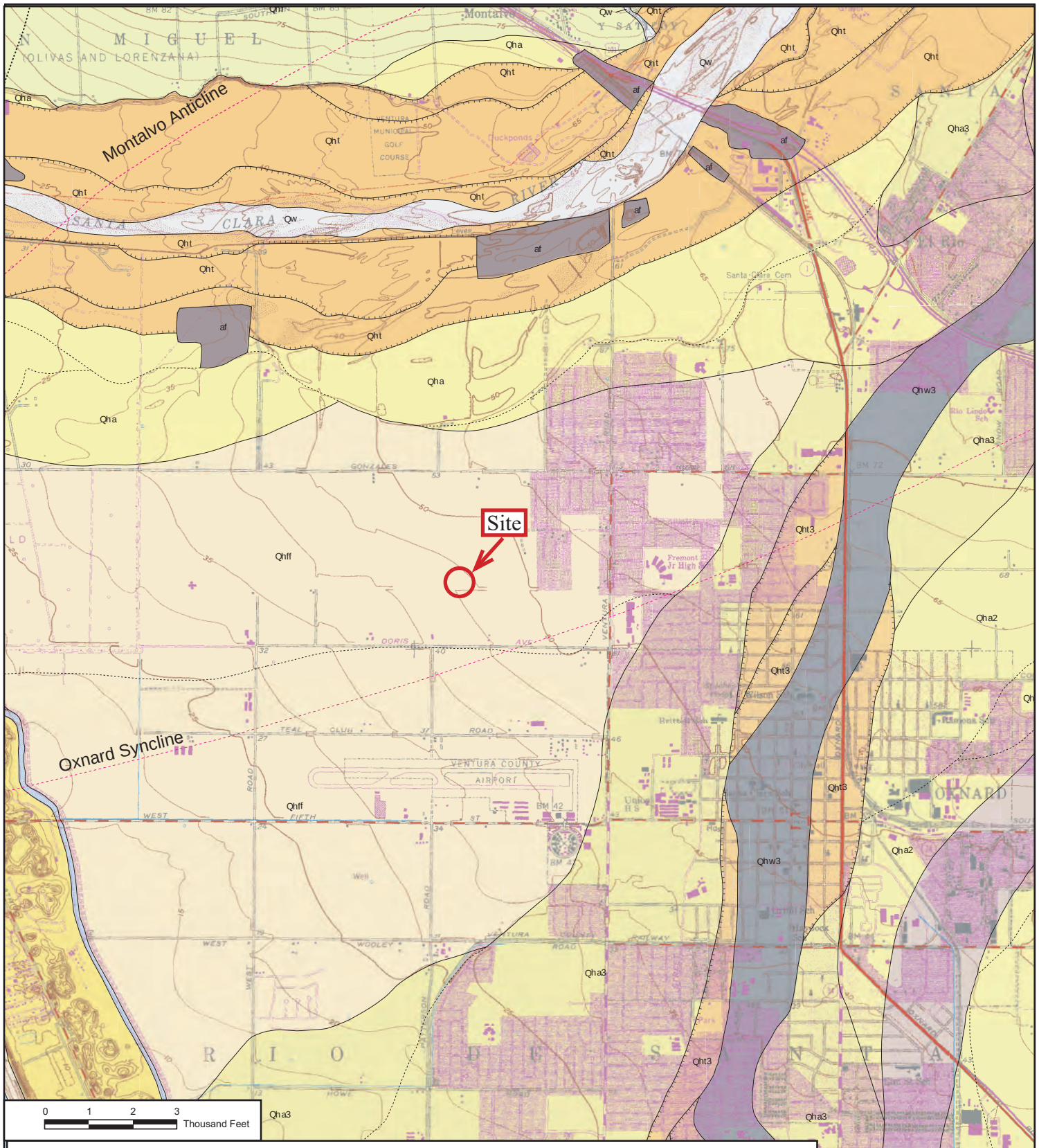
KOURY GEOTECHNICAL SERVICES, INC.	Project Name **Teal Club Middle School Academy** **Oxnard, California**	Project No. **13-0637** Date **January 2014**	Drawing Title **Vicinity Map**	Figure **A-1**



KOURY GEOTECHNICAL SERVICES, INC.	Project Name: Teal Club Middle School Academy, Oxnard, California	Project No.: 13-0637 Date: January 2014	Drawing Title: Boring Location Map	Figure: A-2

Reference: USGS, Oxnard 7.5-minute Quadrangle, California, Plate 1.2, Seismic HAZARD ZONE REPORT 052

KOURY GEOTECHNICAL SERVICES, INC.	Project Name **Teal Club Middle School Academy Oxnard, California**	Project No. **13-0637** Date **January 2014**	Drawing Title **Historic High Groundwater Map**	Figure **A-3**



Qhff — Holocene alluvial fan deposits, fine facies; fine-grained alluvial fan and flood plain overbank deposits on very gently sloping portions fo the valley floor; composed of predominantly clay with interbedded lenses of coarser alluvium (sand and occasional gravel).

Reference: Geologic Map of the Oxnard 7.5' Quadrangle, Ventura County, California, Version 1.0, 2003

	Project Name	Project No.	Drawing Title	Figure
KOURY GEOTECHNICAL SERVICES, INC.	**Teal Club Middle School Academy** **Oxnard, California**	**13-0637** Date **January 2014**	**Geology Map**	**A-4**

Geologic Time Scale	Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION: ON LAND	DESCRIPTION: OFFSHORE
Quaternary – Late Quaternary – Historic				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
Quaternary – Late Quaternary – Holocene	200			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
Quaternary – Pleistocene – Late Quaternary	11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
Quaternary – Pleistocene – Early Quaternary	700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary	1,600,000*			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
	4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.

Reference: 2010 Fault Activity Map of CA, CA Geological Survey Web Site, See following page, Figure A-5a, for explanation

	Project Name	Project No.	Drawing Title	Figure
KOURY GEOTECHNICAL SERVICES, INC.	**Teal Club Middle School Academy Oxnard, California**	**13-0637** Date **January 2014**	**Fault Map**	**A-5**

EXPLANATION

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain. Concealed faults in the Great Valley are based on maps of selected subsurface horizons, so locations shown are approximate and may indicate structural trend only. All offshore faults based on seismic reflection profile records are shown as solid lines where well defined, dashed where inferred, queried where uncertain.

FAULT CLASSIFICATION COLOR CODE (Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

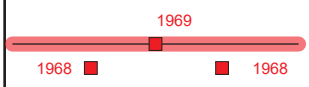
(a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.
(b) fault creep slippage - slow ground displacement usually without accompanying earthquakes.
(c) displaced survey lines.

A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.

Date bracketed by triangles indicates local fault break.

No triangle by date indicates an intermediate point along fault break.

Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.



Square on fault indicates where fault creep slippage has occured that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate termi- nal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).

Holocene fault displacement (during past 11,700 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.

Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.

Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement some- time during the past 1.6 million years; possible exceptions are faults which displace rocks of undifferenti- ated Plio-Pleistocene age. Unnumbered Quaternary faults were based on Fault Map of California, 1975. See Bulletin 201, Appendix D for source data.

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissnce nature, or was not done with the object of dating fault displacements.

ADDITIONAL FAULT SYMBOLS

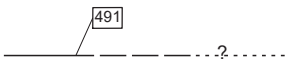
Bar and ball on downthrown side (relative or apparent).

Arrows along fault indicate relative or apparent direction of lateral movement.

Arrow on fault indicates direction of dip.

Low angle fault (barbs on upper plate). Fault surface generally dips less than 45° but locally may have been subsequently steepened. On offshore faults, barbs simply indicate a reverse fault regardless of steepness of dip

OTHER SYMBOLS

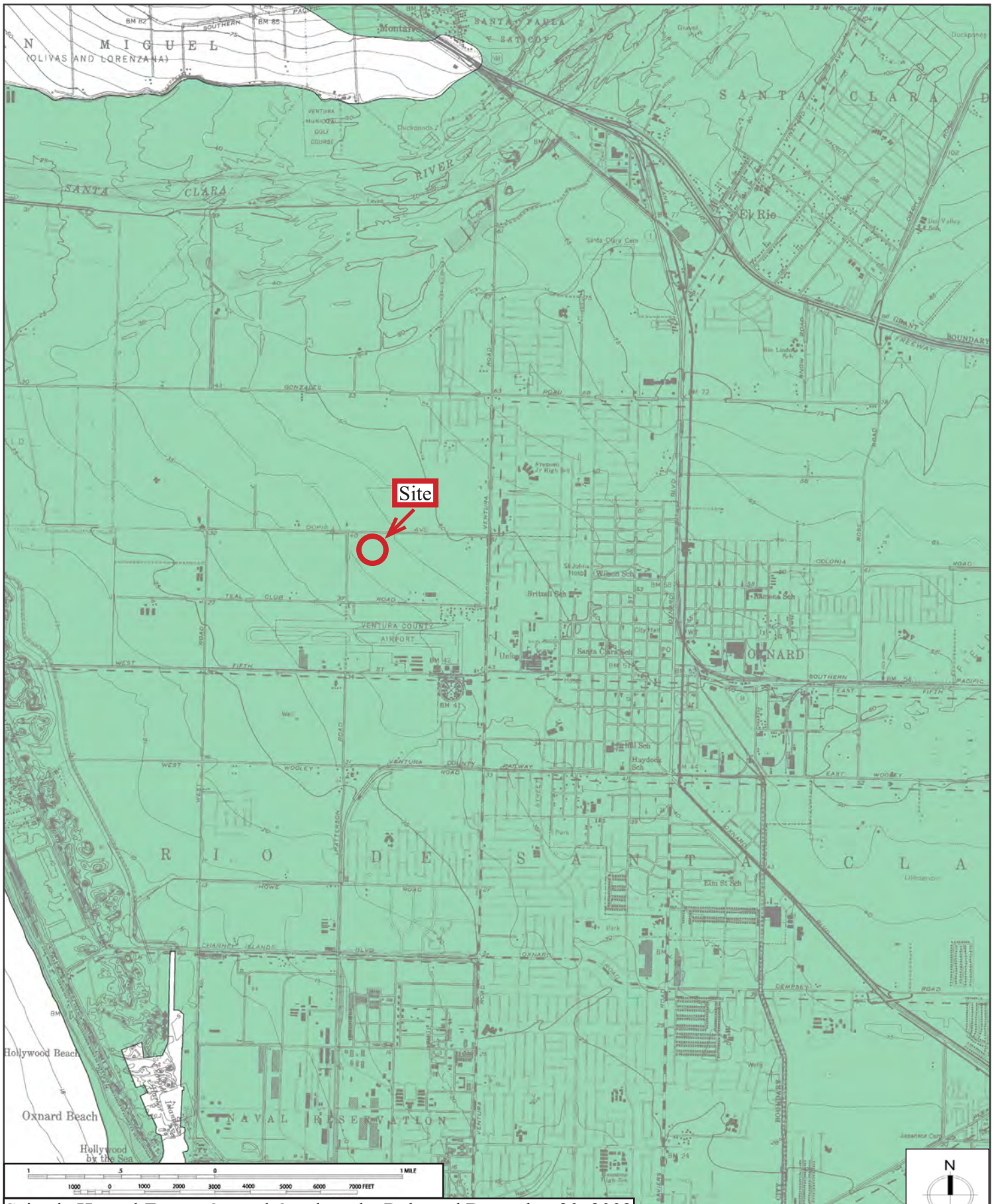


Numbers refer to annotations listed in the appendices of the accompanying report. Annotations include fault name, age of fault displacement, and pertinent references including Earthquake Fault Zone maps where a fault has been zoned by the Alquist-Priolo Earthquake Fault Zoning Act. This Act requires the State Geolo- gist to delineate zones to encompass faults with Holocene displacement.

Structural discontinuity (offshore) separating differing Neogene structural domains. May indicate disconti- nuities between basement rocks.

Brawley Seismic Zone, a linear zone of seismicity locally up to 10 km wide associated with the releasing step between the Imperial and San Andreas faults

KOURY GEOTECHNICAL SERVICES, INC.	Project Name **Teal Club Middle School Academy** **Oxnard, California**	Project No. **13-0637** Date **January 2014**	Drawing Title **Fault Map Legend**	Figure **A-5a**



Seismic Hazard Zones, Oxnard Quadrangle, Released December 20, 2002

	Project Name	Project No.	Drawing Title	Figure
KOURY GEOTECHNICAL SERVICES, INC.	**Teal Club Middle School Academy** **Oxnard, California**	**13-0637** Date **January 2014**	**Seismic Hazard Zone Map**	**A-6**

Reference: FEMA Map Service Center, URL: http://msc.fema.gov

See Figure A-7a for Legend

KOURY GEOTECHNICAL SERVICES, INC.	Project Name Teal Club Middle School Academy Oxnard, California	Project No. 13-0637 Date January 2014	Drawing Title Flood Map	Figure A-7

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- (A)—(A) — Cross section line
- (23)- - - -(23) — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3760000mN — 1000-meter Universal Transverse Mercator grid values, zone 11N
- 600000 FT — 5000-foot grid ticks: California State Plane coordinate system, zone V (FIPSZONE 0405), Lambert Conformal Conic projection
- DX5510 x — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ●M1.5 — River Mile

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0905E

FIRM

FLOOD INSURANCE RATE MAP

VENTURA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 905 OF 1275
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OXNARD, CITY OF	060417	0905	E
SAN BUENAVENTURA, CITY OF	060419	0905	E
VENTURA COUNTY	060413	0905	E

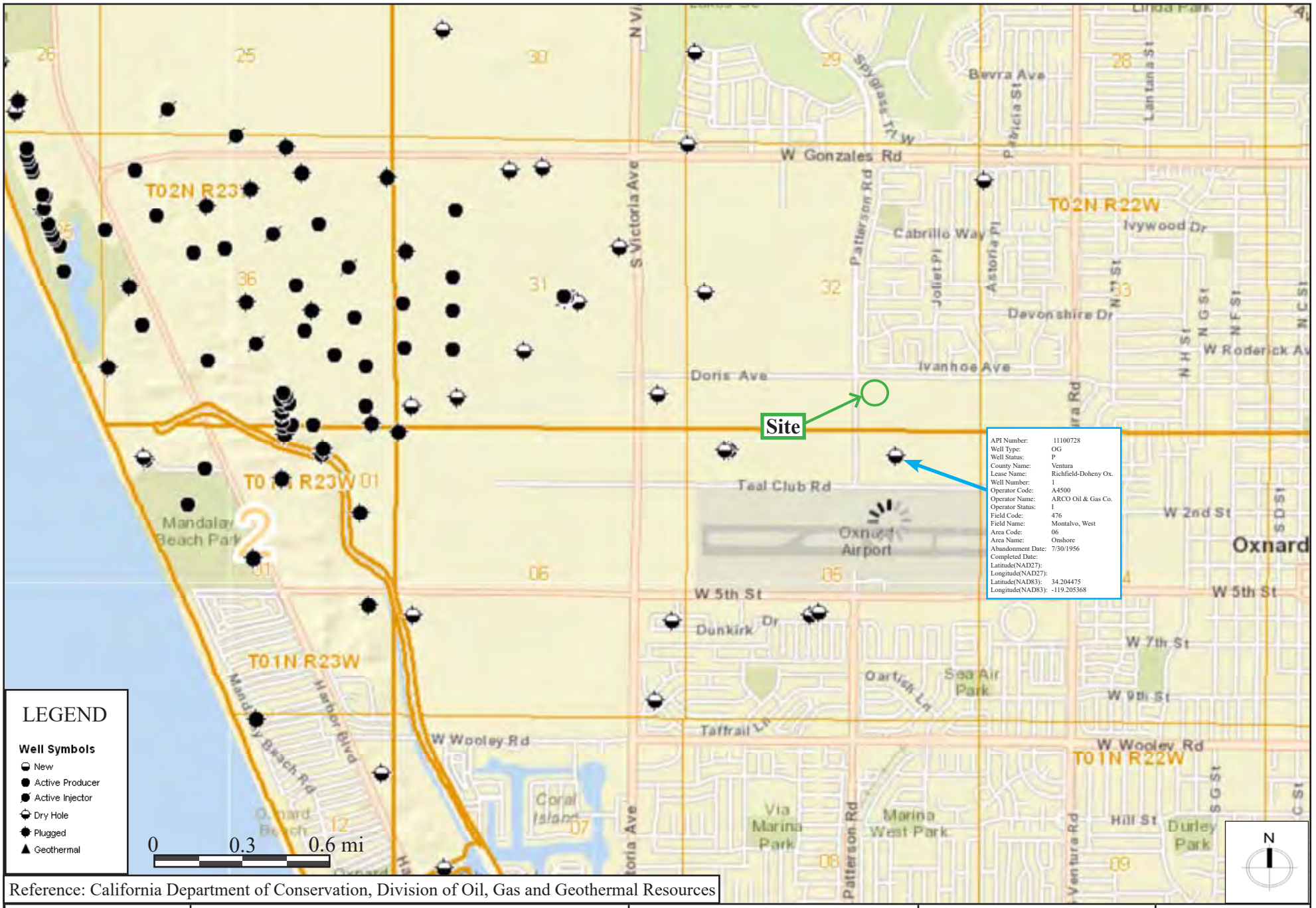
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06111C0905E

EFFECTIVE DATE
JANUARY 20, 2010

Federal Emergency Management Agency

KOURY GEOTECHNICAL SERVICES, INC.	Project Name: Teal Club Middle School Academy Oxnard, California	Project No. 13-0637 Date January 2014	Drawing Title: Flood Map Legend	Figure: A-7a



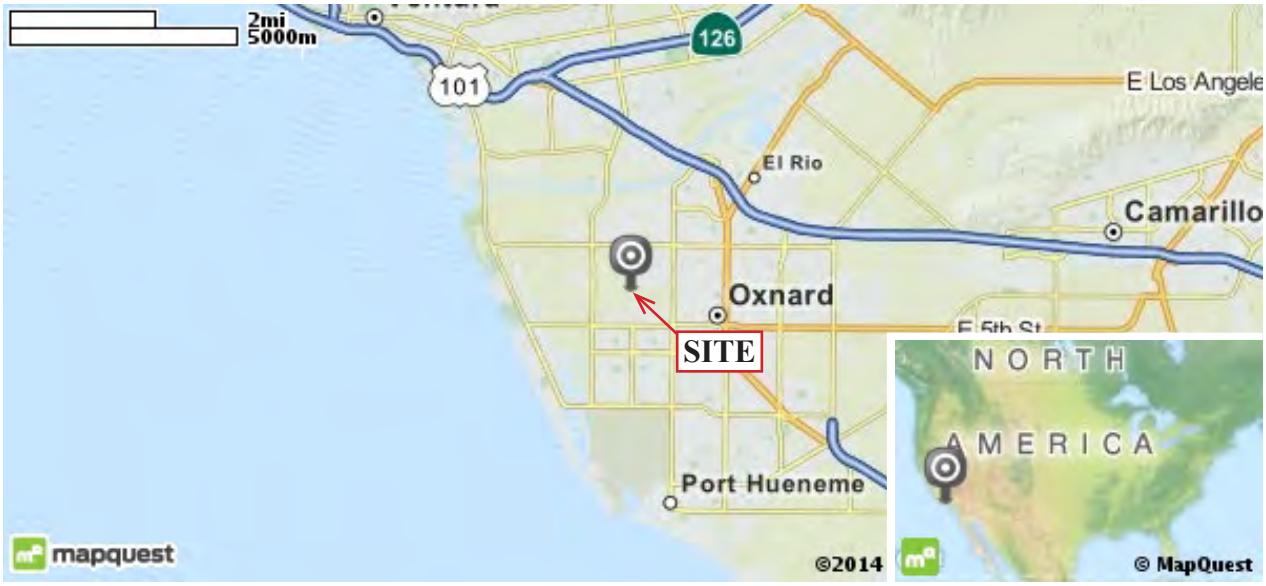
Reference: California Department of Conservation, Division of Oil, Gas and Geothermal Resources

KOURY GEOTECHNICAL SERVICES, INC.	Project Name: **Teal Club Middle School Academy Oxnard, California**	Project No. **13-0637** Date **January 2014**	Drawing Title: **Oil Wells Map**	Figure: **A-8**

USGS Design Maps Summary Report

User–Specified Input

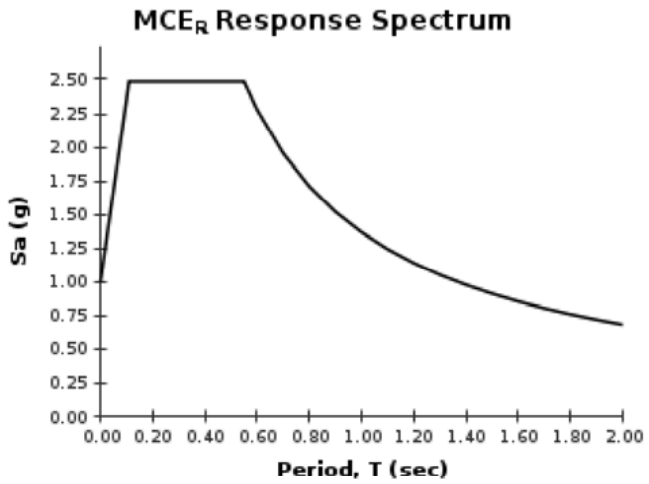
Report Title	Teal Club Middle School Academy, Oxnard, California Thu January 23, 2014 20:40:44 UTC
Building Code Reference Document	ASCE 7-10 Standard (which utilizes USGS hazard data available in 2008)
Site Coordinates	34.2066°N, 119.2077°W
Site Soil Classification	Site Class D – "Stiff Soil"
Risk Category	I/II/III

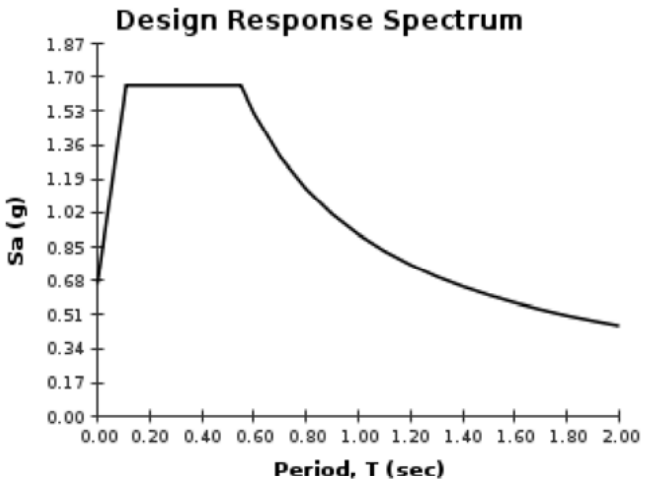


USGS–Provided Output

S_S =	2.485 g	S_{MS} =	2.485 g	S_{DS} =	1.657 g
S_1 =	0.912 g	S_{M1} =	1.368 g	S_{D1} =	0.912 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.





KOURY GEOTECHNICAL SERVICES, INC.	Project Name Teal Club Middle School Academy Oxnard, California	Project No. 13-0637 Date January 2014	Drawing Title Response Spectrum	Figure A-9

APPENDIX B

BORING AND CPT LOGS

KEY TO LOGS

SOILS CLASSIFICATION

MAJOR DIVISIONS			GRAPHIC LOG	USCS SYMBOL	TYPICAL NAMES
COARSE GRIANED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN 50% OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS LESS THAN 5% FINES		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES MORE THAN 12% FINES		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS 50% OR MORE OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS LESS THAN 5% FINES		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES MORE THAN 12% FINES		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRIANED SOILS 50% OR MORE OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT IS 50 OR MORE			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR GRAVELLY ELASTIC SILTS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

GRAIN SIZES

SILT AND CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		
SIEVE SIZES	#200	#40	#10	#4	3/4"	3"	12"

KEY TO LOGS (continued)

SPT/CD BLOW COUNTS VS. CONSISTENCY/DENSITY					
FINE-GRAINED SOILS (SILTS, CLAYS, etc.)			GRANULAR SOILS (SANDS, GRAVELS, etc.)		
CONSISTENCY	*BLOWS/FOOT		RELATIVE DENSITY	*BLOWS/FOOT	
	SPT	CD		SPT	CD
SOFT	0-4	0-4	VERY LOOSE	0-4	0-8
FIRM	5-8	5-9	LOOSE	5-10	9-18
STIFF	9-15	10-18	MEDIUM DENSE	11-30	19-54
VERY STIFF	16-30	19-39	DENSE	31-50	55-90
HARD	over 30	over 39	VERY DENSE	over 50	over 90

* CONVERSION BETWEEN CALIFORNIA DRIVE SAMPLERS (CD) AND STANDARD PENETRATION TEST (SPT) BLOW COUNT HAS BEEN CALCULATED USING "FOUNDATION ENGINEERING HAND BOOK" BY H.Y. FANG. (**VALUES ARE FOR 140 Lbs HAMMER WEIGHT ONLY**)

DESCRIPTIVE ADJECTIVE VS. PERCENTAGE	
DESCRIPTIVE ADJECTIVE	PERCENTAGE REQUIREMENT
TRACE	1 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

*THE FOLLOWING "DESCRIPTIVE TERMINOLOGY/ RANGES OF MOISTURE CONTENTS" HAVE BEEN USED FOR MOISTURE CLASSIFICATION IN THE LOGS.

APPROXIMATE MOISTURE CONTENT DEFINITION	
DEFINITION	DESCRIPTION
DRY	Dry to the touch; no observable moisture
SLIGHTLY MOIST	Some moisture but still a dry appearance
MOIST	Damp, but no visible water
VERY MOIST	Enough moisture to wet the hands
WET	Almost saturated; visible free water

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-1
Sheet : 1 **Of :** 1

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height :** 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Soil Type (USCS)	Description	Additional Tests
				0	ML	**FILL: Sandy SILT;** soft	
1	19.1		4 4 3		ML	**ALLUVIUM** **SILT with SAND;** firm, layers of sandy clay, moist, dark olive brown	#200 Wash Fines = 81 %
2	20.2	112	6 10 13	5	ML	**Sandy SILT;** stiff, slightly moist, light brown Layers of sandy lean clay	#200 Wash Fines = 67 % PP = 2.5 tsf PP=0.5-0.75 tsf
3	17.8		2 3 4	10	SC	**Clayey SAND;** loose, moist, dark brown	#200 Wash Fines = 38 %
4	17.2	111	7 10 14		SM	**Silty SAND;** medium dense, very moist, mottled yellowish brown and grayish brown	#200 Wash Fines = 16 %
5	21.4		7 6 5	15	ML	**Sandy SILT;** stiff, moist, pale brown Thin layers of lean clay	#200 Wash Fines = 54 %
6	20.2		10 14 21	20	SM	**Silty SAND;** dense, wet, olive gray	#200 Wash Fines = 14 %
7	20.1		15 17 22	25	SM	Lenses of lean clay	#200 Wash Fines = 13 %
				30		End of Boring @ 26' 6" Groundwater encountered @ 17'	
				35			
				40			

Groundwater ▽ Bulk ⊠ CD ■ SPT ⊠

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-2
Sheet : 1 **Of :** 2

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height :** 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Soil Type (USCS)	Description	Additional Tests
				0	SM	**FILL** **Silty SAND;** very fine, loose, dry, light brown	
1	21.5	102	2 3 6		CL	**ALLUVIUM** **Sandy Lean CLAY;** firm, moist, brown	#200 Wash Fines = 63% PP = 1.2 tsf
2	24.8		2 2 3	5		Lean clay	#200 Wash Fines = 85% PP = 2.5 tsf
3	24.4	96	3 5 4			Lean Clay	#200 Wash Fines = 87%
4	18.0		2 3 4	10		8" layers of of clayey sand	#200 Wash Fines = 37% LL = 21 PL = 16
5	21.4		2 3 4	15	ML	**Sandy SILT;** firm, moist, olive brown	#200 Wash Fines = 64% PP = 3.5 tsf
6	21.8		2 4 6	20			#200 Wash Fines = 56%
7	21.5		7 10 12	25	SM	**Silty SAND;** fine to medium, layers of poorly graded sand, medium dense, wet, olive gray	#200 Wash Fines = 16%
8	21.4		7 8 9	30	SP-SM	**Poorly graded SAND with SILT;** fine to medium, medium dense, wet, brownish gray	#200 Wash Fines = 8%
9	19.0		9 8 13	35	SM	**Silty SAND;** fine to medium, lenses of dark brown lean clay, wet, gray and yellowish brown	#200 Wash Fines = 40%
				40			

Groundwater ▽ Bulk ⊠ CD ■ SPT ⊠

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-2
Sheet : 2 **Of :** 2

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height :** 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
10	20.1		10 14 22	40			SP-SM	**Poorly graded SAND with SILT;** fine, dense, wet, dark olive gray	#200 Wash Fines = 5%
11	19.5		4 6 10	45			ML	**Sandy SILT;** layers of sandy lean clay, very stiff, moist, gray	#200 Wash Fines = 70%
12	19.9		8 13 18	50			SP-SM	**Poorly graded SAND with SILT;** fine to coarse, medium dense	#200 Wash Fines = 11%
				55				End of Boring @ 51' 6" Groundwater encountered @15' 8"	
				60					
				65					
				70					
				75					
				80					

Groundwater ▽ Bulk ⊠ CD ■ SPT ⊠

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : B-3
Sheet : 1 **Of :** 1

Drilling Method : Hollow Stem 8" Auger
Sampling Method : Bulk - CD - SPT
Hammer Weight : 140 lbs **Drop Height :** 30"
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
				0			ML	**FILL** **Sandy SILT;** soft, moist	
1	20.8		3 3 4				ML	**ALLUVIUM : Sandy SILT;** thin layers of sandy clay, firm, moist, dark brown	#200 Wash Fines = 67%
2	24.1	103	6 8 10	5			ML	Thin layers of sandy clay	#200 Wash Fines = 75% PP = 2.2 tsf
3	26.1		3 4 6				CL	**Sandy Lean CLAY;** layers of sandy silt, firm, moist, light olive gray	#200 Wash Fines = 65% PP=1.5-1.7 tsf
4	22.3	103	7 8 10	10			CL	Layers of silty sand	#200 Wash Fines = 64%
5	31.3		3 4 7	15			ML	**SILT;** stiff, moist, pale brown Layers of silty sand	#200 Wash Fines = 87% PP = 4.0 tsf
6	21.0		3 5 6	20			CL	**Sandy Lean CLAY;** thin layers of sandy silt, stiff, moist, pale brown	#200 Wash Fines = 59% LL = 28 PL = 20 PP = 1.7 tsf
7	23.0		10 14 18	25			ML	**Sandy SILT;** thin layers of lean clay with sand, very stiff, moist, pale brown Thin layers of silty sand	#200 Wash Fines = 80% PP = 4.0 tsf
								End of Boring @ 26' 6" Groundwater encountered @ approx. 19'	
				30					
				35					
				40					

Groundwater ▽ Bulk ⊠ CD ■ SPT ⊠

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : P-1
Sheet : 1 **Of :** 1

Drilling Method : Hand Auger
Sampling Method : Bulk
Hammer Weight : **Drop Height :**
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
1	7.9			0	☒		ML	**FILL: Sandy SILT;** slightly moist, brown	#200 Wash Fines = 57%
2	12.8				☒		ML	**ALLUVIUM** **Sandy SILT;** firm, slightly moist, brown	#200 Wash Fines = 66%
3	23.4				☒		CL	**Sandy Lean CLAY;** firm, moist, dark brown, caliche	Fines = 80%
4	24.4			5	☒				Fines = 69%
5	24.2				☒				Fines = 62%
6	25.2				☒		ML	**Sandy SILT;** very moist, pale brown	Fines = 50%
7	28.0				☒		SM	**Silty SAND;** very moist, pale brown	Fines = 37%
								End of Boring @ 8' No groundwater encountered	
				10					
				15					
				20					
				25					
				30					
				35					
				40					

Bulk ☒

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : P-2
Sheet : 1 **Of :** 1

Drilling Method : Hand Auger
Sampling Method : Bulk
Hammer Weight : **Drop Height :**
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
				0			ML	**FILL: Sandy SILT;** soft	
							CL	**ALLUVIUM : Sandy Lean CLAY;** firm, moist, dark brown	
				5			ML	**Sandy SILT;** firm, moist, brown	
								No groundwater encountered	
				10					
				15					
				20					
				25					
				30					
				35					
				40					

Bulk ☒

Boring Log

KOURY GEOTECHNICAL SERVICES, INC.

Project No. : 13-0637
Project Name : Teal Club Middle School Academy

Boring No. : P-3
Sheet : 1 **Of :** 1

Drilling Method : Hand Auger
Sampling Method : Bulk
Hammer Weight : **Drop Height :**
Location : See Figure A-2

Ground Elevation:
Drilling Co. : Geoboden, Inc.
Date Drilled : 1/24/14

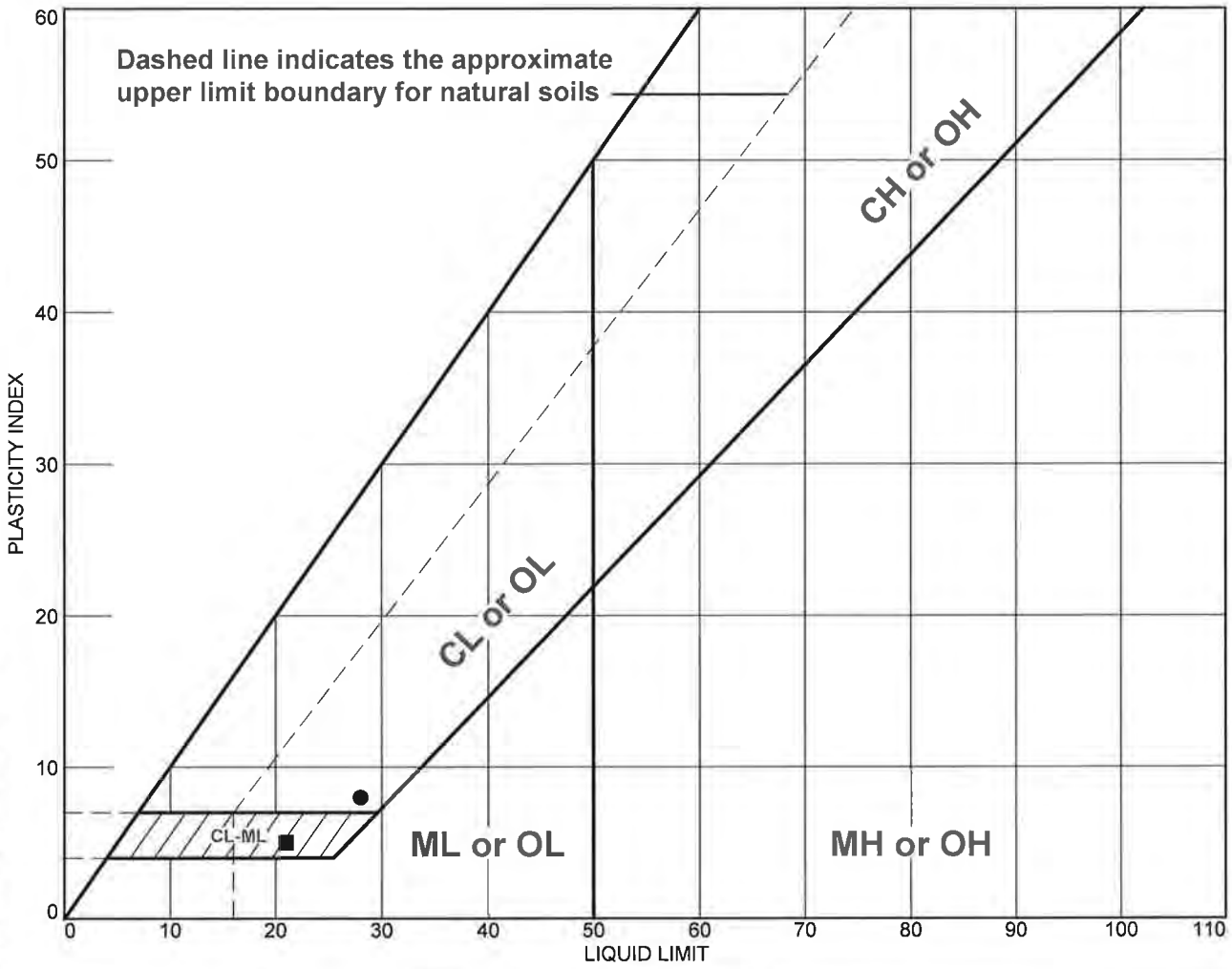
Sample No.	Moisture Content (%)	Dry Unit Weight (pcf)	Blows	Depth (ft)	Sample Location	Graphic Log	Soil Type (USCS)	Description	Additional Tests
1	13.6			0	⊠		SM	**FILL: Silty SAND;** fine, moist, dark brown	#200 Wash Fines = 36%
2	18.3				⊠		SM	**ALLUVIUM** **Silty SAND;** fine, moist, dark brown	#200 Wash Fines = 47%
3	23.1			5	⊠		ML	**Sandy SILT;** layers of sandy lean clay, moist, brown	#200 Wash Fines = 65%
4	23.0				⊠		CL	**Sandy Lean CLAY;** firm, very moist, brown	#200 Wash Fines = 53%
				10				End of boring @ 7' 6" No groundwater encountered	
				15					
				20					
				25					
				30					
				35					
				40					

Bulk ⊠

APPENDIX C

LABORATORY TEST RESULTS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Olive Brown Lean Clay with Silt	28	20	8			CL
■	Dark Brown Silty Clay	21	16	5			CL-ML

Project No. 13-0637 **Client:**

Project: Teal Club

● **Location:** B3 @ 20' **Sample Number:** 2335 Series

■ **Location:** B2 @ 11' **Sample Number:** 2335 Series

Remarks:

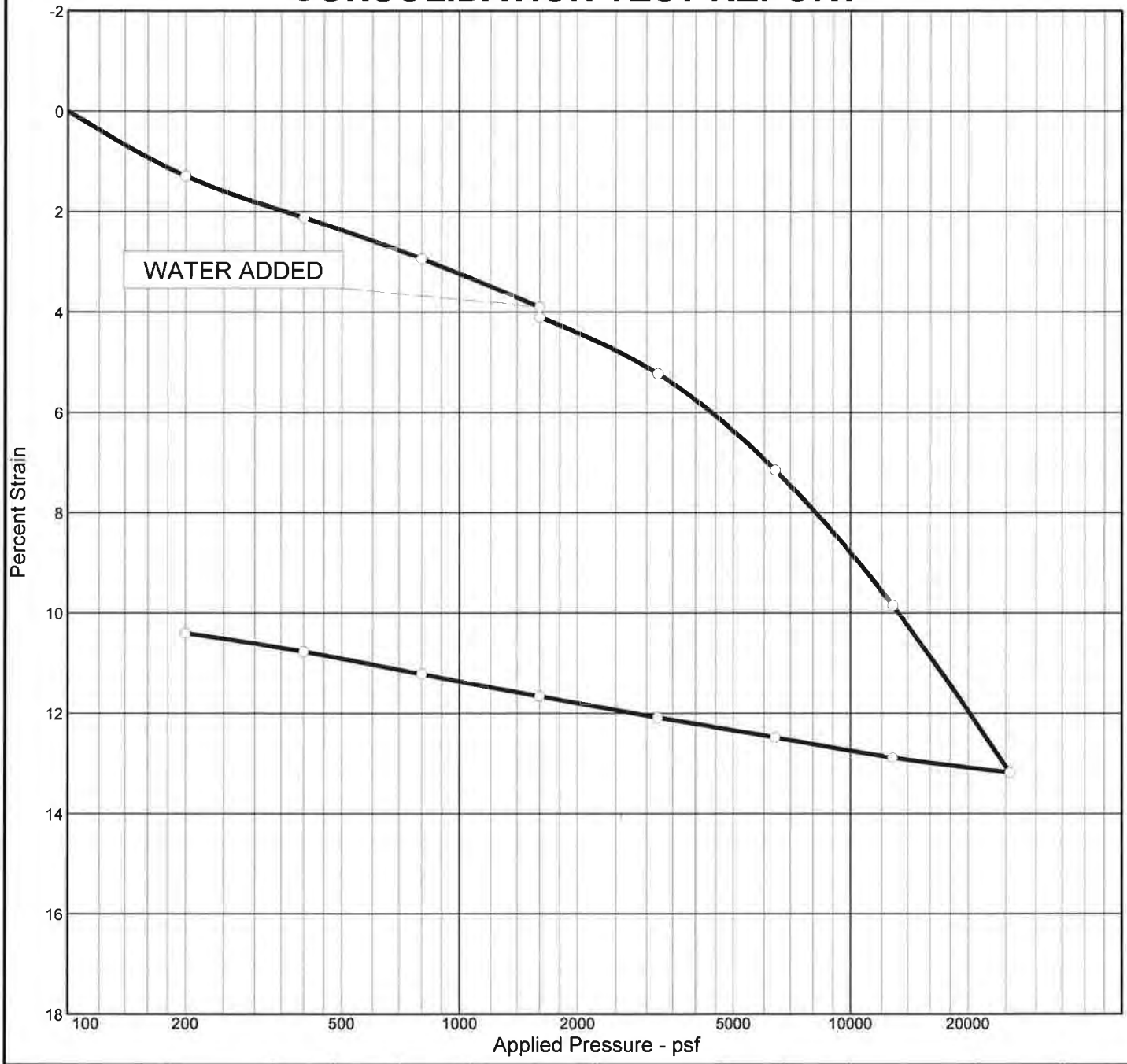
● Lab #2335 Series. Completed 2/4/14.

■ Lab #2335 Series. Completed 2/5/14.

Koury Geotechnical Services, Inc.

Tested By: Mathew F. Perry **Checked By:** _____

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c	C_s	Swell Press. (psf)	Clpse. %	e_o
Sat.	Moist.											
86.4 %	21.5 %	100.9			2.7		9011	0.15	0.02		0.2	0.671

MATERIAL DESCRIPTION	USCS	AASHTO
Very Dark Grayish Brown Lean Clay	CL	

Project No. 13-0637 **Client:**

Project: Teal Club

Location: B2 @ 2'

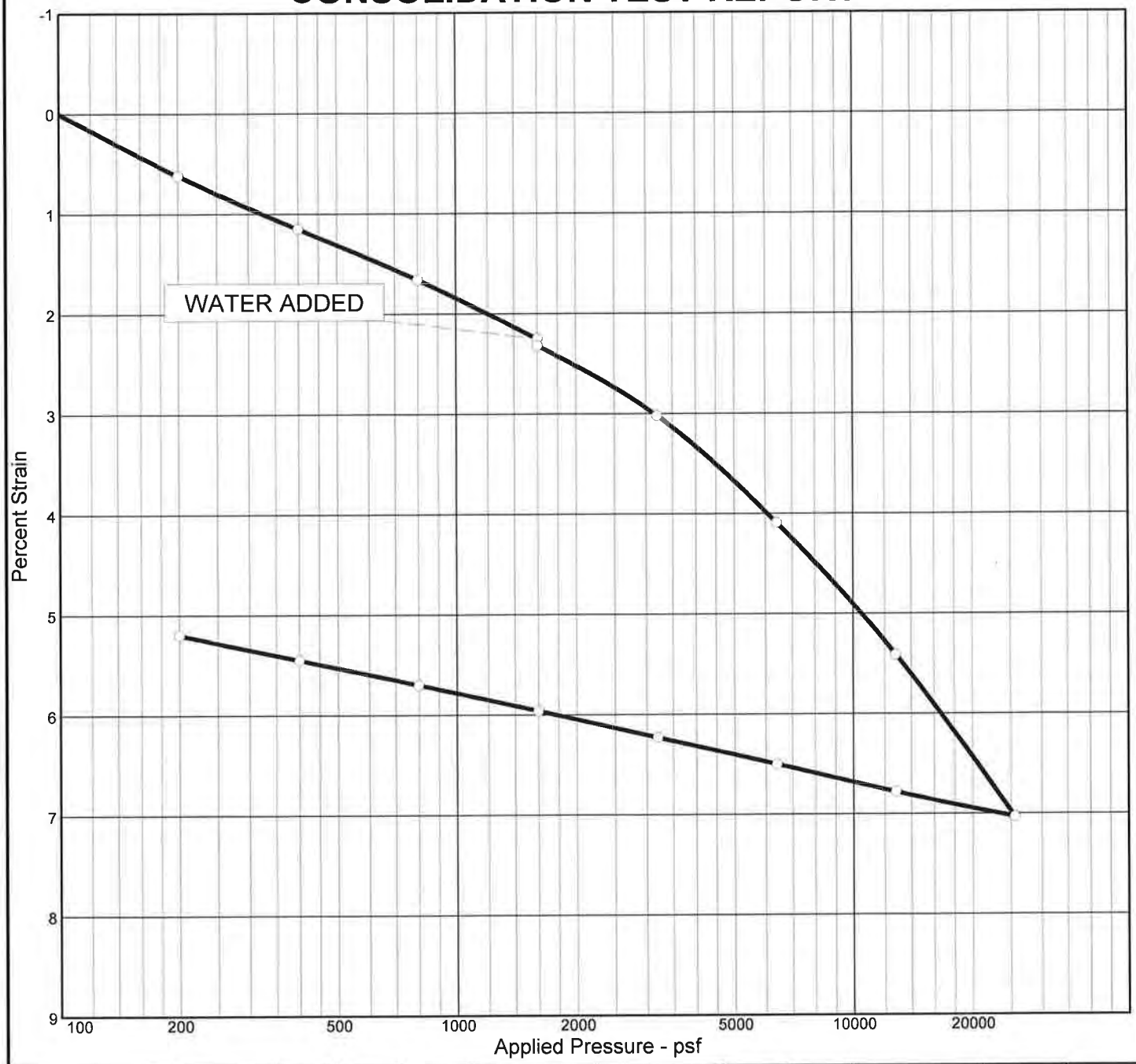
Remarks:

Lab #2335 Series. Completed 2/ 14/ 14.

CONSOLIDATION TEST REPORT

Koury Geotechnical Services, Inc.

CONSOLIDATION TEST REPORT



Natural		Dry Dens. (pcf)	LL	PI	Sp. Gr.	Overburden (psf)	P_c (psf)	C_c	C_s	Swell Press. (psf)	Clpse. %	e_o
Sat.	Moist.											
92.8 %	23.8 %	99.5			2.7		5139	0.06	0.01		0.1	0.693

MATERIAL DESCRIPTION	USCS	AASHTO
Dark Grey Silty Lean Clay	CL	

Project No. 13-0637 **Client:**

Project: Teal Club

Location: B3 @ 12'

Remarks:

Lab #2335 Series. Completed 2/ 14/ 14.

CONSOLIDATION TEST REPORT

Koury Geotechnical Services, Inc.

APPENDIX D

PERCOLATION TEST RESULTS

Percolation Testing

Job Name: Geohazard Study

Job No.: 13-0637

Test Location: Southwest end of site

Water Table Depth (ft): 8 **Relatively Impervious Layer Depth (ft):**

Test Date: 1/22/2014

Test No.: P1

Depth of Boring (d_b): 36 in

Diameter of Boring (D): 6 in

Test Performer: MN

Trial No.	Time of Testing			Water Level Measurement		Water Level Calculations				Percolation and Infiltration Calculations		
	Initial Time	Final Time	Time Interval	Initial Depth to Water	Final Depth to Water	Initial Height of Water Colum	Final Height of Water Column	Drop in Height	Average Height of Water Column	Measured Percolation	Reduction Factor	Infiltration Rate
	T_1	T_2	$\Delta T = T_2 - T_1$	d_1	d_2	$d_{H1} = d_b - d_1$	$d_{H2} = d_b - d_2$	$\Delta d_H = d_{H1} - d_{H2}$	$d_{avg} = (d_{H1}+d_{H2})/2$	$K_i = \Delta d_H / \Delta T$	$R_f = ((2d_{H1} - \Delta d_H) / D) + 1$	$K = K_i / R_f$
	(min)	(min)	(min)	(in)	(in)	(in)	(in)	(in)	(in)	(in/hr)		(in/hr)
1	0	30.0	30.0	12.3	18.3	23.7	17.7	6.0	20.7	12.0	7.9	1.5
2	0	30.0	30.0	12.3	18.7	23.8	17.3	6.5	20.5	12.9	7.8	1.6
3	0	30.0	30.0	12.3	18.9	23.8	17.1	6.7	20.4	13.3	7.8	1.7
4	0	30.0	30.0	12.3	18.5	23.8	17.5	6.3	20.6	12.5	7.9	1.6
5	0	30.0	30.0	12.3	18.5	23.8	17.5	6.3	20.6	12.5	7.9	1.6
6	0	30.0	30.0	12.3	18.3	23.8	17.7	6.1	20.7	12.1	7.9	1.5
7	0	30.0	30.0	12.3	18.0	23.8	18.0	5.8	20.9	11.5	8.0	1.4
8	0	30.0	30.0	12.3	18.0	23.8	18.0	5.8	20.9	11.5	8.0	1.4

Note:

1. Reduction Factor, $R_f = ((2d_{H1} - \Delta d_H) / D) + 1$

2. Long Term Infiltration Rate = Short Term Infiltration Rate / Correction Factor for Siltation and Other Factors

Correction Factor Range, used to account for Long Term Moderate Siltation, Test Scale Limitations and other Factors= 3 to 12

Reference: Los Angeles County Administrative Manual - Low Impact Development Best Management Practice Guideline for Design, Investigation, and Reporting, dated 06/01/11

Lowest Short Term Infiltration Rate = **1.4** **in/hr**

Adjusted Long Term Infiltration Rate = **0.2** **in/hr**

Percolation Testing

Job Name: Geohazard Study

Job No.: 13-0637

Test Location: Northeast corner of site

Water Table Depth (ft): 8 **Relatively Impervious Layer Depth (ft):**

Test Date: 1/22/2014

Test No.: P3

Depth of Boring (d_b): 65 in

Diameter of Boring (D): 6 in

Test Performer: MN

Trial No.	Time of Testing			Water Level Measurement		Water Level Calculations				Percolation and Infiltration Calculations		
	Initial Time	Final Time	Time Interval	Initial Depth to Water	Final Depth to Water	Initial Height of Water Colum	Final Height of Water Column	Drop in Height	Average Height of Water Column	Measured Percolation	Reduction Factor	infiltration Rate
	T_1	T_2	$\Delta T = T_2 - T_1$	d_1	d_2	$d_{H1} = d_b - d_1$	$d_{H2} = d_b - d_2$	$\Delta d_H = d_{H1} - d_{H2}$	$d_{avg} = (d_{H1}+d_{H2})/2$	$K_i = \Delta d_H / \Delta T$	$R_f = ((2d_{H1} - \Delta d_H) / D) + 1$	$K = K_i / R_f$
	(min)	(min)	(min)	(in)	(in)	(in)	(in)	(in)	(in)	(in/hr)		(in/hr)
1	0	30.0	30.0	27.0	39.8	38.0	25.2	12.8	31.6	25.6	11.5	2.2
2	0	30.0	30.0	27.0	38.3	38.0	26.7	11.3	32.4	22.6	11.8	1.9
3	0	30.0	30.0	27.0	38.8	38.0	26.2	11.8	32.1	23.6	11.7	2.0
4	0	30.0	30.0	27.0	38.5	38.0	26.5	11.5	32.3	23.0	11.8	2.0
5	0	30.0	30.0	27.0	37.6	38.0	27.4	10.6	32.7	21.2	11.9	1.8
6	0	30.0	30.0	27.0	38.3	38.0	26.7	11.3	32.4	22.6	11.8	1.9
7	0	30.0	30.0	27.0	38.1	38.0	26.9	11.1	32.5	22.2	11.8	1.9
8	0	30.0	30.0	27.0	37.7	38.0	27.3	10.7	32.7	21.4	11.9	1.8

Note:

1. Reduction Factor, $R_f = ((2d_{H1} - \Delta d_H) / D) + 1$

2. Long Term Infiltration Rate = Short Term Infiltration Rate / Correction Factor for Siltation and Other Factors

Correction Factor Range, used to account for Long Term Moderate Siltation, Test Scale Limitations and other Factors= 3 to 12

Reference: Los Angeles County Administrative Manual - Low Impact Development Best Management Practice Guideline for Design, Investigation, and Reporting, dated 06/01/11

Lowest Short Term Infiltration Rate = **1.8** **in/hr**

Adjusted Long Term Infiltration Rate = **0.3** **in/hr**

APPENDIX E

SEISMIC SETTLEMENT CALCULATIONS

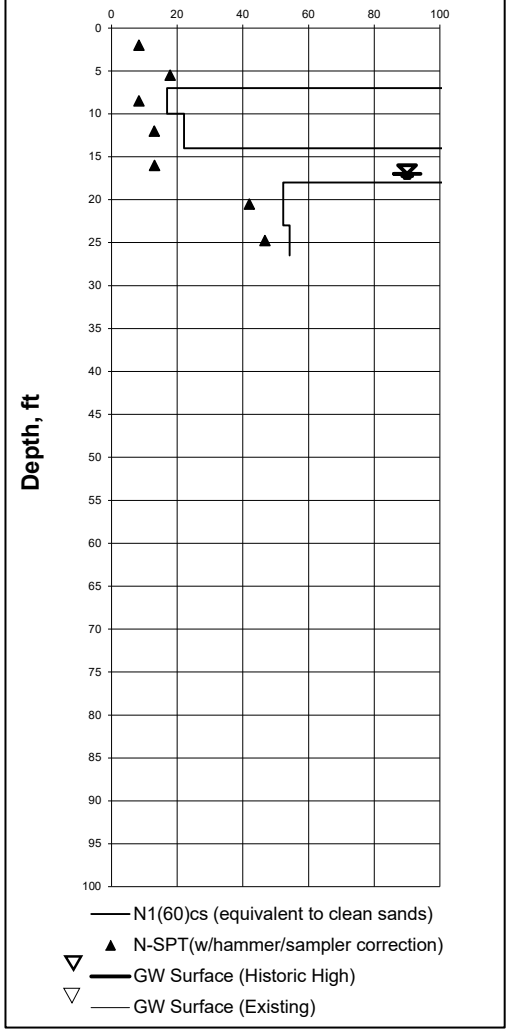
COMPUTER PROGRAM: EQLique&Settle"2"

Location……. **B-1** **Surcharge** 0.00 ksf

Elevation (MSL) (ft) 42

NOTE: If the total settlement is very small (e.g.<0.05"), it will not be seen due to the scale used, and should be reported as "negligible".

(a)



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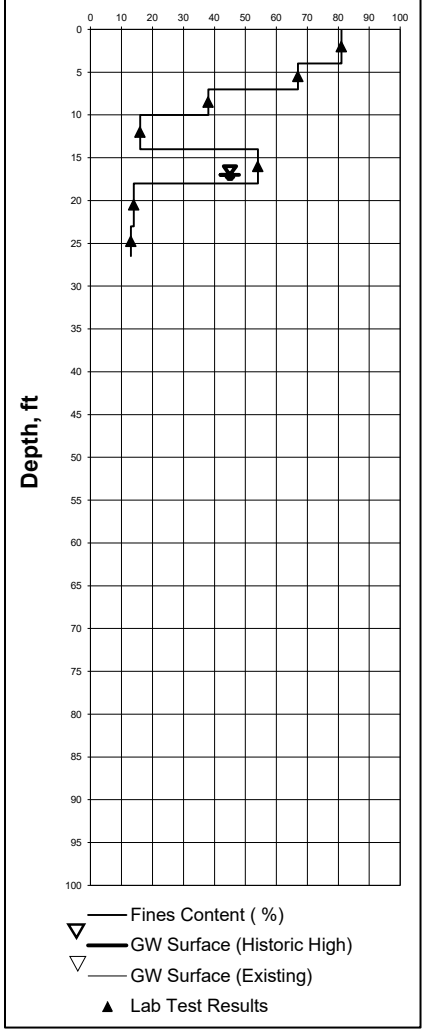

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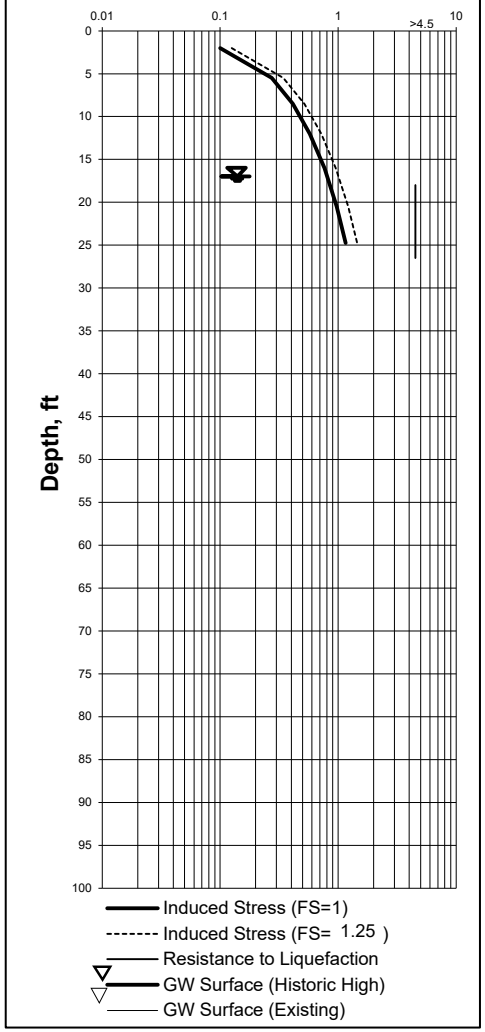

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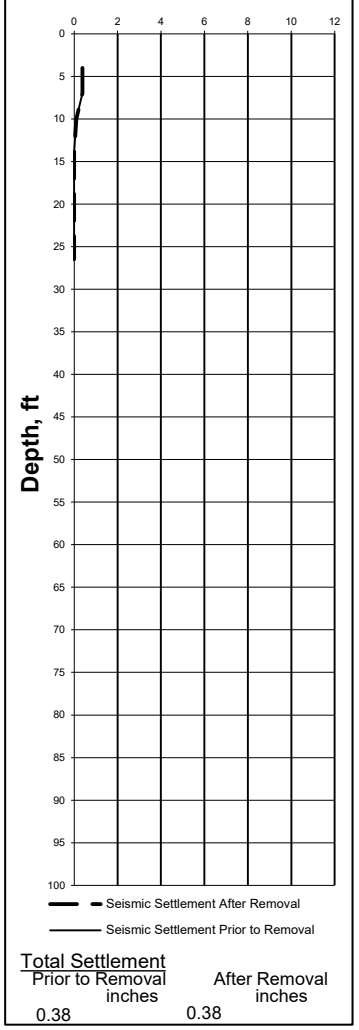


Total Settlement

Prior to Removal inches	After Removal inches
0.38	0.38

Removal & Recomp. Depth (ft) = 0

PROJECT: Teal Club Middle School Academy
Los Angeles, L.A. County, California

0

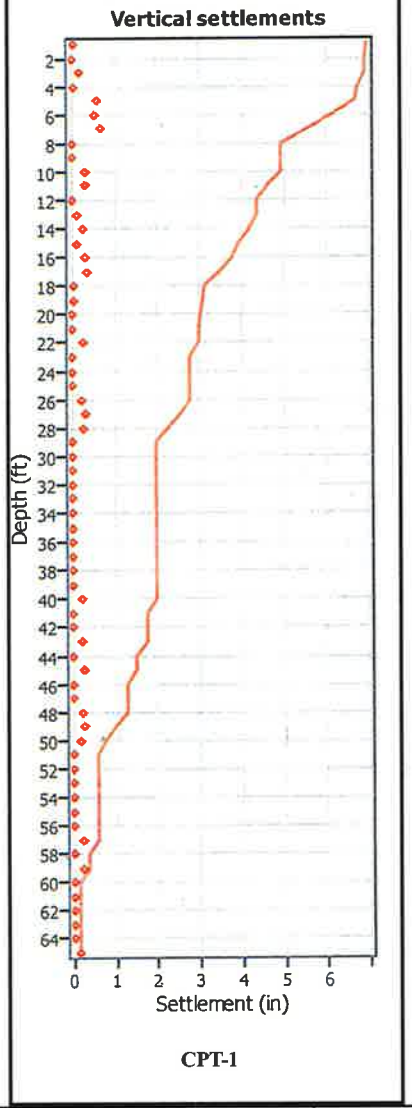
Weighted Ground Accel. (M=7.5) = 0.59 g

Site Magnitude = 7.2

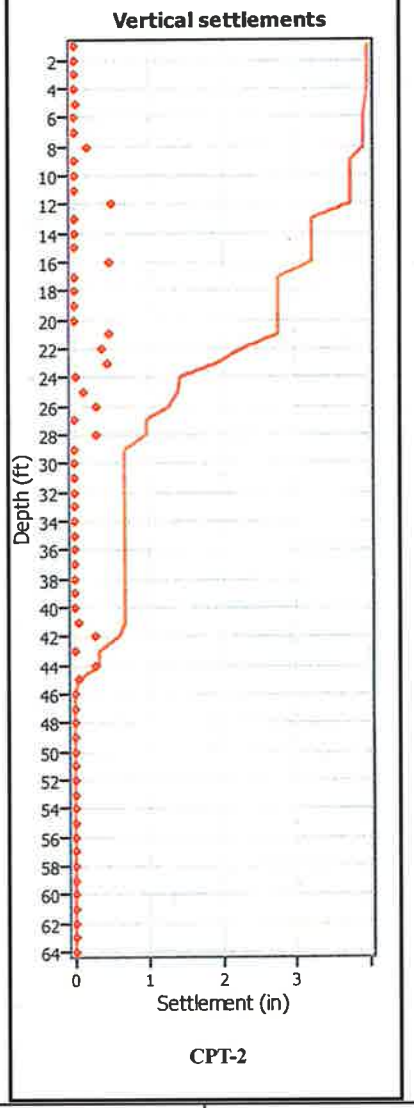
Liquefaction Potential and Seismic Settlements Based on Boring Data

Koury Geo
Geotechnical Engineering Consultants

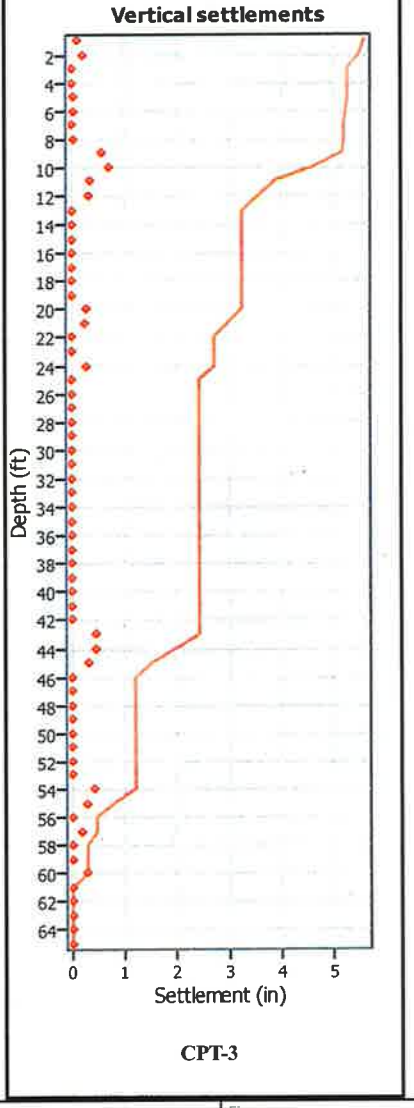
Job No.:	13-0637
Date:	2-18-2014
Figure No.	E-1 Dry Settlement



CPT-1



CPT-2



CPT-3

KOURY GEOTECHNICAL SERVICES, INC.	Project Name: Teal Club Middle School Academy, Oxnard, California	Project No.: 13-0637 Date: February 2014	Drawing Title: Calculated Seismic Settlements	Figure: A-10

We provide geotechnical engineering services to both private and public sector clients. We perform soils and geology investigation during the design phase, as well as grading observation and soils testing during the course of construction.

We provide in-depth geotechnical services for complex projects.

KOURY
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SERVICES, INC.

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14280 Euclid Avenue
Chino, California 91710
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Gardena, California 90248
Phone: (310) 818-0117
Fax: (310) 818-0118

www.kourygeo.com

F PRELIMINARY ENDANGERMENT ASSESSMENT AND SOIL MANAGEMENT PLAN

BOARD AGENDA ITEM

Name of Contributor: Dr. Cesar Morales/David Fateh Date of Meeting: 08/02/17

STUDY SESSION _____
CLOSED SESSION _____
SECTION A-1: PRELIMINARY _____
SECTION A-II: REPORTS _____
SECTION B: HEARINGS _____
SECTION C: CONSENT AGENDA _X_ Agreement Category:
- ____ Academic
- ____ Enrichment
- ____ Special Education
- ____ Support Services
- ____ Personnel
- ____ Legal
- ____ Facilities

SECTION D: ACTION _____
SECTION F: BOARD POLICIES 1ST Reading_____ 2nd Reading _____

***APPROVAL OF RESOLUTION #17-07 ADOPTING THE PRELIMINARY ENVIRONMENTAL ASSESSMENT AND SOIL MANAGEMENT PLAN FOR THE DORIS/PATTERSON SITE* (Morales/Fateh/CFW)**

A Preliminary Environmental Assessment (PEA) report has been prepared for the Doris/Patterson school site as required, and recently accepted, by the California Department of Toxic Substances Control (DTSC). The PEA report presents investigation results and conclusions based on a health risk screening evaluation of the site, and recommends that a Soil Management Plan (SMP) be prepared in conjunction with a Land Use Covenant for the property.

The SMP details actions to be undertaken whenever soils at the site are disturbed during both planned and unplanned future construction activities. The SMP is a tool for contractors to utilize when performing activities that intrude into the soil such as excavation, grading, and utility installation. The plan provides guidance regarding how to handle the soil, as well as how to identify, sample, and properly dispose of soil that does not meet DTSC requirements.

A Land Use Covenant limits the site's future use to a school and more generally, non-residential purposes. A draft Land Use Covenant has been prepared by the DTSC and reviewed by the District as to form. The District is currently in the process of acquiring the site. Upon acquiring the site, the District may execute and enter into the Land Use Covenant.

Both the PEA Report and SMP have been reviewed and approved by the DTSC and are attached for reference. At this time, the District recommends that the Board of Trustees consider approving Resolution #17-07 adopting the PEA report and Soil Management Plan for the Doris/Patterson Site.

FISCAL IMPACT

None.

RECOMMENDATION

It is the recommendation of the Superintendent and the Director of Facilities, in conjunction with Caldwell Flores Winters, that the Board of Trustees approve Resolution #17-07 adopting the Preliminary Environmental Assessment report and Soil Management Plan for the Doris/Patterson Site.

ADDITIONAL MATERIAL

- Resolution #17-07 (2 pages)
- Preliminary Environmental Assessment dated March 29, 2017 (115 pages)
- Letter from DTSC dated May 4, 2017 approving Preliminary Environmental Assessment (4 pages)
- Soil Management Plan dated May 17, 2017 (84 pages)
- Letter from DTSC dated June 14, 2017 approving Soil Management Plan (3 pages)

RESOLUTION NO. 17-07

RESOLUTION OF THE BOARD OF TRUSTEES OF THE OXNARD SCHOOL DISTRICT ADOPTING THE PRELIMINARY ENVIRONMENTAL ASSESSMENT AND SOIL MANAGEMENT PLAN FOR THE DORIS/PATTERSON SITE

WHEREAS, as required by the California Department of Toxic Substances Control ("DTSC"), a Preliminary Environmental Assessment ("PEA") report and Soil Management Plan ("SMP") have been prepared for the Doris/Patterson site;

WHEREAS, the PEA report presents investigation results and conclusions based on a health risk screening evaluation of the Doris/Patterson site;

WHEREAS, the PEA report recommended that a SMP be prepared and that the District accept and enter into a long term deed restriction, known as a Land Use Covenant ("LUC") for the property which would restrict the property to non-residential uses;

WHEREAS, the SMP details actions to be undertaken whenever soils at the site are disturbed during both planned and unplanned future construction activities and provides guidance regarding how to handle contaminated soil that may be encountered, as well as how to identify, sample, and properly dispose of contaminated soil as required;

WHEREAS, on March 23, 2017, the District opened a 30-day review period during which the public could provide comments to the PEA and a public hearing was held on April 19, 2017 and the public comment period closed on April 24, 2017;

WHEREAS, the District considered and responded to comments received from the public and other interested agencies regarding this PEA;

WHEREAS, the DTSC issued a letter approving the PEA report on May 4, 2017 and a letter approving the SMP on June 14, 2017;

WHEREAS, a draft Land Use Covenant has been prepared by the DTSC and reviewed by the District as to form;

WHEREAS, the District is currently in the process of acquiring the Doris/Patterson site and upon acquiring the site, the District may execute and enter into the Land Use Covenant;

NOW, THEREFORE, the Board of Trustees of the Oxnard School District hereby finds, determines, declares, orders, and resolves as follows:

(1) All of the recitals set forth above are true and adopted as a part of the District's official record;

(2) A 30-day public review period for the PEA report and a public hearing have been conducted and all comments received have been considered;

(3) A summary of any public comments received and the District's responses to comments has been forwarded to the DTSC;

(4) The DTSC has approved the PEA report and SMP;

(5) The Board adopts the PEA report and SMP for the Doris/Patterson site and approves the recommendations.

APPROVED, PASSED AND ADOPTED by the Board of Trustees of the Oxnard School District on this the 2nd day of August 2017, by the following vote:

Ayes: _____
Nays: _____
Abstentions: _____
Absences: _____

Board of Trustees:

President Morrison: _____
Clerk Cordes: _____
Trustee O'Leary: _____
Trustee Robles-Solis: _____
Trustee Madrigal Lopez: _____

_____
Ernest Morrison
President of the Board of Trustees
Oxnard School District

I HEREBY CERTIFY that the foregoing resolution was duly and regularly introduced, passed and adopted by the members of the Board of Trustees of the Oxnard School District at a public meeting of said Board held on August 2, 2017.

_____
Debra M. Cordes
Clerk of the Board of Trustees
Oxnard School District

Response to DTSC Comments
March 15 and March 29, 2017
Proposed New Elementary and Middle Schools
Southeast Corner of Doris Avenue and Patterson Road
Oxnard, California

Item Number	DTSC Comment	ATC's Response
1	*Page 8, Section 5.4.5 Particulate Emission Factor: The particulate emission factor (PEF) calculation in Section 5.4.5 and Table C-4 is not applicalbe to construction worker, and a default value of 1 x 10^{6} m^{3} /kg (see HERO HHRA Note Number 1,http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA_Note 1-2.pdf) should be used instead.*	The default PEF value has been used in Section 5.4.5 and Table C-4.
2	*Page 14, Section 5.7 Uncertainty Analysis ,4th bullet : The statement "…data for certain constituents (e.g., select OCPs) included composite, rather than discrete samples" should be clarified as all OCPs were evaluated using the composite sample data.*	The recommended change has been made.
3	*Page 15, Section 8.0 Recommendations: HERO recommends deleting the followig statement "…the presence of toxaphene in shallow soil could pose a threat to public health under the unrestricted (i.e., residential) land use scenario…" to state that the lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of 1 x 10^{-6} utlized by DTSC.*	The recommended statement has been revised.
4	*Table 1: The regional screening level of 340 µg/kg for methoxychlor is incorrect, and should be revised to 320,000 µg/kg. For future reference, HERO recommends adjusting the screening levels by dividing the number of sample points (four in this case) when evaluating composite soil sampling results. However, such change is not essential in this report as a human health screening evaluation has been conducted to assess potential helath risks.*	The methoxychlor regional screening level has been changed to 320,000 µg/kg.

Response to DTSC Comments
March 15 and March 29, 2017
Proposed New Elementary and Middle Schools
Southeast Corner of Doris Avenue and Patterson Road
Oxnard, California

Item Number	DTSC Comment	ATC's Response
5	*Appendix A: HERO recommends revising the following items in the conceptual site model: (a) the "Air/Soil Vapor" inhalaiton pathway should be incomplete in accordance with the discussion in Section 5.2.4; and (b) the "Surface Water" dermal contact pathway should be incomplete for consistency with the discussion in Section 5.2.3.*	The recommended changes to the Site Conceptual Model have been made.
6	*Page 8: HERO's previous comment to recommend a PEF default value of 1 x 10^6 m^3/kg is for construction worker only, as the calculated value of 1.36 x 10^9 m^3/kg is appropriate for the other receptors evaluated in the PEA Report. While the findings of the human health risk evaluation remain unchanged with the use of default PEF value to the other receptors, HERO recommends clarifying the text to indicate that the use of default PEF value for construction worker to all receptors results in more conservative (i.e., higher) risk estimates for dust inhalation.*	The text was revised as requested.
7	*C-13: The title should be changed to "Inhalation of Fugitive Dust - Student" instead of "Inhalation of Fugitive Dust - Site Worker" to avoid confusion.*	The title of Table C-13 has been revised as requested.

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

PRELIMINARY ENDANGERMENT ASSESSMENT REPORT

PROPOSED ELEMENTARY AND MIDDLE SCHOOLS

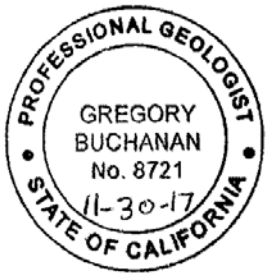
SOUTHEAST CORNER OF DORIS AVENUE AND NORTH PATTERSON ROAD
OXNARD CALIFORNIA 93030

Submitted to:
Scarlett Zhai, PhD.
Department of Toxic Substance Control
Schools Evaluation and Brownfield Cleanup
Cypress Regional Office
796 Corporate Avenue
Cypress, California 90630

Submitted by:
ATC Group Services
25 Cupania Circle
Monterey Park, California 91755
323-517-9780

March 29, 2017

Reviewed by:



Greg Buchanan, P.G.
Senior Project Manager
For ATC Group Services
Direct Line: 323-517-9680
Email: greg.buchanan@atcassociates.com

Approved by:

Todd Stanford, REHS, CEM
Principal Scientist
for ATC Group Services
Direct Line: 1-818-259-0749
Email todd.stanford@atcassociates.com

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FIGURES

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APPENDICES

EXECUTIVE SUMMARY

The property located at the southeast corner of Doris Avenue and Patterson Road consists of a rectangular-shaped, 25-acre parcel of land, which is currently utilized as an agricultural field. The Oxnard School District (OSD) is planning to develop the site into a elementary and middle schools. This Preliminary Endangerment Assessment (PEA) report was prepared for the site as required by the Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup Division.

The site is currently an actively farmed agricultral field. Cardno ATC (now ATC) prepared a *Phase I Environmental Site Assessment* (ESA) report for the site, dated March 5, 2014. In the report, ATC identified historical usage of the site for agricultural purposes from at least 1940 to the present. A closed Leaking Underground Storage Tank (LUST) site is located approximately 2,000 feet east of the site, where a 550-gallon and a 3,000-gallon gasoline-containing underground storage tank (UST) were present. The site received regulatory closure in 1998. The Phase I report concluded that the LUST site does not represent a *Recongized Environmental Condtion* (REC) to the subject property. No other onsite or offsite RECs were reported in the Phase I ESA.

In December of 2016, ATC advanced soil borings SB-1 through SB-36 to 2.5 feet below ground surface (bgs) in a grid pattern across the site. Soil samples were collected using a hand auger, and stored in eight-ounce jars.

The 36 soil samples collected from 0 to 0.5 feet bgs for OCP analysis (EPA Method 8081A) were combined in the laboratory from four adjacent soil samples, for a total of nine composite samples and one duplicate sample. The 36 soil samples collected from 2 to 2.5 feet bgs were placed on hold in the laboratory pending analysis of the surface samples. Toxaphene was the only pesticide compound that exceeded its Regional Screening Level (RSL) for residential properties. Due to detection of various OCPs in the 0 to 0.5-foot composite samples, the two-foot composite samples were also analyzed. Toxaphene was detected at lower concentrations in the two-foot samples compared to the 0.5-foot samples.

Nine discrete non-contiguous soil samples and one duplicate were analyzed for arsenic using EPA Method 6010B. The soil samples exceeded the Regional Screening Level (RSL) for residential properties. However, arsenic results did not exceed the DTSC-suggested background screening level of 12 milligrams per kilogram (mg/kg).

Soil vapor samples were collected from ten direct-push boring locations at five and 10 feet bgs, respectively. Samples were collected following applicable DTSC and Regional Water Quality Control Board (RWQCB) protocols for soil vapor surveys. The vapor samples were analyzed for methane using EPA Method 8015M. A maximum of 15.26 parts per million by volume (ppmv) was detected near the northeastern corner of the site. This is equivalent to approximately 0.03 percent of the Lower Explosive Limit (LEL), and is not considered to be a hazard to the site.

Each vapor sample was tested for hydrogen sulfide using a hand-held field instrument. No hydrogen sulfide was detected in soil gas at the site.

A Human Health Screening Evaluation was performed using soil sample results from the December 2016 site assessment. The assessment evaluated potential soil exposures associated with four potential receptors, including the hypothetical future resident, future site worker, future site student, and construction worker. Estimated upper-bound hazard indices ranged from 0.014 for the site worker scenario to 0.2 for the residential scenario. The results of the risk assessment indicated that the presence of OCPs in soil is not expected to result in adverse, non-cancer health impacts to any of the potential receptors evaluated.

Estimates of potential cumulative upper-bound lifetime incremental cancer risks ranged from $6.3x10^{-6}$ for the hypothetical future resident to $2.6x10^{-7}$ for the construction worker scenarios. Upper-bound lifetime incremental cancer risk estimates for the school site receptors ranged from $1.3x10^{-6}$ to $6.9x10^{-7}$ for the site worker and student, respectively. The lifetime incremental cancer risk estimate for the hypothetical

residential receptor exceeds the point of departure of $1x10^{-6}$ typically utilized by DTSC to determine whether a removal action is warranted to protect human health for unrestricted land uses. The lifetime incremental cancer risk estimates for the site worker, site student, and construction worker are consistent with or below the $1x10^{-6}$ point of departure. Based on the results of the risk , the concentrations of OCPs, including toxaphene, detected in soil samples collected during this investigation do not present a significant risk to future site workers, students or construction workers. Consequently, no additional mitigation or risk management measures would be warranted for the proposed development and use of the property as a school site.

A land use covenant agreement limiting the future use of the site for non-residential purposes, would be an appropriate risk management option. In general, the vertical extent of toxaphene in soil appears to be limited to the first few feet below ground surface. The limited vertical extent of toxaphene is consistent with the historical application of this now banned pesticide. While the concentrations of toxaphene and other OCPs detected in soil are not anticipated to result in adverse impacts to future site workers, students, or construction workers, ATC recommends that a Soil Management Plan be prepared prior to initiating site development activities. The Soil Management Plan would outline procedures for dust mitigation during earth moving and soil disturbing activities, identify specific health and safety considerations, and establish procedures for monitoring, sampling, and disposal or import of soil utilized during construction.

ATC suggests that the proposed school site be designed to further minimize the potential for direct-contact with OCP impacted soil. Representative measures may include, but are not necessarily limited to, import of clean, documented fill material for use in planters, playgrounds, and playing fields within the first foot of ground surface, and removing topsoil from planned playfield areas for use beneath asphalt-covered areas. These additional measures would serve to further reduce and/or eliminate exposures to residual OCPs in soil.

1.0 SITE DESCRIPTION

The property is located at the southeast intersection of Doris Avenue and North Patterson Road in Oxnard, California (**Figure 1**). The site is a 25-acre rectangular-shaped parcel part of a larger 107.99 acre parcel which is identified by Ventura County's Assessor's Parcel Number (APN) 183-0-070-090. The site is currently utilized as agricultural land with no onsite structures.

The surrounding area is agricultural and residential, with residences to the north of Doris Avenue and agricultural land to the east, south and west.

2.0 BACKGROUND

The site has been used for agriculture purposes from at least the 1940's to the present. The site is currently used to produce row crops. A closed Leaking Underground Storage Tank (LUST) site is located approximately 2,000 feet east of the site, where a 550-gallon and a 3,000-gallon gasoline-containing underground storage tank (UST) were present. The UST site received regulatory closure in 1998. OSD intends to construct elementary and middle schools on the property. In May of 2016, the District entered into an Environmental Oversight Agreement with the DTSC. The fieldwork was completed in general accordance with the *Interim Guidance for Sampling Agricultural Properties* (Third Revision), dated August 7, 2008(a), and discussion with DTSC case workers.in September of 2016.

2.1 Geology and Hydrogeology

The site is located in the Oxnard Subbasin of the Santa Clara River Valley Groundwater Basin. The basin is bounded on the north by the Oak Ridge Fault, on the south by the Santa Monica Mountains, on the east by the Pleasant Valley and Las Posas Valley Basins, and on the west by the Pacific Ocean.

The central part of the basin is overlain by Recent Alluvium. Water-bearing sediments are beneath the Recent and Pleistocene soils. Groundwater flow is generally south-southwest (Department of Water Resources, 2003). The site is approximately 40 feet above mean sea level and the land surface slopes gently to the south (USGS, 1996). Groundwater was encountered at approximately 12 feet bgs during this investigation.

3.0 APPARENT PROBLEM

Historical and current use of the property have been for agriculture. Agricultural uses may potentially represent an environmental concern, as the use of pesticides on the property may result in residual pesticides in the surface soils. Based on the fact that future development of the property includes planned school sites, large areas of the site are scheduled to be disturbed by demolition, grading, and reconstruction. These activities may result in the completion of ingestion, inhalation, and dermal exposure pathways via wind-blown dust, soil carried to different parts of the site by heavy equipment, and adhesion to site worker clothing. A Site Conceptual Model indicating the potential exposure pathways is provided in **Appendix A**.

4.0 SITE ASSESSMENT ACTIVITIES

As proposed in ATC's *PEA Workplan –Proposed Elementary and Middle Schools,* dated September 30, 2016 (ATC, 2016), a total of 46 borings were advanced at the site (SB-1 through SB-36, and SV-1 through SV-10). Soil samples were submitted to Positive Lab Service for analysis, and the soil vapor samples were analyzed in a mobile laboratory provided by Optimal Technology.

The completed scope of work is intended to address the concerns outlined in Section 3.0. ATC's justification for the locations and sampling depths selected, as well as the analyses performed are presented below:

- **To address potential concerns related to historical agricultural use at the site**, ATC advanced 36 soil borings (SB-1 through SB-36), with soil samples collected at 0.5 feet and 2.0 feet bgs at each location. The collected samples were composited in a 4:1 ratio and analyzed for OCPs. A total of nine discrete samples were also analyzed for arsenic. To determine the appropriate sampling approach, ATC reviewed the DTSC's *Interim Guidance for Sampling Agricultural Properties*. Approximately the same number of samples were proposed as recommended in the DTSC's guidance, but with samples collected at 0.5 and 2.0 feet bgs would be an appropriate approach.

- **To address potential concerns related to proximity to oil fields**, ATC advanced 10 soil vapor borings (SV-1 through SV-10), with vapor samples collected at 5 feet and 10 feet bgs at each location. The vapor samples were analyzed for the presence of methane and hydrogen sulfide.

A more in-depth discussion of the work performed by ATC is presented below.

4.1 Pre-Field Activities

A Site Health & Safety Plan (HASP) was prepared for the proposed activities to establish the personal health and safety procedures of ATC employees performing work at this location. The program satisfies the requirements promulgated by the Occupational Safety and Health Administration (OSHA). As part of the HASP, ATC personnel are appropriately trained and under a Medical Surveillance Program in accordance with OSHA 40 CFR 1910.120.

Prior to sampling activities, Underground Service Alert (USA) was contacted for the purpose of notifying utility companies with subsurface lines in the site area. No subsurface utilities were present near the sampling locations.

4.2 Soil Sampling

On December 14, 2016, ATC advanced 36 soil borings (SB-1 through SB-36) at the site using a hand auger. The soil boring locations are shown on **Figure 2**. The soil borings were advanced to a maximum depth of 2.5 feet bgs. Sampling equipment was decontaminated using a three-stage wash/rinse with Alconox® (or equivalent) between each interval of sampling. A duplicate soil sample was collected for each laboratory analysis being performed. The samples were contained in non-preserved glass jars, labeled, placed in an ice-chilled cooler, and delivered to Positive Lab Service for analysis. The collected soil samples were analyzed for OCP's using EPA Method 8081A, and for arsenic using EPA Method 6010B.

4.3 Soil Vapor Sampling

On December 13, 2016, ATC observed Cascade Drilling (Cascade) advance soil borings SV-1 through SV-10 at the site. Groundwater was encountered at 12 feet bgs. A DTSC onsite representative recommended vapor probes be set at five and 10 feet bgs in each boring.

On December 15, 2016, ATC observed Optimal Technologies (Optimal) collect soil vapor samples from SV-1 through SV-10. At each sampling location, an electric vacuum pump set to draw 0.2 liters per minute (L/min) of soil vapor was attached to the probe and purged prior to sample collection. Vapor samples were obtained in gas-tight syringes using a three-way swage-lock valves and tubing which connects the sampling probe and the vacuum pump. New tubing was used at each sampling point to prevent cross-contamination.

Soil vapor samples were analyzed in an onsite mobile laboratory for methane using EPA Test Method 8015, and for hydrogen sulfide using a hand-held field instrument (Landtec GEM2000 Plus).

A replicate analysis (duplicate) was performed to evaluate the reproducibility of the sampling system and instrument. Blanks were run at the beginning of the day and after calibration. The blanks were collected using ambient air sample. The blanks checked the septum, syringe, gas chromatography (GC) Column, GC detector, and the ambient air. Blank results are provided with the sample results.

A tracer compound (isobutane) was applied to the soil gas probes at each point of connection in which ambient air could enter the sampling system. These points included the top of the sampling probe where the tubing meets the probe connection, and the surface bentonite seals. None of the collected soil vapor samples contained detectable concentrations of isobutane, suggesting ambient air did not dilute the collected samples.

All sampling equipment was decontaminated between boring and sample locations. Following completion of the sampling activities, each boring was subsequently destroyed in accordance with State Water Resources Control Board regulations.

Soil vapor locations are shown on **Figure 2**.

4.4 Analytical Results

Laboratory analytical results for collected soil and soil vapor samples are discussed below and summarized on **Tables 1 and 2**. Copies of the laboratory analytical reports are provided in **Appendix B**.

Historical Agricultural Use Concerns

Soil borings SB-1 through SB-36 were analyzed to evaluate potential contamination of soils extending to a depth of 0.5 feet bgs for OCPs and arsenic related to historical agricultural usage of the site. Nine discrete soil samples were analyzed for arsenic, while soil samples collected for OCP analysis were combined into four-point composite samples (COMP 1 through COMP 9) at each depth (soil was not composited across multiple depths).

The OCPs alpha and gamma-chlordane, 4,4'-DDD 4,4'-DDE, 4,4'-DDT, methoxychlor, dieldrin, and endrin, were detected below their respective Regional Screening Levles (RSL's) in the composite soil samples collected at 0.5 feet (COMP 1 through COMP 9). Toxaphene was detected above its RSL in all nine samples plus the duplicate, at a maximum concentration of 2,510 µg/kg in sample COMP 9. Due to the toxaphene detections above its respective RSL, ATC instructed the laboratory to analyze the two-foot depth samples. Toxaphene was detected below its RSL in five of the nine soil samples, and at concentrations less than the corresponding 0.5-foot samples in the remaining four composite two-foot depth samples.

Arsenic was detected in all of the collected soil samples at concentrations ranging from 3.01 to 3.76 mg/kg. It is ATC's opinion that the arsenic concentrations in soil samples collected appear to represent naturally-occurring background concentrations. The DTSC-accepted background concentration for arsenic in the Southern California Region is 12 mg/kg (DTSC, 2008b).

4.4.1 Soil Vapor Results

The site is located within the eastern portion of the West Montalvo Oil Field. There are no current or historic oil production wells located within 1,500 feet of the site. In order to assess potential concerns related to historical oil field production activities in the West Montalvo Oil Field, ten soil vapor probes (SV-1 through SV-10) were advanced to 10 feet bgs. Soil vapor samples were collected from each soil vapor probe at depths of 5 and 10 feet bgs. Methane was detected in soil vapor samples collected at 5 feet bgs in four vapor probes (SV-2, SV-3, SV-5, and SV-9) at concentrations ranging from 10.28 to 15.26

ppmv. Methane was detected in one soil sample collected at a depth of 10 feet bgs (SV-4) at a concentration of 14.22 ppmv. The concentrations of methane detected in soil vapor are less than 0.03% of the lower explosive limit (LEL). Hydrogen sulfide was not detected in any of the soil vapor samples collected at the site. These observations suggest that the methane and hydrogen sulfide potentially associated with the West Montalvo Oil Field do not pose a significant threat to future building occupants and do not warrant additional mitigation.

4.5 Quality Assurance/Quality Control

The samples collected for this PEA investigation were submitted to Positive Lab Service of Los Angeles, California for analysis.

The field data and analytical data were reviewed to attempt to ensure that the field measurements and quality control analyses were properly performed and documented. The field data sheets and chain of custodies were reviewed for completeness and accuracy.

One duplicate sample and one equipment blank sample were collected for this scope of work. The percentage difference between samples and duplicates was within acceptable ranges. The equipment blank sample was non-detect for all tested analytes, as summarized on **Table 3**.

Surrogate recoveries were within the acceptance criteria and all sample batches were generally within the acceptable range for matrix spike and/or matrix spike duplicate results in the laboratory. Any discrepancies were discussed and addressed by the laboratory. Proper sampling, chain-of-custody, and cooling protocols were conducted throughout the investigation.

Based on the quality assurance/quality control analysis, the results are consistent with proper field and laboratory results observed in similar field conditions.

As reported by the laboratory, analysis of the two-foot depth samples was two days outside holding time. The analysis was requested over the Holidays.

All laboratory analytical reports, including QA/QC analysis, are included in **Appendix B**.

5.0 HUMAN HEALTH SCREENING EVALUATION

5.1 Introduction

The PEA screening evaluation for human health effects involves identifying potential chemicals of concern, and comparing a calculated dose for these chemicals to health-based levels developed by EPA and DTSC. For the purpose of the PEA screening evaluation, potential exposures, doses, and risks were evaluated for four potential onsite receptors, including hypothetical resident, future school worker, future student, and construction worker exposure scenarios. For the purpose of this analysis, the human health screening evaluation was performed utilizing data obtained from the December 2016 site assessment.

Exposure to chemicals can only occur if there is a complete pathway by which chemicals in site soil, water, or air can be contacted by humans. Therefore, the evaluation of exposure pathways is the first step in the human health screening evaluation. Potential dose and risk are then calculated based on an evaluation of potential exposure concentrations of chemicals of concern, and the toxicity of the chemicals. The findings of the human health screening evaluation are summarized in the risk characterization summary. The uncertainty section presents factors in the risk assessment that may result in an overestimation or underestimation of risk for risk management consideration. Risk and hazard estimates based on the use of the maximum detected concentrations of constituents in soil are also presented in the discussion of uncertainty.

5.2 Exposure Pathways and Media of Concern

5.2.1 Conceptual Site Model

As discussed in Section 2.0, the site has been used for agriculture purposes since at least the 1940s and is currently used to produce row crops. A closed Leaking Underground Storage Tank (LUST) site is located approximately 2,000 feet east of the site, where a 550-gallon and a 3,000-gallon gasoline-containing underground storage tank (UST) were present. The UST site received regulatory closure in 1998. The OSD intends to construct elementary and middle schools on the property. In May of 2016, the OSD entered into an Environmental Oversight Agreement with the DTSC. While specific plans and details regarding the proposed facilities have not been prepared, ATC anticipates that the development will include construction of buildings, parking lots, playfields, hardcourts, and common space areas.

Following development, it is anticipated that only limited portions of the site would be exposed and available for contact by future students and school workers. The potential for direct contact with soil under anticipated future site conditions is expected to be minimal. Consistent with agency guidance for baseline risk assessments, it was assumed that the site will be uncovered and that bare soils will be available for contact for the purpose of the screening human health evaluation. Consequently, children attending the school, certain school staff, and workers engaged in construction activities could potentially be exposed to site chemicals through incidental ingestion, dermal contact, and inhalation of vapors and particulates from chemicals in soil. In accordance with PEA guidance, exposures to chemicals at the site were evaluated assuming hypothetical residential exposures. Potential school staff, students, and construction worker exposures were also evaluated for the same exposure pathways.

The conceptual site model (CSM) for the site is included in **Appendix A**.

5.2.2 Soil Exposure Pathways

Chemicals detected in soil at the site include OCPs and arsenic. While the post-development conditions (i.e., presence of flatwork and buildings over the majority of the site surface) would serve to limit the frequency or duration of potential soil exposure pathways, potential contact with soil by students, staff, and or construction workers may occur in the future. For chemicals in soil, potentially complete exposure pathways include dermal contact with soil and incidental ingestion of soil.

5.2.3 Water Exposure Pathways

The shallow groundwater is not a current or proposed source of drinking water for the site. Therefore, the groundwater exposure pathway is considered to be an incomplete exposure pathway for the purpose of this screening health risk assessment. No permanent surface water bodies occur on the site or in the near vicinity of the site. Therefore, exposures to surface water were not evaluated.

5.2.4 Air Exposure Pathways

For chemicals in soil, potential exposure may occur as a result of particulate erosion from the soil surface and subsequent suspension of particulates in air. This process and the resulting exposure is often referred to as the fugitive dust exposure pathway. The site is currently undeveloped and future site grading and construction activities could result in the generation of fugitive dust. In addition, it is anticipated that relatively small areas of the site will be reserved for open play areas that could potentially result in the generation of fugitive dust. Based on this information, potential exposures to chemicals through the fugitive dust pathway warrant quantitative evaluation for the chemicals of potential concern (COPCs) at the site.

The results of soil vapor sampling performed at the site did not indicate the presence of methane or hydrogen sulfide at concentrations that would represent a vapor intrusion threat or a risk of fire or

explosion. Consequently, potential exposure to methane and hydrogen sulfide in indoor and outdoor air are not considered to represent complete exposure pathways at this time.

5.2.5 Summary of Selected Exposure Pathways

For the purpose of this PEA screening evaluation, receptors including a hypothetical resident, future school worker, future student, and construction worker were assumed to be exposed to organochlorine pesticides in site soil through direct dermal contact, incidental ingestion, and inhalation of airborne particulates (i.e. fugitive dust).

5.3 Selection of Chemicals of Potential Concern

Chemicals of Potential Concern (COPCs) include constituents that are present in soil that may result in adverse health effects under the defined conditions of exposure. The PEA sampling activities included analysis for arsenic, a naturally-occurring element that may also be associated with historical arsenic-based pesticides, and organochlorine pesticides (OCPs). **Table 1** summarizes the laboratory analytical results for arsenic and OCPs detected in soil at the site. **Appendix C**, **Table C-1** presents the same data but also includes a descriptive statistical summary of the COPCs that were detected in soil samples obtained as a component of the PEA investigation. Specifically, **Table C-1** includes a summary of the number of soil samples analyzed (including duplicates), frequency of detection, range of non-detect values, minimum and maximum detected concentrations, and the arithmetic mean for each chemical detected.

Arsenic detected in soil was evaluated to determine if the concentrations detected were consistent with "background" conditions (i.e., conditions unaffected by site-related activities). Arsenic was detected in soil at concentrations ranging from 3.01 to 3.76 mg/kg. The concentrations of arsenic are below the DTSC established background screening value of 12 mg/kg (DTSC, 2008b). Based on this information, arsenic is considered to be present at concentrations within the range of anticipated background concentrations and was excluded from quantitative analysis in the screening health risk assessment.

All other COPCs that were detected in soil for which relevant toxicological evaluations have been performed were retained for quantitative analysis in the screening health risk assessment.

The concentrations of COPCs at specific exposure points will vary over space and time. However, a single estimate of an Exposure Point Concentration (EPC) is required for risk assessment calculations (USEPA, 1989). This single value must be representative of the average concentration to which a person would be exposed over the duration of the exposure. EPCs generally are estimated using either measured concentrations in environmental media or developed using fate and transport models. For COPCs in soil, the maximum concentration of each COPC detected in soil was utilized to represent the EPC in this analysis. Use of the maximum concentration as the basis for the EPC represents a conservative and health-protective assumption and is consistent with DTSC guidance for PEA screening evaluations.

5.4 Exposure Parameters

Exposure parameters are quantitative estimates of the frequency, duration, and magnitude of exposure to soil based on information contained in DTSC and USEPA guidance, as well as professional judgment. The exposure parameters were selected from DTSC (2014) and USEPA (2009 and 2011) guidance. **Appendix C**, **Table C-2** presents the exposure assumptions that were used in this screening health risk assessment for the residential receptor, occupational worker, and construction worker.

5.4.1 Common Exposure Parameters

The exposure frequency represents the number of days a year a receptor may be expected to be exposed to COPCs. The exposure frequency for residential receptors is 350 days per year, which is assumed to be 7 days per week for 50 weeks per year (DTSC, 2014). The exposure frequency for the site worker and student is assumed to be 180 days per year, consistent with a typical school schedule. The exposure frequency for the construction worker is 250 days per year, which assumes 5 days per week for 50 weeks per year (DTSC, 2014).

The exposure duration for child residential receptors is 6 years and for an adult resident is 20 years (DTSC, 2014). The exposure durations for the site worker and construction worker are 25 years and 1 year, respectively (DTSC, 2014). The exposure duration for the student was assumed to be 9 years, representing attendance from kindergarten through 8th grade (i.e, from age 5 through age 13). The average body weight for an adult receptor is 80 kilograms (kg) and for a child resident is 15 kg (DTSC, 2014). An average body weight of 35 kg was assumed for the student receptor. This value represents the average body weight of a student between the ages of 5 and 14 (OEHHA, 2004).

The averaging time parameter averages exposure over a period of time. For non-carcinogenic effects, the averaging time is based on the exposure duration multiplied by 365 days per year. The averaging time for non-carcinogenic effects for a child residential receptor is 2,190 days, for an adult residential receptor is 7,300 days, for a site worker is 9,125 days, and for a construction worker is 365 days (DTSC, 2014). The averaging time for non-carcinogenic effects for the student receptor is 3,285 days, reflecting a nine year period of attendance. The averaging time for carcinogenic effects is based on a lifetime exposure of 70 years multiplied by 365 days/year for 25,550 days (DTSC, 2014). When calculating carcinogenic risk, the total intake of a chemical over a lifetime is used. For the residential exposure scenario, the total chemical intake includes the sum of the intake for 6 years as a child and 20 years as an adult.

5.4.2 Inhalation Exposure Parameters

The exposure time represents the amount of time in a day that a receptor may be exposed to either fugitive dust via inhalation, ambient air, or indoor air. The exposure time for a residential receptor assumes a full day (24-hour) exposure. The exposure time for site worker, student, and construction worker assumes an 8 hour day (DTSC, 2014).

5.4.3 Incidental Soil Ingestion Exposure Parameters

The ingestion rate represents the amount of soil a receptor may accidently ingest in a day at the site. The ingestion rate for an adult residential receptor is 100 milligrams per day (mg/day) and 200 mg/day for a child resident. The student soil ingestion rate utilized in this analysis is 72 mg/day. This value reflects the average soil ingestion rate based on the fraction of time spent at school (59%) and the age-specific soil ingestion rates of 200 mg/day for ages 5 and 6 and 100 mg/day for ages 7 through 14 (OEHHA, 2004). The ingestion rate for an occupational worker assumes 100 mg/day, and a construction worker is 330 mg/day (DTSC, 2014).

5.4.4 Dermal Contact with Soil Exposure Parameters

The skin surface area represents how much skin is exposed for dermal contact with soil. The surface area is 6,032 square centimeters (cm^2) for the adult residential receptor, site worker, and construction worker and 2,900 cm^2 for a child residential receptor (DTSC, 2014).

The soil-to-skin adherence factor represents how much soil will remain on the skin after direct contact with the soil is no longer available. The soil-to-skin adherence factor is 0.2 milligrams per square centimeter per day (mg/cm^2-day) for the child resident, site worker and student receptors (DTSC, 2014). Soil-to-skin adherence factors of 0.07 and 0.8 mg/cm^2-day mg/cm^2-day were used for the adult residential receptor and construction worker, respectively (DTSC, 2014).

5.4.5 Particulate Emission Factor

The particulate emission factor (PEF) relates the contaminant concentration in soil with the concentration of respirable particles in the air due to fugitive dust emissions from the surface of the site (USEPA, 1991b). DTSC recommended a PEF default value of 1 x 10^6 m^3/kg.

- For the purpose of this analysis, default assumptions recommended by EPA and DTSC were used along with the default PEF. The calculations are provided in **Appendix C**, **Table C-4**. The use of default PEF value for construction worker to all receptors results in more conservative (i.e., higher) risk estimates for dust inhalation.

5.5 Toxicity Values and Summary Tables

The toxicity assessment characterizes the relationship between the magnitude of exposure to a COPC and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects endpoints are classified into two broad categories: non-carcinogenic and carcinogenic. Toxicity values/exposure criteria are generally developed based on the threshold approach for non-carcinogenic effects and the non-threshold approach for carcinogenic effects. Toxicity values may be based on epidemiological studies, short-term human studies, or subchronic or chronic animal data.

5.5.1 Carcinogenic Effects

In human health risk assessment, a slope factor is used to estimate an upper-bound probability of an individual developing cancer as a result of a lifetime of exposure to a particular level of a potential carcinogen. Specifically, a slope factor is a plausible upper-bound estimate of the probability of a response per unit intake of a chemical over a lifetime and is usually the 95% Upper Confidence Limit (UCL) of the slope of the dose-response curve expressed in (mg/kg-day)$^{-1}$ for non-inhalation pathways and (µg/m3)$^{-1}$ for inhalation pathways.

For carcinogenic COPCs, toxicity criteria were selected from the Office of Environmental Health Hazard Assessment (OEHHA) Toxicity Criteria Database. If no OEHHA toxicity criteria were available, toxicity criteria were selected from USEPA Integrated Risk Information System (IRIS) (EPA, 2017) or USEPA Regional Screening Level Table (USEPA, 2016). Carcinogenic toxicity criteria for the COPCs are presented in **Appendix C**, **Table C-3**.

5.5.2 Non-Carcinogenic Effects

For the evaluation of non-carcinogenic effects, chronic reference doses (RfDs) for the ingestion route and reference concentrations (RfCs) for the inhalation route are used. A chronic RfD, expressed in milligrams per kilogram per day or mg/kg-day, is an estimate of a daily exposure level for the human population, including sensitive subpopulations that are likely to be without appreciable risk of deleterious effects during a lifetime. The RfC is expressed in units of micrograms of chemical per cubic meter of air (µg/m^3) and is an estimate of the maximum air concentration that can be present over a specified time period without an appreciable risk of deleterious effects. Chronic reference doses and reference concentrations are

generally used to evaluate the potential non-carcinogenic effects associated with exposure periods between 6 years and a lifetime. Non-carcinogenic toxicity criteria for the COPCs are presented in **Appendix C**, **Table C-3**.

For non-carcinogenic COPCs, toxicity criteria were selected according to the following hierarchy of sources:

- The OEHHA's chronic reference exposure levels (RELs) or RfDs from the OEHHA Toxicity Criteria Database (OEHHA, 2017).
- The RfDs/RfCs from IRIS (USEPA, 2017).
- USEPA's Provisional Peer Reviewed Toxicity Values (PPRTVs), as provided for specific chemicals in the USEPA, Regional Screening Level Table (USEPA, 2016); and

When available, child-specific RfDs were utilized in this analysis. Child-specific RfDs were identified for chlordane and methoxychlor only. Other toxicity values, as provided for specific chemicals in the USEPA Regional Screening Level Table (USEPA, 2016). Other sources referenced in the USEPA tables include Minimal Risk Levels (MRLs) from the Agency for Toxic Substances Disease Registry (ATSDR); values from the National Center for Environmental Assessment (NCEA); values from New Jersey Department of Environmental Protection (NJDEP); and values from USEPA Health Effects Assessment Summary Tables (HEAST).

5.6 Risk Characterization Summary

In this section of the screening health risk assessment, toxicity and exposure assessments were integrated into quantitative expressions of non-carcinogenic hazards and carcinogenic risks. As was previously discussed, the exposure and risk assessment methodology utilized in this analysis accounts for potential exposure to all COPCs.

The estimates of hazard and risk for individual COPCs and exposure pathways are presented numerically in **Appendix C**, **Tables C-5** through **C-16**. Summaries of the hazard quotients for the residential, site worker, student, and construction worker scenarios are presented in **Tables C-17, C-19**, and **C-21**, and **C-23**, respectively. Summaries of the lifetime incremental cancer risks for the residential, site worker, student, and construction worker scenarios are presented in **Tables C-18, C-20, C-22**, and **C-24**, respectively. **Table C-25** provides a summary of estimated cumulative hazard indices and lifetime incremental cancer risks for each potential receptor.

The following sections provide a summary overview of the cumulative hazard indices and lifetime incremental cancer risks associated with the exposure scenarios that were quantified as a component of this evaluation.

5.6.1 Non-Carcinogenic Health Effects

Potential non-carcinogenic effects are typically evaluated by comparing exposure over a specified time period with a reference dose derived for a similar exposure period. This ratio of exposure (dose or concentration) to toxicity is referred to as a Hazard Quotient (HQ). The HQ was calculated as follows for each COPC:

Inhalation Pathways:

$$HQ_i = \frac{AAC_i}{RfC_i}$$

Ingestion and Dermal Pathways:

$$HQ_i = \frac{ADD_i}{RfD_i}$$

where:

HQ_i	= Hazard quotient for chemical "i" (unitless);
AAC_i	= Average air concentration for chemical "i" (µg/m^3);
RfC_i	= Inhalation reference concentration for chemical "i" (µg/m^3);
ADD_i	= Average daily dose for chemical "i" (mg/kg); and
RfD_i	= Reference dose for chemical "i" (mg/kg).

In cases where individual COPCs potentially act on the same organs or result in the same health endpoint (e.g., respiratory irritants), potential additive effects may be addressed by calculating a hazard index (HI) as follows:

$$HazardIndex = \sum_{i=1}^{n} HazardQuotient_i$$

where: i = specific health endpoint

A HI or HQ (for effects which are not additive) of less than or equal to 1 (referred to herein as the significance threshold) indicates acceptable levels of exposure for COPCs having an additive effect. In this analysis, a HI was calculated by summing the HQs for all COPCs, regardless of toxic endpoint, as recommended by agency guidance (USEPA, 1989). This approach is generally believed to overestimate the potential for non-carcinogenic health effects due to simultaneous exposure to multiple chemicals because it does not account for different toxic endpoints (USEPA, 1989).

It should be noted that HQs or HIs greater than 1 do not necessarily mean that adverse health effects will be observed. A substantial margin of safety has been incorporated into some of the RfDs and RfCs developed for the COPCs. Therefore, for these chemicals, adverse health effects may not be observed even if the HQ or HI is much larger than 1.

The following paragraphs summarize the results of the non-carcinogenic risk characterization for each receptor evaluated. The non-cancer hazards estimated for each chemical and exposure pathway evaluated are presented in **Appendix C**, **Tables C-14, C-16**, and **C-18** for the residential, occupational worker, and construction worker, respectively.

Residential Receptor
The non-cancer HQs and HIs associated with potential exposure by the hypothetical onsite residential receptors are summarized in **Table C-17**. Non-cancer HQs for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust are presented in **Tables C-5** (Incidental Ingestion), **C-6** (Dermal Contact), and **C-7** (Inhalation of Fugitive Dust). The non-cancer HI for hypothetical residential receptors exposed to all of the COPCs in soil at the site is 0.2. This value is below the acceptable HI of 1.0. Consequently, potential exposure to the COPCs in soil would not be expected to result in adverse non-cancer health effects for this receptor.

Site Worker
The non-cancer HQs and HIs associated with potential exposure by onsite occupational workers are summarized in **Table C-19**. Non-cancer HQs for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust air are presented in **Tables C-8** (Incidental Ingestion), **C-9** (Dermal Contact), and **C-10** (Inhalation of Fugitive Dust). The non-cancer HI for site workers potentially exposed to all of the COPCs in soil at the site is 0.014. This value is below the acceptable HI of 1.0. Consequently, potential exposure to the COPCs in soil would not be expected to result in adverse non-cancer health effects for this receptor.

Student
The non-cancer HQs and HIs associated with potential exposure by students are summarized in **Table C-21**. Non-cancer HQs for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust air are presented in **Tables C-11** (Incidental Ingestion), **C-12** (Dermal Contact), and **C-13** (Inhalation of Fugitive Dust). The non-cancer HI for students potentially exposed to all of the COPCs in soil at the Site is 0.019. This value is below the acceptable HI of 1.0. Consequently, potential exposure to the COPCs in soil would not be expected to result in adverse non-cancer health effects for this receptor.

Construction Worker
The non-cancer HQs and HIs associated with potential exposure by an onsite construction worker are summarized on **Table C-23**. Non-cancer HQs for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust are presented in **Tables C-14, C-15**, and **C-16**, respectively. The non-cancer HI for construction workers exposed to all of the COPCs in soil at the site is 0.067. This value is below the acceptable HI of 1.0. Consequently, potential exposure to the COPCs in soil would not be expected to result in adverse non-cancer health effects for this receptor.

5.6.2 Carcinogenic Health Effects

Carcinogenic risks are estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a potential carcinogen. The slope factor (SF) converts estimated daily intakes averaged over a lifetime of exposure to incremental risk of an individual developing cancer (USEPA, 1989). This carcinogenic risk estimate is generally an upper-bound value since the slope factor is often a 95% UCL of probability of response based on experimental animal data. For inhalation exposures, the Inhalation Unit Risk (IUR) is used to estimate an upper-bound probability of an individual developing cancer as a result of a lifetime exposure. The IUR is a concentration-based estimate of carcinogenic potency and is expressed as risk over time ($\mu g/m^3$). Lifetime Incremental Cancer risks for COPCs were calculated as follows:

Inhalation Pathways:

$$CR_i = LAC_i \times IUR_i$$

Ingestion and Dermal Pathways:

$$CR_i = LDD_i \times SF_i$$

where:

CR_i	= Lifetime Incremental Cancer risk for chemical "i" (unitless);
LAC_i	= Lifetime air concentration for chemical "i" ($\mu g/m^3$);
IUR_i	= Inhalation unit risk factor for chemical "i" $(\mu g/m^3)^{-1}$;
LDD_i	= Lifetime daily dose for chemical "i" (mg/kg-day); and
SF_i	= Slope factor for chemical "i" $(mg/kg\text{-}day)^{-1}$.

The estimated excess cancer risks for each chemical are summed regardless of toxic endpoint to estimate the total excess cancer risk for the exposed individual:

$$CR = \sum_{i=1}^{n} CR_i$$

where: i = specific health endpoint

The USEPA and CalEPA have defined what is considered to be an acceptable level of risk in similar, though slightly different ways. The USEPA considers one in one-million (1×10^{-6}) to one in ten thousand (1×10^{-4}) to be the target range for acceptable risk (USEPA, 1990a, 1990b). Estimates of lifetime excess cancer risk associated with exposure to chemicals of less than 1×10^{-6} are considered *de minimis,* a risk level that is so low as to not warrant any further investigation or analysis (USEPA, 1990a). The DTSC also generally targets the same range for acceptable risks, but typically utilizes the 1×10^{-6} risk estimate as the point of departure for current or prospective school sites.

The following sections summarize the results of the carcinogenic risk characterization for each receptor evaluated. The lifetime incremental cancer risks estimated for each chemical and exposure pathway evaluated are presented in **Appendix C**, **Tables C-18, C-20, C-22**, and **C-24** for the residential, site worker, student, and construction worker receptors, respectively.

Residential Receptor

The cancer risks associated with potential exposure by the onsite residential receptors are summarized on **Table C-18.** Cancer risks for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust are presented in Tables **C-5, C-6**, and **C-7**, respectively.

The upper-bound cumulative lifetime incremental cancer risks for residential receptors potentially exposed to all of the COPCs in soil at the Site is 6.3×10^{-6}. Approximately 86% of the lifetime incremental cancer risk estimate is associated with incidental ingestion of soil. Toxaphene accounts for approximately 80% of the cumulative lifetime incremental cancer risk estimate. The calculated lifetime incremental cancer risk for this receptor is greater than 1×10^{-6}. This finding suggests that under current conditions, the site would not be suitable for residential or unrestricted uses.

Site Worker

The upper-bound cumulative lifetime incremental cancer risks associated with potential exposure by site workers are summarized on **Table C-20**. The upper-bound cumulative lifetime incremental cancer risks for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust are presented in **Tables C-8, C-9**, and **C-10**, respectively.

The upper-bound cumulative lifetime incremental cancer risks for the site worker potentially exposed to all of the COPCs in soil at the site is 1.3×10^{-6}. Approximately 62% of the lifetime incremental cancer risk estimate is associated with incidental ingestion of soil, while the balance of the risk estimate is associated with dermal contact with soil. Toxaphene accounts for approximately 80% of the cumulative lifetime incremental cancer risk estimate. The calculated lifetime incremental cancer risk for this receptor is consistent with the 1×10^{-6} point of departure and no additional action is warranted for this receptor.

Student
The upper-bound cumulative lifetime incremental cancer risks associated with potential exposure by an onsite student are summarized on **Table C-22**. The upper-bound cumulative lifetime incremental cancer risks for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust are presented in **Tables C-11, C-12**, and **C-13**, respectively.

The upper-bound cumulative lifetime incremental cancer risks for the student receptor potentially exposed to all of the COPCs in soil at the site is 6.9×10^{-7}. The calculated lifetime incremental cancer risk for this receptor is less than 1×10^{-6}. Consequently, potential exposures to future students do not warrant additional action.

Construction Worker
The upper-bound cumulative lifetime incremental cancer risks associated with potential exposure by an onsite construction worker are summarized on **Table C-24**. The upper-bound cumulative lifetime incremental cancer risks for incidental ingestion of soil, dermal contact with soil, and inhalation of fugitive dust are presented in **Tables C-14, C-15**, and **C-16,** respectively.

The upper-bound cumulative lifetime incremental cancer risks for construction worker receptor potentially exposed to all of the COPCs in soil at the site is 2.6×10^{-7}. The calculated lifetime incremental cancer risk for this receptor is less than 1×10^{-6}. Consequently, potential exposures associated with construction activities do not warrant additional action.

5.7 Uncertainty Analysis

There is a certain degree of uncertainty in estimating exposures to chemicals in the environment. To account for these uncertainties, the risk assessment methodology was designed to be conservative. Where values are uncertain because of a lack of site-specific data, regulatory agency default values and/or conservative values were used. Specific sources of conservatism associated with this screening health risk assessment are discussed below:

- The exposure point concentrations utilized in this assessment were based on the maximum concentration of a COPC detected in soil. Use of the maximum detected concentration as an exposure point concentration provides the highest plausible estimate of exposure and associated hazard or risk. Cumulative estimates of hazard and risk are considered to be theoretical and actual cumulative hazards and risks are likely to be lower than the values derived from this analysis.
- The exposure assessment performed as a component of this analysis incorporates a number of assumptions regarding the current or future presence of receptors and the frequency and duration of activities that may result in exposure to the receptors. The exposure factors utilized in calculating exposures and risks are intended to provide reasonable upper-bound estimates for the receptors and exposure pathways considered. While these assumptions are unlikely to underestimate exposure and risk, alternative assumptions based on average or most-likely conditions could yield lower estimates of exposure and risk. For example, the actual period of time that a residential receptor, site worker, or construction worker would be involved in direct

contact with soils is anticipated to be substantially less than the exposure frequency and duration utilized in this assessment.

- Some of the toxicity values utilized in this assessment involve the extrapolation of results from animal studies. When the results of these animal studies are extrapolated to humans, safety factors or other conservative assumptions are typically applied to ensure that human health effects are not underestimated. For carcinogenic effects, the risk assessment methodology assumes the absence of a threshold dose. In essence, this means that exposure to any quantifiable amount of a carcinogenic compounds would result in an estimated risk.
- Exposures and associated risks resulting from contact with multiple COPCs were conservatively assumed to be additive, without regard to specific health effects endpoints (e.g., target organs, tumor type, toxic endpoint, or mode of action). If the health effects endpoints were considered, the cumulative risks would be lower than the values presented in this assessment.
- Exposure point concentrations for COPCs in fugitive dust were estimated utilizing a standardized equation for wind erosion. While this approach is reasonable in the absence of suitable data derived from air sampling and gravimetric analysis, the actual concentrations of dust may be different. In general, the estimated concentrations of COPCs in fugitive dust predicted in this assessment are anticipated to be higher than the actual concentrations.
- Laboratory analytical data for all sampled OCPs included composite, rather than discrete samples. While the use of composite sample results could influence the statistical evaluation for specific COPCs, for the purpose of this analysis, the potential impact is not considered to be significant.
- This assessment presumes that all areas of the site would be potentially available for contact by the residents, site workers and construction workers. This assumption does not account for the future presence of engineered surfaces, buildings, or the presence of vegetation across the site that could serve to further reduce potential exposures or potentially eliminate certain exposure pathways.

6.0 ECOLOGICAL SCREENING EVALUATION

The DTSC requested an ecological screening evaluation of the active agricultural site where proposed elementary and middles schools are to be built. ATC contracted with Rincon Consultants (Rincon) of Ventura, California to perform the evaluation. Rincon concluded that no biologically sensitive resources were present at the site due to a lack of undisturbed natural habitat. A copy of the report is provided in **Appendix D**.

7.0 CONCLUSIONS

7.1 Soil Media

Shallow soil samples were collected in a grid pattern across the approximate 25-acre site. A total of 36 soil borings (SB-1 through SB-36) were advanced to maximum depths of two feet bgs, and composited into nine samples for both the 0.5 and 2.0 feet bgs sampling intervals. Two constituents, arsenic and toxaphene, were detected in soil at concentrations in excess of DTSC and/or EPA health-based screening levels for residential land use. Toxaphene was detected in shallow soil across the site at relatively consistent concentrations, and its presence appears to be related to historical agricultural applications. The concentrations of arsenic detected in soil were determined to be consistent with background concentrations of this naturally-occurring element.

Ten soil vapor probes (SV-1 through SV-10) were advanced to 10 feet bgs, and soil vapor samples were collected at depths of 5 and 10 feet bgs. Methane was detected in soil vapor samples collected at 5 feet bgs in four vapor probes (SV-2, SV-3, SV-5, and SV-9) at concentrations well below ten percent LEL Hydrogen sulfide was not detected in any of the soil vapor samples collected at the site. These observations suggest that the methane and hydrogen sulfide potentially associated with the West Montalvo

Oil Field do not pose a significant threat to future building occupants and do not warrant additional mitigation.

A screening health risk assessment was performed for all OCPs detected in soil. The assessment evaluated potential soil exposures associated with three potential receptors, including the hypothetical future resident, site worker, and construction worker. Estimated upper-bound hazard indices ranged from 0.014 for the site scenario to 0.2 for the residential scenario. Cumulative hazard indices for the site student and construction worker were 0.019 and 0.067, respectively. The results of the risk assessment indicated that the presence of OCPs in soil is not expected to result in adverse, non-cancer health impacts to any of the potential receptors evaluated.

Estimates of potential cumulative upper-bound lifetime incremental cancer risks ranged from $6.3x10^{-6}$ for the hypothetical future resident to $2.6x10^{-7}$ for the construction worker scenarios. The lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of $1x10^{-6}$ typically utilized by DTSC to determine whether a removal action is warranted to protect human health for unrestricted land uses. Upper-bound lifetime incremental cancer risk estimates for the school site receptors ranged from $1.3x10^{-6}$ to $6.9x10^{-7}$ for the site worker and student, respectively. The lifetime incremental cancer risk estimates for the site worker, site student, and construction worker are consistent with or below the 1x10-^{6} point of departure. Based on the results of the risk , the concentrations of OCPs, including toxaphene, detected in soil samples collected during this investigation do not present a significant risk to future site workers, students or construction workers. Consequently, no additional mitigation or risk management measures would be warranted for the proposed development and use of the property as a school site.

8.0 RECOMMENDATIONS

The results of the screening health risk assessment indicate that the lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of 1×10^{-6} utilized by DTSC. In the event that unrestricted use of the property is desired, consideration should be given to performing removal or remedial actions designed to reduce the concentrations of toxaphene in soil to levels that are suitable for residential use. Alternatively, a land use covenant agreement, limiting the future use of the site for non-residential purposes, would be an appropriate risk management option. In general, the vertical extent of toxaphene in soil appears to be limited to the first few feet below ground surface. The limited vertical extent of toxaphene is consistent with the historical application of this now banned pesticide. While the concentrations of toxaphene and other OCPs detected in soil are not anticipated to result in adverse impacts to future site workers, students, or construction workers, ATC recommends that a Soil Management Plan be prepared prior to initiating site development activities. The Soil Management Plan would outline procedures for dust mitigation during earth moving and soil disturbing activities, identify specific health and safety considerations, and establish procedures for monitoring, sampling, and disposal or import of soil utilized during construction.

ATC also suggests that consideration be given to the design and planning of the proposed school site in order to further minimize the potential for direct-contact with OCP impacted soil. Representative measures may include, but are not necessarily limited to, import of clean, documented fill material for use in planters, playgrounds, and playing fields within the first foot of ground surface, and removing topsoil from planned playfield areas for use beneath asphalt-covered areas. These additional measures would serve to further reduce and/or eliminate exposures to residual OCPs in soil.

9.0 PUBLIC PARTICIPATION PROCESS

The OSD has elected to make this PEA available for public review and comment, concurrently with DTSC review, as allowed in California Education Code § 17213.1, (a)(6)(A).

The OSD published a notice of the availability of the PEA for public review in a local newspaper. The OSD initiated the public comment period on March 23rd, 2017, which will continue through April 24th 2017. Additionally, the OSD will hold a public hearing on April 19th to discuss the PEA. All public comments pertaining to the PEA will be forwarded to the DTSC once received.

10.0 LIMITATIONS

The conclusions presented in this document are based on ATC's observations of existing site conditions, interpretation of site history, site usage information collected during the study, and the professional judgment of ATC. Conclusions should not be relied upon to precisely represent conditions at any other time. Facts, conditions, and acceptable risk factors may change with time and this report should be utilized within this context. Findings based on the usage of data provided by others carry no warranty, expressed or implied. Conclusions about the site conditions under no circumstances comprise a warranty that conditions in all areas within the site (and beneath structures) are of the same quality that ATC has inferred from observable site conditions and readily available site history. ATC makes no warranty, either expressed or implied, as to its findings, opinions, recommendations, specifications, or professional advice, except that they were formulated after being prepared in accordance with generally accepted standards of care and diligence normally practiced by recognized consulting firms performing services of similar nature.

11.0 REFERENCES

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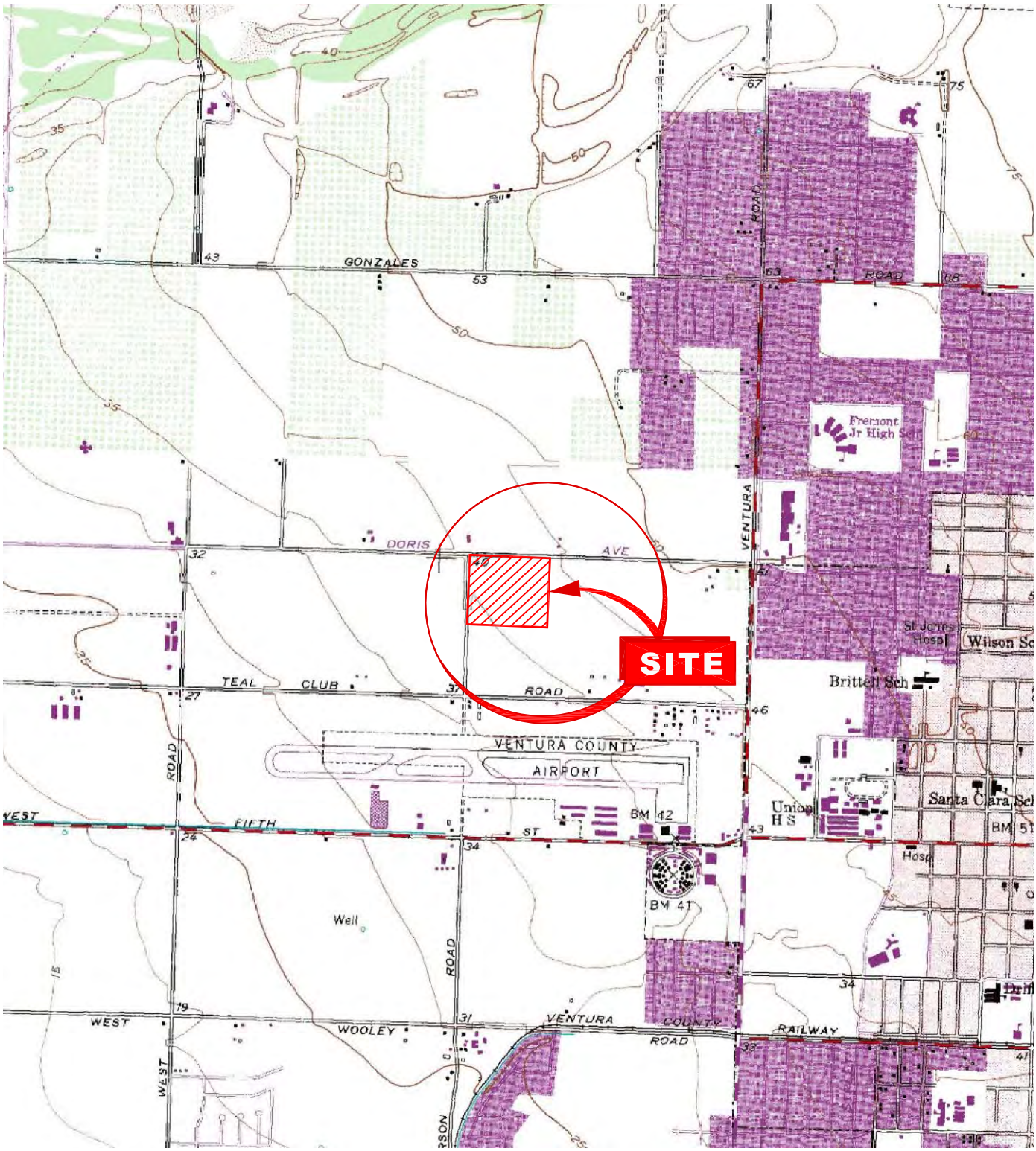
FIGURES



OXNARD, CALIFORNIA QUADRANGLE (PROVISIONAL EDITION 1967)

SCALE

0 .5 1

MILES

1:24,000

N

SITE VICINITY MAP

PROPOSED NEW SCHOOL SITE

DORIS AVENUE AND NORTH PATTERSON ROAD

OXNARD, CALIFORNIA

PROJECT NUMBER: 1011600826	PHASE: 1	FIGURE 1
REVIEW BY: G. BUCHANAN	DRAWN BY: DAW	

ATC
25 Cupania Circle
Monterey Park, CA 91755
Ph: (323) 517-9780 *** Fax: (323) 517-9781

FILE:

LEGEND

SB-1 ◉ SOIL BORING LOCATION

SV-1 ○ VAPOR BORING LOCATION

N

0 200

Approximate Scale in Feet

SCALE: 1" = 200'

SITE PLAN WITH BORING LOCATIONS

PROPOSED NEW SCHOOL SITE

DORIS AVENUE AND NORTH PATTERSON ROAD

OXNARD, CALIFORNIA

PROJECT NUMBER: 1011600826	PHASE: 1	FIGURE 2
REVIEW BY: G. BUCHANAN	DRAWN BY: DAW	

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FILE:

TABLES

Table 1
Laboratory Summary - Soil Analytical Data: OCPs & Arsenic

Proposed Elementary and Middle Schools
Southeast Corner of Doris Avenue and Patterson Road
Oxnard, California

Sample ID	Sample Location(s)	Sample Depth (feet)	Date Sampled	alpha-Chlordane (ug/kg)	gamma-Chlordane (ug/kg)	4,4'-DDD (ug/kg)	4,4'-DDE (ug/kg)	4,4'-DDT (ug/kg)	Dieldrin (ug/kg)	Endrin (ug/kg)	Methoxychlor (ug/kg)	Toxaphene (ug/kg)	Arsenic (ug/kg)
Regional Screening Levels: Residential Land Use (TR of 1x10-6 and THQ of 1.0) - May 2016				1,700	1,700	2,300	2,000	1,900	34	19,000	320,000	490	0.68*
DTSC Screening Levels: Residential Land Use (lowest-listed concentration shown)				430	430	--	--	--	--	--	--	--	0.067
COMP 1	**SB-1, SB-2 SB-3, SB-4**	0.5	12/13/2016	ND<8.0	8.54	32.2	549	276	21.3	58.0	ND<40	**2,200**	NA
		2	12/13/2016	ND<8.0	ND<8.0	26.3	245	102.0	18.5	41.3	ND<40	**1,110**	NA
COMP 2	**SB-5, SB-6 SB-7, SB-8**	0.5	12/13/2016	ND<8.0	8.94	32.6	597	268	24.2	60.1	ND<40	**2,140**	NA
		2	12/13/2016	ND<8.0	ND<8.0	17.9	240	98.1	21	33.1	ND<40	**926**	NA
COMP 3	**SB-9, SB-10 SB-11, SB-12**	0.5	12/13/2016	8.10	8.21	29.4	485	261	21.1	54.8	ND<40	**2,250**	NA
		2	12/13/2016	ND<8.0	ND<8.0	ND<8.0	117	36.9	8.95	13.8	ND<40	**519**	NA
COMP 4	**SB-13, SB-14, SB-15, SB-16**	0.5	12/13/2016	ND<8.0	9.71	33.4	592	261	22.2	61.4	ND<40	**2,080**	NA
		2	12/13/2016	ND<8.0	ND<8.0	12	147	52.1	10	19.1	ND<40	395	NA
COMP 5	**SB-17, SB-18 SB-19, SB-20**	0.5	12/13/2016	ND<8.0	9.41	38.4	579	273	18.5	60.9	ND<40	**2,110**	NA
		2	12/13/2016	ND<8.0	ND<8.0	27.4	233	105	17.2	41.8	ND<40	**731**	NA
COMP 6	**SB-21, SB-22, SB-23, SB-24**	0.5	12/13/2016	ND<8.0	9.35	33.2	522	277	17.3	62.2	ND<40	**2,180**	NA
		0.5 (DUP)	12/13/2016	ND<8.0	9.07	31.0	551	258	14.0	57.5	ND<40	**2,060**	NA
		2	12/13/2016	ND<8.0	ND<8.0	ND<8.0	60.1	20.4	ND<8.0	8.96	ND<40	218	NA
COMP 7	**SB-25, SB-26, SB-27, SB-28**	0.5	12/13/2016	9.01	10.7	40.1	618	311	17.8	71.4	ND<40	**2,380**	NA
		2	12/13/2016	ND<8.0	ND<8.0	ND<8.0	81.3	23.7	ND<8.0	11.3	231	ND<120	NA
COMP 8	**SB-29, SB-30, SB-31, SB-32**	0.5	12/13/2016	8.46	11.5	39.6	589	343	16.7	79.0	ND<40	**2,500**	NA
		2	12/13/2016	ND<8.0	ND<8.0	ND<8.0	69.7	21.4	ND<8.0	10.5	ND<40	252	NA
COMP 9	**SB-33, SB-34, SB-35, SB-36**	0.5	12/13/2016	8.22	10.9	46.1	646	358	17.1	85.8	ND<40	**2,510**	NA
		2	12/13/2016	ND<8.0	ND<8.0	ND<8.0	81.5	25.1	ND<8.0	12.2	ND<40	**226**	NA
SB-3 @0.5'	SB-3	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.28**
SB-6 @0.5'	SB-6	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.23**
SB-11 @0.5'	SB-11	0.0	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.26**
SB-14 @0.5'	SB-14	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.20**
SB-14 @0.5' DUP	SB-14	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.01**
SB-20 @0.5'	SB-20	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.34**
SB-24 @0.5'	SB-24	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.61**
SB-26 @0.5'	SB-26	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.60**
SB-32 @0.5'	SB-32	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.40**
SB-33 @0.5'	SB-33	0.5	12/13/2016	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.76**

Explanations:
-- = No established value
DTSC Screening levels referenced from Human Health Risk Assessment Note 3 (March 2016), Table 1.
* = The Regional Screening Level for arsenic is 0.68 mg/kg; the consensus background for arsenic in the Southern California region is 12 mg/kg.
OCP = Organochlorine pesticide
µg/kg = Micrograms per kilogram
TR = Target cancer risk
THQ = Total hazard quotient
< = Not detected at concentration exceeding stated laboratory reporting limit
OCP analysis by EPA Method 8081A

Table 2
Laboratory Summary - Soil Vapor Data

Proposed Elementary and Middle Schools
Southeast Corner of Doris Avenue and Patterson Road
Oxnard, California

Sample Location	Sample Depth (feet)	Date Sampled	Methane (ppmv)	Hydrogen Sulfide (ppmv)
Regional Screening Levels: Residential Land Use (TR of 1x10-6 and THQ of 1.0) - May 2016				
DTSC Screening Levels: Residential Land Use				
			--	--
SV-1	5.0	12/14/2016	<10	<1.0
	10	12/14/2016	<10	<1.0
SV-2	5.0	12/14/2016	**14.09**	<1.0
	10	12/14/2016	<10	<1.0
SV-3	5.0	12/14/2016	**15.26**	<1.0
	10	12/14/2016	<10	<1.0
SV-4	5.0	12/14/2016	<10	<1.0
	10	12/14/2016	**15.22**	<1.0
SV-5	5	12/14/2016	**10.28**	<1.0
	10	12/14/2016	<10	<1.0
SV-6	5	12/14/2016	<10	<1.0
	10	12/14/2016	<10	<1.0
	DUP	12/14/2016	<10	<1.0
SV-7	5	12/14/2016	<10	<1.0
	10	12/14/2016	<10	<1.0
SV-8	5	12/14/2016	<10	<1.0
	10	12/14/2016	<10	<1.0
SV-9	5	12/14/2016	**13.51**	<1.0
	10	12/14/2016	<10	<1.0
SV-10	5	12/14/2016	<10	<1.0
	10	12/14/2016	<10	<1.0

Explanations:
ppmv = parts per million by volume
DTSC Screening levels referenced from Human Health Risk Assessment Note 3 (March 2016), Table 1.
< = Not detected at concentration exceeding stated laboratory reporting limit

Table 3
Laboratory Summary - Equipment Blank Samples

Proposed Elementary and Middle Schools
Southeast Corner of Doris Avenue and Patterson Road
Oxnard, California

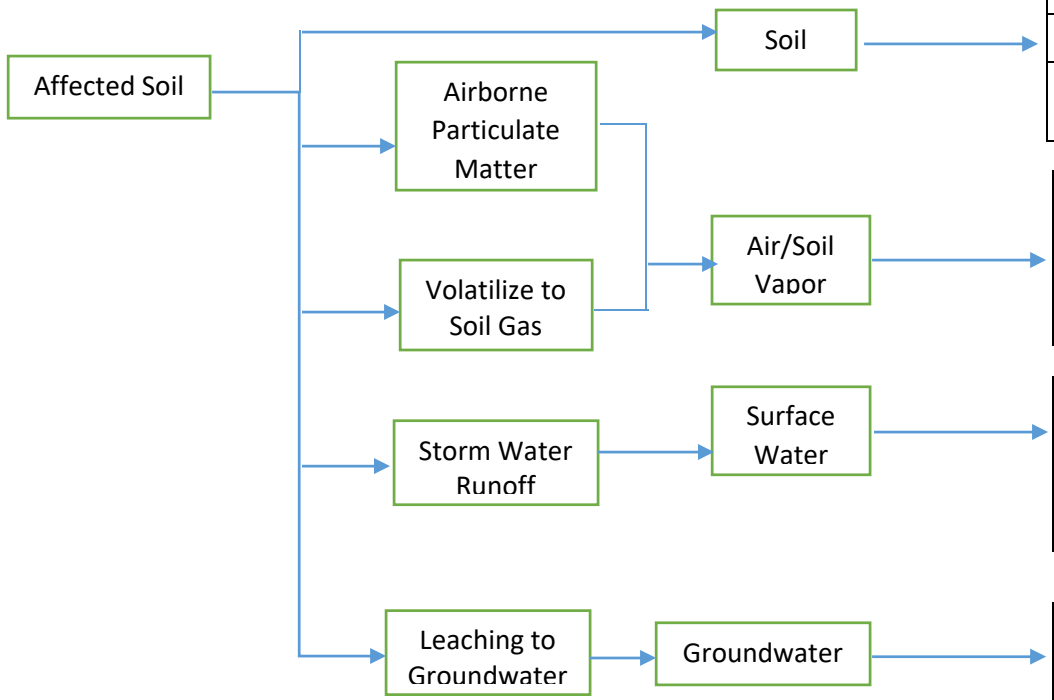
Sample ID	Sample Location(s)	Date Sampled	Arsenic (ug/L)	Oranochlorine Pesticides (ug/L)	Oranophosphorus Pesticides (ug/L)	Title 22 Metals (ug/L)	Volatile Organic Compounds (ug/L)
EB-1	COMP 6	12/13/2016	ND	ND	ND	ND	ND

Explanations:
ug/L = Micrograms per liter
ND = Not detected at concentrations exceeding laboratory reporting limits.
Arsenic analysis by EPA Method 6010B
Organochlorine pesticide analysis by EPA Method 8081A

APPENDIX A

SITE CONCEPTUAL MODEL

SITE CONCEPTUAL MODEL PATHWAY RECEPTOR NETWORK
PROPOSED SCHOOL SITE – DORIS AVENUE AND PATTERSON ROAD, OXNARD



Exposure Properties	Receptor			
	Human		Biota	
	Residents	Site Workers	Terrestrial	Aquatic
Secondary Sources	**Transport Mechanisms**	**Exposure Medium**		
Affected Soil	Airborne Particulate Matter	Soil		
Ingestion	X	X		
Inhalation	X	X		
Dermal Contact	X	X		
Affected Soil	Volatilize to Soil Gas	Air/Soil Vapor		
Ingestion				
Inhalation				
Dermal Contact				
Affected Soil	Storm Water Runoff	Surface Water		
Ingestion				
Inhalation				
Dermal Contact				
Affected Soil	Leaching to Groundwater	Groundwater		
Ingestion	X	X		
Inhalation	X	X		
Dermal Contact	X	X		

APPENDIX B

LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

December 21, 2016

Mr. Greg Buchanan
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Monterey Park, CA 91755

Report No.: 1612108
Project Name: Oxnard School District - 1011600538

Dear Mr. Greg Buchanan,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on December 14, 2016.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 1 @ 0.5' Soil (1612108-01) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**8.54**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**32.2**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**549**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**276**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**21.3**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**58.0**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND		1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2200**		1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*84.8 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*102 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 2 @ 0.5' Soil (1612108-02) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**8.94**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**32.6**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**597**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**268**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**24.2**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**60.1**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND		1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939

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Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 2 @ 0.5' Soil (1612108-02) Sampled:12/13/16 00:00 Received:12/14/16 14:40											
Toxaphene	**2140**		1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*83.4 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*104 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 3 @ 0.5' Soil (1612108-03) Sampled:12/13/16 00:00 Received:12/14/16 14:40											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	**8.10**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**8.21**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**29.4**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**485**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**261**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**21.1**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**54.8**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND		1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2250**		1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*91.4 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*104 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 4 @ 0.5' Soil (1612108-04) Sampled:12/13/16 00:00 Received:12/14/16 14:40											
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**9.71**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**33.4**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**592**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**261**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**22.2**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**61.4**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939

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File #:73399
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PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 4 @ 0.5' Soil (1612108-04) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND	1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND	1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2080**	1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*75.4 %*		*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*101 %*		*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 5 @ 0.5' Soil (1612108-05) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**9.41**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**38.4**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**579**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**273**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**18.5**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**60.9**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND		1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2110**		1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*82.5 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*114 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 6 @ 0.5' Soil (1612108-06) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**9.35**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**33.2**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**522**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**277**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**17.3**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939

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File #:73399
Report Date: 12/21/16
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Project: Oxnard School District - 1011600538

Sample ID: COMP 6 @ 0.5' Soil (1612108-06) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Endosulfan I	ND	1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**62.2**	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND	1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND	1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND	1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2180**	1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*86.0 %*		*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*111 %*		*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 6 @ 0.5' DUP Soil (1612108-07) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**9.07**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**31.0**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**551**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**258**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**14.0**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**57.5**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND		1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2060**		1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*79.9 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*106 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 7 @ 0.5' Soil (1612108-08) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	**9.01**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939

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Certificate of Analysis

ATC Group Services LLC [Monterey Park]
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Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 7 @ 0.5' Soil (1612108-08) Sampled:12/13/16 00:00 Received:12/14/16 14:40

gamma-Chlordane	**10.7**	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**40.1**	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**618**	5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**311**	1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**17.8**	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND	1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**71.4**	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND	1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND	1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND	1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND	1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2380**	1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*85.0 %*		*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*111 %*		*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 8 @ 0.5' Soil (1612108-09) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	**8.46**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**11.5**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**39.6**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**589**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**343**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**16.7**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**79.0**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND		1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2500**		1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*79.6 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*119 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: COMP 9 @ 0.5' Soil (1612108-10) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939

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Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 9 @ 0.5' Soil (1612108-10) Sampled:12/13/16 00:00 Received:12/14/16 14:40											
alpha-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
beta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
delta-BHC	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-BHC (Lindane)	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
alpha-Chlordane	**8.22**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
gamma-Chlordane	**10.9**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDD	**46.1**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
4,4´-DDE	**646**		5	ug/kg	80.0	EPA 3546	EPA 8081A	12/16/16	12/20/16	ai	BL61939
4,4´-DDT	**358**		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Dieldrin	**17.1**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan I	ND		1	ug/kg	16.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan II	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endosulfan sulfate	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin	**85.8**		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Technical Chlordane	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin aldehyde	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Endrin ketone	ND		1	ug/kg	24.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Heptachlor epoxide	ND		1	ug/kg	8.00	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Methoxychlor	ND		1	ug/kg	40.0	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Toxaphene	**2510**		1	ug/kg	120	EPA 3546	EPA 8081A	12/16/16	12/19/16	ai	BL61939
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*84.4 %*			*55-126*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*
Surrogate: Decachlorobiphenyl	*111 %*			*49-133*		*EPA 3546*	*EPA 8081A*	*12/16/16*	*12/19/16*	*ai*	*BL61939*

Sample ID: SB-3 @ 0.5' Soil (1612108-11) Sampled:12/13/16 08:48 Received:12/14/16 14:40										
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.28**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923
Sample ID: SB-6 @ 0.5' Soil (1612108-12) Sampled:12/13/16 07:56 Received:12/14/16 14:40										
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.23**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923
Sample ID: SB-11 @ 0.5' Soil (1612108-13) Sampled:12/13/16 09:16 Received:12/14/16 14:40										
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.26**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923
Sample ID: SB-14 @ 0.5' Soil (1612108-14) Sampled:12/13/16 10:03 Received:12/14/16 14:40										
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.20**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923
Sample ID: SB-14 @ 0.5' DUP Soil (1612108-15) Sampled:12/13/16 10:03 Received:12/14/16 14:40										
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.01**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923
Sample ID: SB-20 @ 0.5' Soil (1612108-16) Sampled:12/13/16 11:10 Received:12/14/16 14:40										
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.34**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923
Sample ID: SB-24 @ 0.5' Soil (1612108-17) Sampled:12/13/16 10:59 Received:12/14/16 14:40										
Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.61**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923

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Report Date: 12/21/16
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PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: SB-26 @ 0.5' Soil (1612108-18) Sampled:12/13/16 13:18 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.60**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923

Sample ID: SB-32 @ 0.5' Soil (1612108-19) Sampled:12/13/16 13:50 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.40**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923

Sample ID: SB-33 @ 0.5' Soil (1612108-20) Sampled:12/13/16 13:01 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	**3.76**		1	mg/kg	2.00	EPA 3050B	EPA 6010B	12/15/16	12/16/16	CG	BL61923

Sample ID: EQ Blank 1 Water (1612108-21) Sampled:12/13/16 14:20 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND		1	ug/l	0.0100	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
alpha-BHC	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
beta-BHC	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
delta-BHC	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
gamma-BHC (Lindane)	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
alpha-Chlordane	ND		1	ug/l	0.0500	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
gamma-Chlordane	ND		1	ug/l	0.0500	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
4,4´-DDD	ND		1	ug/l	0.0500	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
4,4´-DDE	ND		1	ug/l	0.0500	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
4,4´-DDT	ND		1	ug/l	0.0100	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Dieldrin	ND		1	ug/l	0.0100	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Endosulfan I	ND		1	ug/l	0.100	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Endosulfan II	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Endosulfan sulfate	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Endrin	ND		1	ug/l	0.0100	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Endrin aldehyde	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Endrin ketone	ND		1	ug/l	0.100	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Heptachlor	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Heptachlor epoxide	ND		1	ug/l	0.0200	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Methoxychlor	ND		1	ug/l	0.500	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Technical Chlordane	ND		1	ug/l	0.500	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Toxaphene	ND		1	ug/l	1.00	EPA 3535A	EPA 8081A	12/16/16	12/21/16	ai	BL62150
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*54.0 %*			*36-114*		*EPA 3535A*	*EPA 8081A*	*12/16/16*	*12/21/16*	*ai*	*BL62150*
Surrogate: Decachlorobiphenyl	*66.7 %*			*33-129*		*EPA 3535A*	*EPA 8081A*	*12/16/16*	*12/21/16*	*ai*	*BL62150*

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Arsenic	ND		1	mg/L	0.0200	EPA 200.7	EPA 6010B	12/16/16	12/19/16	CG	BL61943

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL61939 - EPA 3546										
Blank Prepared: 12/16/16 Analyzed: 12/19/16										
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4´-DDD	ND	2.00	ug/kg							
4,4´-DDE	ND	4.00	ug/kg							
4,4´-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*5.84*		ug/kg	*10.00*		*58.4*	*55-126*			
Surrogate: Decachlorobiphenyl	*8.66*		ug/kg	*10.00*		*86.6*	*49-133*			
LCS Prepared: 12/16/16 Analyzed: 12/19/16										
Aldrin	10.6	2.00	ug/kg	13.33		79.6	56-130			
gamma-BHC (Lindane)	10.2	2.00	ug/kg	13.33		76.6	56-133			
4,4´-DDT	10.1	4.00	ug/kg	13.33		76.0	56-133			
Dieldrin	11.5	2.00	ug/kg	13.33		86.5	62-119			
Endrin	11.5	2.00	ug/kg	13.33		86.6	59-127			
Heptachlor	11.2	2.00	ug/kg	13.33		84.1	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*8.53*		ug/kg	*10.00*		*85.3*	*54-108*			
Surrogate: Decachlorobiphenyl	*7.96*		ug/kg	*10.00*		*79.6*	*54-127*			
Matrix Spike Source: 1612108-10 Prepared: 12/16/16 Analyzed: 12/19/16										
Aldrin	11.3	2.00	ug/kg	13.33	ND	85.0	39-124			
gamma-BHC (Lindane)	12.0	2.00	ug/kg	13.33	ND	90.0	44-120			
4,4´-DDT	383	4.00	ug/kg	33.33	358	74.9	48-150			
Dieldrin	63.5	2.00	ug/kg	33.33	17.1	139	48-144			
Endrin	113	2.00	ug/kg	33.33	85.8	80.6	54-149			

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Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL61939 - EPA 3546										
Heptachlor	11.4	2.00	ug/kg	13.33	ND	85.4	46-135			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*8.94*		ug/kg	*10.00*		*89.4*	*57-126*			
Surrogate: Decachlorobiphenyl	*11.0*		ug/kg	*10.00*		*110*	*43-136*			
Matrix Spike Dup Source: 1612108-10 Prepared: 12/16/16 Analyzed: 12/19/16										
Aldrin	10.8	2.00	ug/kg	13.33	ND	81.0	39-124	4.81	30	
gamma-BHC (Lindane)	10.7	2.00	ug/kg	13.33	ND	80.5	44-120	11.2	30	
4,4´-DDT	356	4.00	ug/kg	33.33	358	NR	48-150	NR	30	V-2
Dieldrin	55.5	2.00	ug/kg	33.33	17.1	115	48-144	18.8	30	
Endrin	96.9	2.00	ug/kg	33.33	85.8	33.6	54-149	82.3	30	V-2
Heptachlor	10.5	2.00	ug/kg	13.33	ND	78.5	46-135	8.36	30	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*8.41*		ug/kg	*10.00*		*84.1*	*57-126*			
Surrogate: Decachlorobiphenyl	*10.1*		ug/kg	*10.00*		*101*	*43-136*			
Batch BL62150 - EPA 3535A										
Blank Prepared: 12/16/16 Analyzed: 12/21/16										
Aldrin	ND	0.0100	ug/l							
alpha-BHC	ND	0.0200	ug/l							
beta-BHC	ND	0.0200	ug/l							
delta-BHC	ND	0.0200	ug/l							
gamma-BHC (Lindane)	ND	0.0200	ug/l							
alpha-Chlordane	ND	0.0500	ug/l							
gamma-Chlordane	ND	0.0500	ug/l							
4,4´-DDD	ND	0.0500	ug/l							
4,4´-DDE	ND	0.0500	ug/l							
4,4´-DDT	ND	0.0100	ug/l							
Dieldrin	ND	0.0100	ug/l							
Endosulfan I	ND	0.100	ug/l							
Endosulfan II	ND	0.0200	ug/l							
Endosulfan sulfate	ND	0.0200	ug/l							
Endrin	ND	0.0100	ug/l							
Endrin aldehyde	ND	0.0200	ug/l							
Endrin ketone	ND	0.100	ug/l							
Heptachlor	ND	0.0200	ug/l							
Heptachlor epoxide	ND	0.0200	ug/l							
Methoxychlor	ND	0.500	ug/l							
Technical Chlordane	ND	0.500	ug/l							
Toxaphene	ND	1.00	ug/l							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.137*		ug/l	*0.1500*		*91.3*	*36-114*			
Surrogate: Decachlorobiphenyl	*0.132*		ug/l	*0.1500*		*88.0*	*33-129*			
LCS Prepared: 12/16/16 Analyzed: 12/21/16										

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Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL62150 - EPA 3535A										
Aldrin	0.150	0.0100	ug/l	0.2000		75.0	40-110			
gamma-BHC (Lindane)	0.154	0.0200	ug/l	0.2000		77.0	44-101			
4,4´-DDE	0.179	0.0500	ug/l	0.2000		89.5	43-116			
4,4´-DDT	0.174	0.0100	ug/l	0.2000		87.0	51-125			
Dieldrin	0.191	0.0100	ug/l	0.2000		95.5	54-111			
Endrin	0.199	0.0100	ug/l	0.2000		99.5	55-120			
Heptachlor	0.160	0.0200	ug/l	0.2000		80.0	45-109			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.112*		ug/l	*0.1500*		*74.7*	*39-114*			
Surrogate: Decachlorobiphenyl	*0.124*		ug/l	*0.1500*		*82.7*	*36-118*			
LCS Dup Prepared: 12/16/16 Analyzed: 12/21/16										
Aldrin	0.148	0.0100	ug/l	0.2000		74.0	40-110	1.34	25	
gamma-BHC (Lindane)	0.140	0.0200	ug/l	0.2000		70.0	44-101	9.52	25	
4,4´-DDE	0.174	0.0500	ug/l	0.2000		87.0	43-116	2.83	25	
4,4´-DDT	0.165	0.0100	ug/l	0.2000		82.5	51-125	5.31	25	
Dieldrin	0.183	0.0100	ug/l	0.2000		91.5	54-111	4.28	25	
Endrin	0.188	0.0100	ug/l	0.2000		94.0	55-120	5.68	25	
Heptachlor	0.152	0.0200	ug/l	0.2000		76.0	45-109	5.13	25	
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*0.109*		ug/l	*0.1500*		*72.7*	*39-114*			
Surrogate: Decachlorobiphenyl	*0.132*		ug/l	*0.1500*		*88.0*	*36-118*			
Batch BL61923 - EPA 3050B										
Blank Prepared: 12/15/16 Analyzed: 12/16/16										
Arsenic	ND	2.00	mg/kg							
LCS Prepared: 12/15/16 Analyzed: 12/16/16										
Arsenic	46.0	2.00	mg/kg	49.57		92.7	80-120			
Matrix Spike Source: 1612108-11 Prepared: 12/15/16 Analyzed: 12/16/16										
Arsenic	47.7	2.00	mg/kg	49.57	3.28	89.7	75-125			
Matrix Spike Dup Source: 1612108-11 Prepared: 12/15/16 Analyzed: 12/16/16										
Arsenic	48.4	2.00	mg/kg	49.57	3.28	90.9	75-125	1.36	30	
Batch BL61943 - EPA 200.7										
Blank Prepared: 12/16/16 Analyzed: 12/19/16										
Arsenic	ND	0.0200	mg/L							
LCS Prepared: 12/16/16 Analyzed: 12/19/16										
Arsenic	0.487	0.0200	mg/L	0.4974		97.9	85-115			
LCS Dup Prepared: 12/16/16 Analyzed: 12/19/16										
Arsenic	0.502	0.0200	mg/L	0.4974		101	85-115	2.98	20	
Duplicate Source: 1612116-01 Prepared: 12/16/16 Analyzed: 12/19/16										
Arsenic	ND	0.0200	mg/L		ND				20	

POSITIVE LAB SERVICE

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Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 12/21/16
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BL61943 - EPA 200.7										
Matrix Spike Source: 1612116-01 Prepared: 12/16/16 Analyzed: 12/19/16										
Arsenic	0.497	0.0200	mg/L	0.4974	ND	100	80-120			
Matrix Spike Dup Source: 1612116-01 Prepared: 12/16/16 Analyzed: 12/19/16										
Arsenic	0.482	0.0200	mg/L	0.4974	ND	96.9	80-120	3.08	20	

Notes and Definitions

V-2	Out-of-Range recovery was due to sample Heterogeneity.
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 1 OF 10

FILE NO.: LAB NO.: 161208

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600538 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.3°

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX				TAT	CONTAINER		Arsenic by EPA 6010B	OCPs by EPA 8081A							SAMPLE CONDITIONS/ CONTAINER/COMMENTS
				WATER	SOIL	SLUDGE	OTHER		#	TYPE									
	12/13/16		Comp 1 @ 0.5'		X			N		G		X							LAB TO COMPOSITE
			Comp 1 @ 2'		X			N		G		X							LAB TO COMPOSITE HOLD
		735	SB-1 @ 0.5'		X			N	1	G									
		741	SB-1 @ 2'		X			N	1	G									HOLD
		744	SB-2 @ 0.5'		X			N	1	G									
		811	SB-2 @ 2'		X			N	1	G									HOLD
		846	SB-3 @ 0.5'		X			N	2	G	X								
		851	SB-3 @ 2'		X			N	1	G									HOLD
		855	SB-4 @ 0.5'		X			N	1	G									
		857	SB-4 @ 2'		X			N	1	G									HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 3:10

Relinquished by (Signature& Name): Received by (Signature & Name): Lupe Gutierrez Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

DATE:_____ PAGE: 1 OF 1

FILE NO.:_____ LAB NO.: 161208

CLIENT NAME: Oxnard School District | PROJECT NAME/NO. 1011600538 | P.O.NO. | AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park | COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan | PHONE NO: 323-517-9780 | FAX NO: 323.517.9781 | <----PRESERVATION *

SAMPLER NAME: | SIGNATURE: | REMARKS:_____

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	CONTAINER TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 2 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 2 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD
		748	SB-5 @ 0.5'		X			N	1	G			
		751	SB-5 @ 2'		X			N	1	G			HOLD
		756	SB-6 @ 0.5'		X			N	2	G	X		
		800	SB-6 @ 2'		X			N	1	G			HOLD
		903	SB-7 @ 0.5'		X			N	1	G			
		905	SB-7 @ 2'		X			N	1	G			HOLD
		910	SB-8 @ 0.5'		X			N	1	G			
		912	SB-8 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): _____ Received by (Signature & Name): _____ Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): _____ Received by (Signature & Name): _____ Date: 12/14/16 Time: 3:10

Relinquished by (Signature& Name): _____ Received by (Signature & Name): _____ Date: _____ Time: _____

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/14/16 PAGE: 3 OF 10
FILE NO.: LAB NO.: 161208

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600537 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 3 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 3 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD
		807	SB-9 @ 0.5'		X			N	1	G			
		808	SB-9 @ 2'		X			N	1	G			HOLD
		815	SB-10 @ 0.5'		X			N	1	G			
		817	SB-10 @ 2'		X			N	1	G			HOLD
		910	SB-11 @ 0.5'		X			N	2	G	X		
		916	SB-11 @ 2'		X			N	1	G			HOLD
		922	SB-12 @ 0.5'		X			N	1	G			
		924	SB-12 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Lupe Gutierrez Date: 12/14/16 Time: 3:16

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 4 OF 10

FILE NO.: LAB NO.: 161218

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600537 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A						SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 4 @ 0.5'		X			N		G		X						LAB TO COMPOSITE
			Comp 4 @ 2'		X			N		G		X						LAB TO COMPOSITE HOLD
		958	SB-13 @ 0.5'		X			N	1	G								
		1001	SB-13 @ 2'		X			N	1	G								HOLD
		1003	SB-14 @ 0.5'		X			N	2	G	X							
		1003	SB-14 @ 0.5' DUP		X			N	1	G	X							
		1006	SB-14 @ 2'		X			N	1	G								HOLD
		1127	SB-15 @ 0.5'		X			N	1	G								
		1129	SB-15 @ 2'		X			N	1	G								HOLD
		1122	SB-16 @ 0.5'		X			N	1	G								
		1124	SB-16 @ 2'		X			N	1	G								HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 3:10

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/14 PAGE: 5 OF 10

FILE NO.: LAB NO.: 10/2/08

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600537 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX				TAT	CONTAINER		Arsenic by EPA 6010B	OCPs by EPA 8081A						SAMPLE CONDITIONS/ CONTAINER/COMMENTS
				WATER	SOIL	SLUDGE	OTHER		#	TYPE								
	12/13/14		Comp 5 @ 0.5'		X			N		G		X						LAB TO COMPOSITE
			Comp 5 @ 2'		X			N		G		X						LAB TO COMPOSITE HOLD
		1010	SB-17 @ 0.5'		X			N	1	G								
		1012	SB-17 @ 2'		X			N	1	G								HOLD
		1015	SB-18 @ 0.5'		X			N	1	G								
		1017	SB-18 @ 2'		X			N	1	G								HOLD
		1116	SB-19 @ 0.5'		X			N	1	G								
		1118	SB-19 @ 2'		X			N	1	G								HOLD
		1110	SB-20 @ 0.5'		X			N	2	G	X							
		1113	SB-20 @ 2'		X			N	1	G								HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/14 Time: 7:40

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/14 Time: 3:10

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____Date:_____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/12/16 PAGE: 1 OF 10
FILE NO.: LAB NO.: 16121108

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600537 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.6°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX				TAT	CONTAINER		Arsenic by EPA 6010B	OCPs by EPA 8081A						SAMPLE CONDITIONS/ CONTAINER/COMMENTS
				WATER	SOIL	SLUDGE	OTHER		#	TYPE								
	12/13/16		Comp 6 @ 0.5'		X			N		G		X						LAB TO COMPOSITE
			Comp 6 @ 2'		X			N		G		X						LAB TO COMPOSITE HOLD
			Comp 6 @ 0.5' DUP		X			N	1	G		X						LAB TO COMPOSITE
		1020	SB-21 @ 0.5'		X			N	2	G								
		1022	SB-21 @ 2'		X			N	1	G								HOLD
		1027	SB-22 @ 0.5'		X			N	2	G								
		1059	SB-22 @ 2'		X			N	1	G								HOLD
		1104	SB-23 @ 0.5'		X			N	2	G								
		1106	SB-23 @ 2'		X			N	1	G								HOLD
		1059	SB-24 @ 0.5'		X			N	3	G	X							
		1101	SB-24 @ 2'		X			N	I	G								HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 3:10

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

DATE: 12/15/16 PAGE: 1 OF 10
FILE NO.: LAB NO.: 16121108

CLIENT NAME: Oxnard School District | PROJECT NAME/NO. 1011600538 | P.O.NO. | AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park | COOLER TEMP: 1.6°C

PROJECT MANAGER: Greg Buchanan | PHONE NO: 323-517-9780 | FAX NO: 323.517.9781 | <----PRESERVATION *

SAMPLER NAME: | SIGNATURE: | REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	CONTAINER TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/14/16		Comp 7 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 7 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD
		1323	SB-25 @ 0.5'		X			N	1	G			
		1325	SB-25 @ 2'		X			N	1	G			HOLD
		1315	SB-26 @ 0.5'		X			N	2	G	X		
		1320	SB-26 @ 2'		X			N	1	G			HOLD
		1336	SB-27 @ 0.5'		X			N	1	G			
		1335	SB-27 @ 2'		X			N	1	G			HOLD
		1341	SB-28 @ 0.5'		X			N	1	G			
		1343	SB-28 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Lupe Gutierrez Date: 12/14/16 Time: 310

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

DATE: 12/13/16 PAGE: 3 OF 10
FILE NO.: LAB NO.: 16121018

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600538 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.6 °C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	CONTAINER TYPE	Arsenic by EPA 6010B	Lead by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 8 @ 0.5'		X			N		G			X	LAB TO COMPOSITE
			Comp 8 @ 2'		X			N		G			X	LAB TO COMPOSITE HOLD
		1312	SB-29 @ 0.5'		X			N	1	G				
		1314	SB-29 @ 2'		X			N	1	G				HOLD
		1307	SB-30 @ 0.5'		X			N	1	G				
		1305	SB-30 @ 2'		X			N	1	G				HOLD
		1346	SB-31 @ 0.5'		X			N	1	G				
		1345	SB-31 @ 2'		X			N	1	G				HOLD
		1350	SB-32 @ 0.5'		X			N	2	G	X			
		1352	SB-32 @ 2'		X			N	1	G				HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Lupe Gutierrez Date: 12/14/16 Time: 310

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 9 OF 16
FILE NO.: LAB NO.: 1412108

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600538 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.4°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	CONTAINER TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 9 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 9 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD
		1301	SB-33 @ 0.5'		X			N	2	G	X		
		1303	SB-33 @ 2'		X			N	1	G			HOLD
		1257	SB-34 @ 0.5'		X			N	1	G			
		1259	SB-34 @ 2'		X			N	1	G			HOLD
		1355	SB-35 @ 0.5'		X			N	1	G			
		1357	SB-35 @ 2'		X			N	1	G			HOLD
		1402	SB-36 @ 0.5'		X			N	1	G			
	↓	1404	SB-36 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name):	Received by (Signature & Name):	Date:	Time:
		12/14/16	2:40
Relinquished by (Signature& Name):	Received by (Signature & Name):	Date:	Time:
		12/14/16	310
Relinquished by (Signature& Name):	Received by (Signature & Name):	Date:	Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 1 OF 1

FILE NO.: LAB NO.: 16121108

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600537 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781

SAMPLER NAME: SIGNATURE:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

COOLER TEMP: 1.4°C

<----PRESERVATION *

REMARKS:

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	CONTAINER TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A							SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16	1420	EQ Blank 1	X				N		G	X	X							
			Temp blank	X				N		G									

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:46

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 3:10

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

POSITIVE
LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

January 11, 2017

Mr. Greg Buchanan
ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Report No.: 1612108
Project Name: Oxnard School District - 1011600538

Dear Mr. Greg Buchanan,

This report contains the analytical results for the sample(s) received under chain of custody(s) by Positive Lab Service on December 14, 2016.

The test results in this report are performed in compliance with ELAP accreditation requirements for the certified parameters. The laboratory report may not be produced, except in full, without the written approval of the laboratory.

The issuance of the final Certificate of Analysis takes precedence over any previous Preliminary Report. Preliminary data should not be used for regulatory purposes. Authorized signature(s) is provided on final report only.

If you have any questions in reference to this report, please contact your Positive Lab Service coordinator.

Project Manager

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 01/11/17
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 1 @ 2' Soil (1612108-22) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4'-DDD	**26.3**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4'-DDE	**245**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4'-DDT	**102**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	**18.5**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**41.3**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	**1110**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*146 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*142 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 2 @ 2' Soil (1612108-23) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4'-DDD	**17.9**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4'-DDE	**240**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4'-DDT	**98.1**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	**21.0**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**33.1**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026

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Certificate of Analysis

ATC Group Services LLC [Monterey Park]
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Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 01/11/17
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 2 @ 2' Soil (1612108-23) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Toxaphene	**926**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*125 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*135 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 3 @ 2' Soil (1612108-24) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDE	**117**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDT	**36.9**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	**8.95**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**13.8**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	**519**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*133 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*144 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 4 @ 2' Soil (1612108-25) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDD	**12.0**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDE	**147**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDT	**52.1**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	**10.0**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**19.1**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026

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Certificate of Analysis

ATC Group Services LLC [Monterey Park]
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Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 01/11/17
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 4 @ 2' Soil (1612108-25) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	**395**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*140 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*129 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 5 @ 2' Soil (1612108-26) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDD	**27.4**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDE	**233**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDT	**105**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	**17.2**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**41.8**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	**731**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*148 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*142 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 6 @ 2' Soil (1612108-27) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDE	**60.1**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDT	**20.4**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026

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Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

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Project: Oxnard School District - 1011600538

Sample ID: COMP 6 @ 2' Soil (1612108-27) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**8.96**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	**218**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*149 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*143 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 7 @ 2' Soil (1612108-28) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDE	**81.3**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDT	**23.7**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**11.3**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	**231**	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	ND	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*141 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*126 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 8 @ 2' Soil (1612108-29) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 01/11/17
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Sample ID: COMP 8 @ 2' Soil (1612108-29) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDE	**69.7**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDT	**21.4**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**10.5**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	**252**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*153 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*146 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

Sample ID: COMP 9 @ 2' Soil (1612108-30) Sampled:12/13/16 00:00 Received:12/14/16 14:40

Analyte	Results	Flag	D.F.	Units	PQL	Prep/Test Method		Prepared	Analyzed	By	Batch
Aldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
beta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
delta-BHC	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-BHC (Lindane)	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
alpha-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
gamma-Chlordane	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDD	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDE	**81.5**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
4,4´-DDT	**25.1**	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Dieldrin	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan I	ND	R4	1	ug/kg	16.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan II	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endosulfan sulfate	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin	**12.2**	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Technical Chlordane	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin aldehyde	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Endrin ketone	ND	R4	1	ug/kg	24.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Heptachlor epoxide	ND	R4	1	ug/kg	8.00	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Methoxychlor	ND	R4	1	ug/kg	40.0	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Toxaphene	**226**	R4	1	ug/kg	120	EPA 3546	EPA 8081A	01/05/17	01/06/17	ai	BA71026
Surrogate: 2,4,5,6 Tetrachloro-m-xyler.	*141 %*	*R4*		*55-126*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*
Surrogate: Decachlorobiphenyl	*130 %*	*R4*		*49-133*		*EPA 3546*	*EPA 8081A*	*01/05/17*	*01/06/17*	*ai*	*BA71026*

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 01/11/17
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BA71026 - EPA 3546										
Blank Prepared: 01/05/17 Analyzed: 01/06/17										
Aldrin	ND	2.00	ug/kg							
alpha-BHC	ND	2.00	ug/kg							
beta-BHC	ND	2.00	ug/kg							
delta-BHC	ND	2.00	ug/kg							
gamma-BHC (Lindane)	ND	2.00	ug/kg							
alpha-Chlordane	ND	2.00	ug/kg							
gamma-Chlordane	ND	2.00	ug/kg							
4,4'-DDD	ND	2.00	ug/kg							
4,4'-DDE	ND	4.00	ug/kg							
4,4'-DDT	ND	4.00	ug/kg							
Dieldrin	ND	2.00	ug/kg							
Endosulfan I	ND	4.00	ug/kg							
Endosulfan II	ND	2.00	ug/kg							
Endosulfan sulfate	ND	2.00	ug/kg							
Endrin	ND	2.00	ug/kg							
Technical Chlordane	ND	10.0	ug/kg							
Endrin aldehyde	ND	2.00	ug/kg							
Endrin ketone	ND	6.00	ug/kg							
Heptachlor	ND	2.00	ug/kg							
Heptachlor epoxide	ND	2.00	ug/kg							
Methoxychlor	ND	10.0	ug/kg							
Toxaphene	ND	30.0	ug/kg							
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*7.31*		ug/kg	*6.667*		*110*	*55-126*			
Surrogate: Decachlorobiphenyl	*7.81*		ug/kg	*6.667*		*117*	*49-133*			
LCS Prepared: 01/05/17 Analyzed: 01/06/17										
Aldrin	12.2	2.00	ug/kg	13.33		91.3	56-130			
gamma-BHC (Lindane)	11.3	2.00	ug/kg	13.33		84.6	56-133			
4,4'-DDT	11.9	4.00	ug/kg	13.33		89.0	56-133			
Dieldrin	12.7	2.00	ug/kg	13.33		95.6	62-119			
Endrin	14.2	2.00	ug/kg	13.33		107	59-127			
Heptachlor	12.5	2.00	ug/kg	13.33		93.7	55-110			
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*6.88*		ug/kg	*6.667*		*103*	*54-108*			
Surrogate: Decachlorobiphenyl	*7.90*		ug/kg	*6.667*		*119*	*54-127*			
Matrix Spike Source: 1612108-27 Prepared: 01/05/17 Analyzed: 01/06/17										
Aldrin	14.0	8.00	ug/kg	13.33	ND	105	39-124			R4
gamma-BHC (Lindane)	12.7	8.00	ug/kg	13.33	ND	95.2	44-120			R4
4,4'-DDT	46.8	16.0	ug/kg	33.33	20.4	79.1	48-150			R4
Dieldrin	40.5	8.00	ug/kg	33.33	3.93	110	48-144			R4
Endrin	44.1	8.00	ug/kg	33.33	8.96	106	54-149			R4

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Certificate of Analysis

ATC Group Services LLC [Monterey Park]
25 Cupania Circle
Monterey Park, CA 91755

Attn: Mr. Greg Buchanan Phone: (323) 517-9680 FAX:(323) 517-9781

File #:73399
Report Date: 01/11/17
Submitted: 12/14/16
PLS Report No.: 1612108

Project: Oxnard School District - 1011600538

Quality Control Data

Analyte	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch BA71026 - EPA 3546										
Heptachlor	11.7	8.00	ug/kg	13.33	ND	87.9	46-135			R4
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*8.87*		ug/kg	*6.667*		*133*	*57-126*			*R4*
Surrogate: Decachlorobiphenyl	*7.26*		ug/kg	*6.667*		*109*	*43-136*			*R4*
Matrix Spike Dup Source: 1612108-27 Prepared: 01/05/17 Analyzed: 01/06/17										
Aldrin	15.5	8.00	ug/kg	13.33	ND	116	39-124	9.68	30	R4
gamma-BHC (Lindane)	13.4	8.00	ug/kg	13.33	ND	101	44-120	5.65	30	R4
4,4´-DDT	50.6	16.0	ug/kg	33.33	20.4	90.6	48-150	13.5	30	R4
Dieldrin	41.9	8.00	ug/kg	33.33	3.93	114	48-144	3.56	30	R4
Endrin	46.6	8.00	ug/kg	33.33	8.96	113	54-149	6.76	30	R4
Heptachlor	12.7	8.00	ug/kg	13.33	ND	95.6	46-135	8.43	30	R4
Surrogate: 2,4,5,6 Tetrachloro-m-xylene	*9.50*		ug/kg	*6.667*		*143*	*57-126*			*R4*
Surrogate: Decachlorobiphenyl	*9.10*		ug/kg	*6.667*		*137*	*43-136*			*R4*

Notes and Definitions

R4	Analysis requested past Holding Time.
NA	Not Applicable
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
MDL	Method Detection Limit
PQL	Practical Quantitation Limit

Environmental Laboratory Accreditation Program Certificate No. 1131, Mobile Lab No. 2534, LACSD No. 10138

Authorized Signature(s)

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 1 OF 10

FILE NO.: LAB NO.: 1612108

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600538 P.O.NO.

AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park

COOLER TEMP: 1.3°c

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781

<----PRESERVATION *

SAMPLER NAME: SIGNATURE:

REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 1 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 1 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD OKAY HOLD 12/29 via email
		739	SB-1 @ 0.5'		X			N	1	G			
		741	SB-1 @ 2'		X			N	1	G			HOLD
		744	SB-2 @ 0.5'		X			N	1	G			
		746	SB-2 @ 2'		X			N	1	G			HOLD
		748	SB-3 @ 0.5'		X			N	2	G	X		
		751	SB-3 @ 2'		X			N	1	G			HOLD
		755	SB-4 @ 0.5'		X			N	1	G			
		757	SB-4 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 3:10

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: _____ PAGE: 1 OF 1

FILE NO.: _____ LAB NO.: 14/2108

CLIENT NAME: Oxnard School District | PROJECT NAME/NO. 1011600538 | P.O.NO. | AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park | COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan | PHONE NO: 323-517-9780 | FAX NO: 323.517.9781 | <—PRESERVATION *

SAMPLER NAME: | SIGNATURE: | REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 2 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 2 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD (OFF HOLD 12/29 via e-mail)
		748	SB-5 @ 0.5'		X			N	1	G			
		751	SB-5 @ 2'		X			N	1	G			HOLD
		756	SB-6 @ 0.5'		X			N	2	G	X		
		800	SB-6 @ 2'		X			N	1	G			HOLD
		903	SB-7 @ 0.5'		X			N	1	G			
		905	SB-7 @ 2'		X			N	1	G			HOLD
		910	SB-8 @ 0.5'		X			N	1	G			
		912	SB-8 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): _____ Received by (Signature & Name): _____ Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): _____ Received by (Signature & Name): _____ Date: 12/14/16 Time: 3:40

Relinquished by (Signature& Name): _____ Received by (Signature & Name): _____ Date: _____ Time: _____

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____ days.

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 3 OF 10
FILE NO.: LAB NO.: 161210B

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600537 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 3 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 3 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD (DFF HOLD 12/14 via e-mail)
		807	SB-9 @ 0.5'		X			N	1	G			
		826	SB-9 @ 2'		X			N	1	G			HOLD
		815	SB-10 @ 0.5'		X			N	1	G			
		817	SB-10 @ 2'		X			N	1	G			HOLD
		910	SB-11 @ 0.5'		X			N	2	G	X		
		916	SB-11 @ 2'		X			N	1	G			HOLD
		922	SB-12 @ 0.5'		X			N	1	G			
		924	SB-12 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 3:16

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

DATE: 12/13/16 PAGE: 4 OF 10
FILE NO.: LAB NO.: 1612108

CLIENT NAME: Oxnard School District | PROJECT NAME/NO. 1011600537 | P.O.NO. | AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park | ANALYSES REQUESTED | COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan | PHONE NO: 323-517-9780 | FAX NO: 323.517.9781 | <----PRESERVATION *

SAMPLER NAME: | SIGNATURE: | REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 4 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 4 @ 2'		X			N		G		(X)	LAB TO COMPOSITE HOLD (X) CKT HOLD 12/20 via e-mail
		958	SB-13 @ 0.5'		X			N	1	G			
		1061	SB-13 @ 2'		X			N	1	G			HOLD
		1003	SB-14 @ 0.5'		X			N	2	G	X		
		1003	SB-14 @ 0.5' DUP		X			N	1	G	X		
		1006	SB-14 @ 2'		X			N	1	G			HOLD
		1127	SB-15 @ 0.5'		X			N	1	G			
		1129	SB-15 @ 2'		X			N	1	G			HOLD
		1122	SB-16 @ 0.5'		X			N	1	G			
		1124	SB-16 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: 12/14/16 | Time: 2:40

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: 12/14/16 | Time: 3:10

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: | Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/14 PAGE: 5 OF 10

FILE NO.: LAB NO.: 10/2/08

CLIENT NAME: Oxnard School District | PROJECT NAME/NO. 1011600537 | P.O.NO. | AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park | COOLER TEMP: 1.3°C

PROJECT MANAGER: Greg Buchanan | PHONE NO: 323-517-9780 | FAX NO: 323.517.9781 | <----PRESERVATION *

SAMPLER NAME: | SIGNATURE: | REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/14		Comp 5 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 5 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD @ CES HOLD 12/24 VIA E-MAIL
		1010	SB-17 @ 0.5'		X			N	1	G			
		1012	SB-17 @ 2'		X			N	1	G			HOLD
		1015	SB-18 @ 0.5'		X			N	1	G			
		1017	SB-18 @ 2'		X			N	1	G			HOLD
		1116	SB-19 @ 0.5'		X			N	1	G			
		1118	SB-19 @ 2'		X			N	1	G			HOLD
		1110	SB-20 @ 0.5'		X			N	2	G	X		
		1113	SB-20 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: 12/14/14 | Time: 2:40

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: 12/14/14 | Time: 3:10

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: | Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____ days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 1 OF 10
FILE NO.: LAB NO.: 16121108

CLIENT NAME: Oxnard School District | PROJECT NAME/NO. 1011600537 | P.O.NO. | AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park | ANALYSES REQUESTED | COOLER TEMP: 1.6°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 6 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 6 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD (OFF HOLD 12/20 via e-mail)
			Comp 6 @ 0.5' DUP		X			N	1	G		X	LAB TO COMPOSITE
		1020	SB-21 @ 0.5'		X			N	2	G			
		1022	SB-21 @ 2'		X			N	1	G			HOLD
		1027	SB-22 @ 0.5'		X			N	2	G			
		1025	SB-22 @ 2'		X			N	1	G			HOLD
		1104	SB-23 @ 0.5'		X			N	2	G			
		1106	SB-23 @ 2'		X			N	1	G			HOLD
		1059	SB-24 @ 0.5'		X			N	3	G	X		
		1101	SB-24 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Lupe Gutierrez Date: 12/14/16 Time: 3:10

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

DATE: 12/15/16 PAGE: 1 OF 10

FILE NO.: LAB NO.: 161208

CLIENT NAME: Oxnard School District | PROJECT NAME/NO. 1011600538 | P.O.NO. | AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park | ANALYSES REQUESTED | COOLER TEMP: 1.6°C

PROJECT MANAGER: Greg Buchanan | PHONE NO: 323-517-9780 | FAX NO: 323.517.9781 | <----PRESERVATION *

SAMPLER NAME: | SIGNATURE: | REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A	SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 7 @ 0.5'		X			N		G		X	LAB TO COMPOSITE
			Comp 7 @ 2'		X			N		G		X	LAB TO COMPOSITE HOLD (OFF HOLD 12/20 via e-mail)
		1323	SB-25 @ 0.5'		X			N	1	G			
		1325	SB-25 @ 2'		X			N	1	G			HOLD
		1318	SB-26 @ 0.5'		X			N	2	G	X		
		1320	SB-26 @ 2'		X			N	1	G			HOLD
		1336	SB-27 @ 0.5'		X			N	1	G			
		1335	SB-27 @ 2'		X			N	1	G			HOLD
		1341	SB-28 @ 0.5'		X			N	1	G			
		1343	SB-28 @ 2'		X			N	1	G			HOLD

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: 12/14/16 | Time: 2:40

Relinquished by (Signature& Name): | Received by (Signature & Name): Lupe Gutierrez | Date: 12/14/16 | Time: 310

Relinquished by (Signature& Name): | Received by (Signature & Name): | Date: | Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____ days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

POSITIVE LAB SERVICE

CHAIN OF CUSTODY AND ANALYSIS REQUEST

781 East Washington Blvd., Los Angeles, CA 90021
[213] 745-5312 FAX [213] 745-6372

DATE: 12/13/16 PAGE: 8 OF 10

FILE NO.: LAB NO.: 161208

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600538 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park COOLER TEMP: 1.6 °C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <----PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	TYPE	Arsenic by EPA 6010B	Lead by EPA 6010B	OCPs by EPA 8081A						SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16		Comp 8 @ 0.5'		X			N		G			X						LAB TO COMPOSITE
			Comp 8 @ 2'		X			N		G			X						LAB TO COMPOSITE HOLD @ OFF HOLD 12/24 MLG E-MAIL
		1312	SB-29 @ 0.5'		X			N	1	G									
		1314	SB-29 @ 2'		X			N	1	G									HOLD
		1307	SB-30 @ 0.5'		X			N	1	G									
		1309	SB-30 @ 2'		X			N	1	G									HOLD
		1346	SB-31 @ 0.5'		X			N	1	G									
		1348	SB-31 @ 2'		X			N	1	G									HOLD
		1350	SB-32 @ 0.5'		X			N	2	G	X								
		1352	SB-32 @ 2'		X			N	1	G									HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Lupe Gutierrez Date: 12/14/16 Time: 310

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____ days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/12 PAGE: 9 OF 10

FILE NO.: LAB NO.: 1412108

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600538 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park ANALYSES REQUESTED COOLER TEMP: 1.4°C

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781 <---PRESERVATION *

SAMPLER NAME: SIGNATURE: REMARKS:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX				TAT	CONTAINER		Arsenic by EPA 6010B	OCPs by EPA 8081A							SAMPLE CONDITIONS/ CONTAINER/COMMENTS
				WATER	SOIL	SLUDGE	OTHER		#	TYPE									
	12/13/12		Comp 9 @ 0.5'		X			N		G		X							LAB TO COMPOSITE
			Comp 9 @ 2'		X			N		G		X							LAB TO COMPOSITE HOLD (Left Hold 12/14 via e-mail)
		1301	SB-33 @ 0.5'		X			N	2	G	X								
		1303	SB-33 @ 2'		X			N	1	G									HOLD
		1257	SB-34 @ 0.5'		X			N	1	G									
		1259	SB-34 @ 2'		X			N	1	G									HOLD
		1355	SB-35 @ 0.5'		X			N	1	G									
		1357	SB-35 @ 2'		X			N	1	G									HOLD
		1402	SB-36 @ 0.5'		X			N	1	G									
		1404	SB-36 @ 2'		X			N	1	G									HOLD

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/12 Time: 2:40

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/12 Time: 310

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____ days,

By: _____ Date: _____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

CHAIN OF CUSTODY AND ANALYSIS REQUEST

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

DATE: 12/13/16 PAGE: 1 OF 1

FILE NO.: LAB NO.: 16121108

CLIENT NAME: Oxnard School District PROJECT NAME/NO. 1011600537 P.O.NO. AIRBILL NO:

ADDRESS: 25 Cupania Circle, Monterey Park

PROJECT MANAGER: Greg Buchanan PHONE NO: 323-517-9780 FAX NO: 323.517.9781

SAMPLER NAME: SIGNATURE:

TAT (Turn-Around-Time): 0=Same Day; 1=24 Hour; 2=48Hour; (ETC.) N=Normal

CONTAINER TYPES: B=Brass; E=Encore/Easy Draw; P=Plastic; G=Glass; V=VOA Vial; O=Other

UST PROJECT: Y N GLOBAL ID#: --- --- --- --- --- --- --- --- --- --- ---

ANALYSES REQUESTED

COOLER TEMP: 1.4°C

<----PRESERVATION *

REMARKS:

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER #	CONTAINER TYPE	Arsenic by EPA 6010B	OCPs by EPA 8081A							SAMPLE CONDITIONS/ CONTAINER/COMMENTS
	12/13/16	1420	EQ Blank 1	X				N		G	X	X							
			Temp blank	X				N		G									

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 2546

Relinquished by (Signature& Name): Received by (Signature & Name): Date: 12/14/16 Time: 3:16

Relinquished by (Signature& Name): Received by (Signature & Name): Date: Time:

SAMPLE DISPOSITION

1. Samples returned to client? Yes No
2. Samples will not be stored over 30 days, unless additional storage time is requested
3. Storage time requested: _____days,

By: _____Date:_____

SPECIAL INSTRUCTION:

* PRESERVATION: 1-HNO_3, 2-H_2SO_4, 3-HCL, 4-Zinc Acetate, 5-NaOH, 6-NH_4 Buffer, 7-Other

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

December 15, 2016

Ms. Melissa Smith
ATC Group Services, LLC
25 Cupania Circle
Monterey Park, CA 91755

Dear Ms. Smith:

This letter presents the results of the soil vapor investigation conducted by Optimal Technology (Optimal), for ATC Group Services, LLC on December 14, 2016. The study was performed at the Southeast corner of Doris Ave. & N. Patterson Rd., Oxnard, California.

Optimal was contracted to perform a soil vapor survey at this site to screen for possible Methane and Hydrogen Sulfide.

Gas Sampling Method

At each sampling location an electric vacuum pump set to draw 0.2 liters per minute (L/min) of soil vapor was attached to the probe and purged prior to sample collection. Vapor samples were obtained in Hamilton gas-tight syringes by puncturing tubing which connects the sampling probe and the vacuum pump. New tubing was used at each sampling point to prevent cross contamination. Samples were immediately injected into the gas chromatograph after collection.

All analyses were performed on a laboratory grade Hewlett Packard model 5890 Series II gas chromatograph equipped with a Flame Ionization Detector (FID) and an Electron Capture Detector (ECD). Restec wide bore capillary columns using hydrogen as the carrier gases were used to perform all analysis. All results were collected on a personal computer utilizing Hewlett Packard's PC based chromatographic data collection and handling system. Additionally, a Landtec GEM2000 plus was used to test for Hydrogen Sulfide.

Quality Assurance

5-Point Calibration
The initial five point calibration consisted of 20, 50, 100, 200 and 500 ul injections of the calibration standard. A calibration factor on each analyte was generated using a best fit line method using the HP data system. If the r^2 factor generated from this line was not greater than 0.990, an additional five point calibration would have been performed. Method reporting limits were calculated to be 1.0-10.0 parts per million by volume (ppmV) for the individual compounds.

A daily calibration check and end of run calibration check was performed by preparing a calibration gas from Airgas and from a pre-mixed standard supplied by CPI International.

Sample Replicates
A replicate analysis (duplicate) was run to evaluate the reproducibility of the sampling system and instrument. The difference between samples did not vary more than 20%.

Equipment Blanks
Blanks were run at the beginning of each workday and after calibrations. The blanks were collected using an ambient air sample. These blanks checked the septum, syringe, GC column, GC detector and the ambient air. Contamination was not found in any of the blanks analyzed during this investigation. Blank results are given along with the sample results.

Tracer Gas Leak Test
A tracer gas was applied to the soil gas probes at each point of connection in which ambient air could enter the sampling system. These points include the top of the sampling probe where the tubing meets the probe connection and the surface bentonite seals. Isobutane was used as the tracer gas. No Isobutane was found in any of the samples collected.

Purge Volume
The standard purge volume of three volumes was purged in accordance with the July 2015 DTSC/RWQCB Advisory for Active Soil Gas Investigations.

Shut-in Test
A shut-in test was conducted prior to purging or sampling each location to check for leaks in the above-ground sampling system. The system was evaluated to a minimum measured vacuum of 100 inches of water. The vacuum gauge was calibrated and sensitive enough to indicate a water pressure change of at least 0.5 inches.

Scope of Work

To achieve the objective of this investigation a total of 21 vapor samples were collected from 10 locations throughout the site. Sampling depths, vacuum readings, purge volume and sampling volumes are given on the analytical results page. All the collected vapor samples were analyzed on-site using Optimal's mobile laboratory.

Subsurface Conditions

Subsurface soil conditions at this site offered sampling flows at 0" water vacuum.

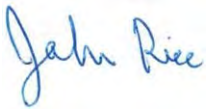
Results

During this vapor investigation five samples contained levels of Methane. Methane levels ranged from 10.28 ppmV to 15.26 ppmV. A complete table of analytical results is included with this report.

Disclaimer

All conclusions presented in this letter are based solely on the information collected by the soil vapor survey conducted by Optimal Technology. Soil vapor testing is only a subsurface screening tool and does not represent actual contaminant concentrations in either the soil and/or groundwater. We enjoyed working with you on this project and look forward to future projects. If you have any questions please contact me at (877) 764-5427.

Sincerely,



John Rice
Project Manager

OPTIMAL TECHNOLOGY
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SOIL VAPOR RESULTS

Site Name: SE Corner of Doris Ave. & N. Patterson Rd., Oxnard, CA **Lab Name:** Optimal Technology **Date:** 12/14/16
Analyst: J. Rice **Collector:** J. Rice **Inst. ID:** HP-5890 Series II
Method: Modified EPA 8015 **Detector:** FID

SAMPLE ID	BLANK-1	SV-1-5'	SV-1-10'	SV-5-5'	SV-5-10'	SV-4-5'	SV-4-10'	SV-2-5'
Sampling Depth (Ft.)	N/A	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Purge Volume (ml)	N/A	790	870	790	870	790	870	790
Vacuum (in. of Water)	N/A	0	0	0	0	0	0	0
Injection Volume (ul)	2500	2500	2500	2500	2500	2500	2500	2500
Dilution Factor (FID)	1	1	1	1	1	1	1	1

COMPOUND	REP. LIMIT	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)
Methane	10.00	ND	ND	ND	**10.28**	ND	ND	**15.22**	**14.09**
Isobutane (Tracer Gas)	1.00	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Below Listed Reporting Limit

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

SOIL VAPOR RESULTS

Site Name: SE Corner of Doris Ave. & N. Patterson Rd., Oxnard, CA **Lab Name:** Optimal Technology **Date:** 12/14/16
Analyst: J. Rice **Collector:** J. Rice **Inst. ID:** HP-5890 Series II
Method: Modified EPA 8015 **Detector:** FID

SAMPLE ID	SV-2-10'	SV-3-5'	SV-3-10'	SV-10-5'	SV-10-10'	SV-9-5'	SV-9-10'	SV-8-5'
Sampling Depth (Ft.)	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Purge Volume (ml)	870	790	870	790	870	790	870	790
Vacuum (in. of Water)	0	0	0	0	0	0	0	0
Injection Volume (ul)	2500	2500	2500	2500	2500	2500	2500	2500
Dilution Factor (FID)	1	1	1	1	1	1	1	1

COMPOUND	REP. LIMIT	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)
Methane	10.00	ND	**15.26**	ND	ND	ND	**13.51**	ND	ND
Isobutane (Tracer Gas)	1.00	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Below Listed Reporting Limit

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

SOIL VAPOR RESULTS

Site Name: SE Corner of Doris Ave. & N. Patterson Rd., Oxnard, CA **Lab Name:** Optimal Technology **Date:** 12/14/16

Analyst: J. Rice **Collector:** J. Rice **Inst. ID:** HP-5890 Series II

Method: Modified EPA 8015 **Detector:** FID

SAMPLE ID	SV-8-10'	SV-7-5'	SV-7-10'	SV-6-5'	SV-6-10'	SV-6-10' Dup		
Sampling Depth (Ft.)	10.0	5.0	10.0	5.0	10.0	10.0		
Purge Volume (ml)	870	790	870	790	870	870		
Vacuum (in. of Water)	0	0	0	0	0	0		
Injection Volume (ul)	2500	2500	2500	2500	2500	2500		
Dilution Factor (FID)	1	1	1	1	1	1		

COMPOUND	REP. LIMIT	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)	CONC (ppmV)		
Methane	10.00	ND	ND	ND	ND	ND	ND		
Isobutane (Tracer Gas)	1.00	ND	ND	ND	ND	ND	ND		

Note: ND = Below Listed Reporting Limit

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

SOIL VAPOR RESULTS

Site Name: SE Corner of Doris Ave. & N. Patterson Rd., Oxnard, CA **Lab Name:** Optimal Technology **Date:** 12/14/16

Analyst: J. Rice **Collector:** J. Rice **Inst. ID:** Landtec GEM2000 Plus

SAMPLE ID	BLANK-1	SV-1-5'	SV-1-10'	SV-5-5'	SV-5-10'	SV-4-5'	SV-4-10'	SV-2-5'
Sampling Depth (Ft.)	N/A	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Purge Volume (ml)	N/A	790	870	790	870	790	870	790
Vacuum (in. of Water)	N/A	0	0	0	0	0	0	0

COMPOUND	REP. LIMIT	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)
Hydrogen Sulfide	1.00	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Below Listed Reporting Limit

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

SOIL VAPOR RESULTS

Site Name: SE Corner of Doris Ave. & N. Patterson Rd., Oxnard, CA **Lab Name:** Optimal Technology **Date:** 12/14/16

Analyst: J. Rice **Collector:** J. Rice **Inst. ID:** Landtec GEM2000 Plus

SAMPLE ID	SV-2-10'	SV-3-5'	SV-3-10'	SV-10-5'	SV-10-10'	SV-9-5'	SV-9-10'	SV-8-5'
Sampling Depth (Ft.)	10.0	5.0	10.0	5.0	10.0	5.0	10.0	5.0
Purge Volume (ml)	870	790	870	790	870	790	870	790
Vacuum (in. of Water)	0	0	0	0	0	0	0	0

COMPOUND	REP. LIMIT	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)
Hydrogen Sulfide	1.00	ND	ND	ND	ND	ND	ND	ND	ND

Note: ND = Below Listed Reporting Limit

OPTIMAL TECHNOLOGY
Specializing in Environmental Field Services

SOIL VAPOR RESULTS

Site Name: SE Corner of Doris Ave. & N. Patterson Rd., Oxnard, CA **Lab Name:** Optimal Technology **Date:** 12/14/16

Analyst: J. Rice **Collector:** J. Rice **Inst. ID:** Landtec GEM2000 Plus

SAMPLE ID	SV-8-10'	SV-7-5'	SV-7-10'	SV-6-5'	SV-6-10'	SV-6-10' Dup		
Sampling Depth (Ft.)	10.0	5.0	10.0	5.0	10.0	10.0		
Purge Volume (ml)	870	790	870	790	870	870		
Vacuum (in. of Water)	0	0	0	0	0	0		

COMPOUND	REP. LIMIT	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)	CONC (ppm)		
Hydrogen Sulfide	1.00	ND	ND	ND	ND	ND	ND		

Note: ND = Below Listed Reporting Limit

APPENDIX C

HUMAN HEALTH SCREENING CALCULATIONS (TABLES C-1 THROUGH C-25)

Table C-1
Descriptive Statistical Summary for Soil Samples
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituent	Sample Summary [a]			Concentration Range and Summary [a]						95% Upper Confidence Limit (UCL) [c]	Exposure Point Concentration [d]	
	Total Soil Samples Analyzed	Samples Detected	Percent Detected	Laboratory Detection Limit	Minimum Detected	Location of Minimum	Maximum Detected	Location of Maximum	Arithmetic Mean [b]			
				(mg/kg)	(mg/kg)		(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	Basis
Metals												
Arsenic	10	10	100%	NA	3.01	SB-14 @0.5 (Dup)	3.76	SB-33 @ 0.5	3.37	NA	NQ	--
Organochlorine Pesticides												
4,4'-DDD (DDD)	19	14	74%	0.008	0.0120	Comp 4 (2 fbg)	0.0461	Comp 9 (0.5 fbg)	0.0314	NA	0.0461	Max
4,4'-DDE (DDE)	19	19	100%	NA	0.0601	Comp 6 (2 fbg)	0.646	Comp 9 (0.5 fbg)	0.369	NA	0.646	Max
4,4'-DDT (DDT)	19	19	100%	NA	0.0204	Comp 6 (2 fbg)	0.358	Comp 9 (0.5 fbg)	0.177	NA	0.358	Max
alpha Chlordane	19	4	21%	0.008	0.0081	Comp 3 (0.5 fbg)	0.00901	Comp 7 (0.5 fbg)	0.00845	NA	0.00901	Max
gamma Chlordane	19	10	53%	0.008	0.00821	Comp 3 (0.5 fbg)	0.0115	Comp 8 (0.5 fbg)	0.00963	NA	0.0115	Max
Dieldrin	19	15	79%	0.008	0.00895	Comp 3 (2 fbg)	0.0242	Comp 2 (0.5 fbg)	0.0177	NA	0.0242	Max
Endrin	19	19	100%	NA	0.00896	Comp 6 (2 fbg)	0.0858	Comp 9 (0.5 fbg)	0.0444	NA	0.0858	Max
Methoxychlor	19	1	5%	0.040	0.231	Comp 7 (2 fbg)	0.231	Comp 7 (2 fbg)	0.231	NA	0.231	Max
Toxaphene	18	18	100%	0.120	0.218	Comp 6 (2 fbg)	2.51	Comp 9 (0.5 fbg)	1.49	NA	2.51	Max

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
NA = Not Applicable or Not Available
NQ = Not Quantified, as the maximum concentration of arsenic is below representative background levels
Max = Maximum detected value from all samples analyzed

Footnotes:
[a] Data set used in this evaluation includes duplicate samples.
[b] Arithmetic mean calculated from detected values only
[c] The 95% upper confidence limit (UCL) was not calculated for the purpose of this analysis.
[d] The EPC is the maximum concentration detected in all soil samples (including duplicates).

Table C-2
Summary of Exposure Parameters
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Exposure Parameter	Symbol	Units	Residential Receptor		School Receptors		Construction Worker
			Adult	Child	Adult Staff	Child Student	
Common Exposure Parameters							
Exposure Frequency	EF	days/year	350	350	180	180	250
Exposure Duration	ED	year	20	6	25	9	1
Body Weight	BW	kg	80	15	80	35	80
Averaging Time-Non-cancer	ATnc	days	7,300	2,190	9,125	3,285	365
Averaging Time-Cancer	ATca	days	25,550	25,550	25,550	25,550	25,550
Inhalation							
Exposure Time	ET	hours/day	24	24	8	8	8
Incidental Soil Ingestion							
Ingestion Rate	IngR	mg/day	100	200	100	72	330
Dermal Contact with Soil							
Skin Surface Area	SA	cm^2	6032	2900	6032	2900	6032
Soil-to-Skin Adherence Factor	SAF	mg/cm^2-day	0.07	0.2	0.2	0.2	0.8

Abbreviations:
cm^2 = centimeter squared
kg = kilograms
mg/cm^2-day= milligrams per centimeter squared per day
mg/day= milligrams per day

References

Common Exposure Parameters

Exposure frequency from DTSC, 2014
Exposure durations from DTSC, 2014
Body weight from DTSC, 2014
Body weight for child students represents the average body weight between the ages of 5 and 13
Averaging time for noncarcinogens equals exposure duration (years) x 365 days per year (DTSC, 2014)
Averaging time for carcinogens equal 365 days/year x 70 years (DTSC, 2014)

Inhalation

Exposure time:
Residential assumes a full day (24-hour) exposure (USEPA, 2009) for both indoor and ambient exposure scenarios
Site workers, Students, and construction workers assumed to have an eight hour work day (DTSC, 2014)

Incidental Ingestion of Soil

Soil ingestion rates for residential and construction receptors from DTSC, 2014
Soil ingestion rates for students based on ingestion rate and fraction of time spent at school (OEHHA, 2004)

Dermal Contact with Soil

Skin surface area from DTSC, 2014
Soil-to-Skin adherence factor from DTSC, 2014

Department of Toxic Substances Control (DTSC), 2014, Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities, Office of Human and Ecological Risk (HERO), HERO Human Health Risk Assessment (HHRA) Note Number: 1, Issue Date: September 30, 2014

Office of Environmental Health Hazard Assessment (OEHHA), Integrated Risk Assessment Section, Guidance for Assessing Exposures and Health Risks at Existing and Proposed School Sites. Final Report. February.

United States Environmental Protection Agency (USEPA), 2009, Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment), Final: Office of Superfund Remediation and Technology Innovation, Washington, D.C.

Table C-3
Summary of Constituent Toxicity Criteria
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituent	Carcinogenic Endpoints									Chronic Noncarcinogenic Endpoints						
	Oral			Dermal [c]		Inhalation				Oral		Dermal [c]		Inhalation		
	Slope Factor (SFo) $(mg/kg\text{-}day)^{-1}$	Source [a]	Weight- of-evidence [b]	Dermal Adjustment Factor (ABS_{GI})	Slope Factor (SFd) $(mg/kg\text{-}day)^{-1}$	Unit Risk Factor (URF) $(\mu g/m^3)^{-1}$	Slope Factor (SFi) $(mg/kg\text{-}day)^{-1}$	Source [a]	Weight- of-evidence [b]	Reference Dose (RfDo) (mg/kg-day)	Source [a]	Dermal Adjustment Factor (ABS_{GI})	Reference Dose (RfDd) (mg/kg-day)	Reference Concentration (RfC) $(\mu g/m^3)$	Reference Dose (RfDi) (mg/kg-day)	Source [a]
Organochlorine Pesticides																
4,4'-DDD (DDD)	2.4E-01	IRIS	B2	1	2.40E-01	6.9E-05	2.4E-01	IRIS	B2	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE (DDE)	3.4E-01	IRIS	B2	1	3.40E-01	9.7E-05	3.4E-01	IRIS	B2	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT (DDT)	3.4E-01	IRIS	B2	1	3.40E-01	9.7E-05	3.4E-01	IRIS	B2	5.0E-04	IRIS	1	5.00E-04	4.00E-01	5.0E-04	EXTR
alpha Chlordane	1.3E+00	OEHHA	B2	1	1.30E+00	3.4E-04	1.2E+00	OEHHA	B2	3.3E-05	$OEHHA_{ch}$	1	3.30E-05	7.00E-01	2.0E-04	IRIS
gamma Chlordane	1.3E+00	OEHHA	B2	1	1.30E+00	3.4E-04	1.2E+00	OEHHA	B2	3.3E-05	$OEHHA_{ch}$	1	3.30E-05	7.00E-01	2.0E-04	IRIS
Dieldrin	1.6E+01	IRIS	B2	1	1.60E+01	4.6E-03	1.6E+01	IRIS	B2	5.0E-05	IRIS	1	5.00E-05	NA	NA	NA
Endrin	NA	NA	D	NA	NA	NA	NA	NA	D	3.0E-04	IRIS	1	3.00E-04	2.00E-01	3.0E-04	EXTR
Methoxychlor	NA	NA	D	NA	NA	NA	NA	NA	D	2.0E-05	$OEHHA_{ch}$	1	2.00E-05	1.00E-02	2.0E-05	EXTR
Toxaphene	1.2E+00	OEHHA	B2	1	1.20E+00	3.4E-04	1.2E+00	OEHHA	B2	NA	NA	NA	NA	NA	NA	NA

Abbreviations:

-- = Not applicable

mg/kg-day = milligrams per kilograms-day

NA = Not Applicable or Not Available

$\mu g/m^3$ = micrograms per cubic meter

Footnotes:

[a] Sources for the toxicity criteria include the following:

ATSDR = Agency for Toxic Substances Disease Registry, from United States Environmental Protection Agency (USEPA) May 2016 Regional Screening Levels for Chemical Contaminants at Superfund Sites

HEAST = Health Effects Assessment Summary Tables (HEAST), from USEPA May 2016 Regional Screening Levels for Chemical Contaminants at Superfund Sites

IRIS = Integrated Risk Information System (IRIS) Data Base, USEPA accessed January 2017

NJDEP = New Jersey Department of Environmental Protection, from USEPA May 2016 Regional Screening Levels for Chemical Contaminants at Superfund Sites

OEHHA = Office of Environmental Health Hazard Assessment (OEHHA), OEHHA accessed January 2017, Toxicity Criteria Database.

$OEHHA_{ch}$ = Child-Specific RfD from Office of Environmental Health Hazard Assessment (OEHHA, 2005), as referenced in OEHHA Toxicity Criteria Database, accessed January 2017

PPRTV = Provisional Peer Reviewed Toxicity Values, from USEPA May 2016 Regional Screening Levels for Chemical Contaminants at Superfund Sites

RSLs = Regional Screening Levels, from USEPA May 2016 Regional Screening Levels for Chemical Contaminants at Superfund Sites

EXTR = Inhalation RfD extrapolated from Oral RfD and Converted to Child RfC by multiplying by 15 kg and dividing by 20 m^3/day

[b] Weight-of-Evidence (Guidelines for Carcinogen Risk Assessment, Final, EPA/630/R-03/001F, March 2005.)

A = Known human carcinogen

B1 = Probable human carcinogen - based on limited evidence of carcinogenicity in humans (or Group 2A per IARC classification)

B2 = Likely to be carcinogenic to humans based on strong evidence of carcinogenicity in animals and inconclusive evidence of carcinogenicity in an exposed human population

C = Possible human carcinogen

D = Inadequate evidence to assess carcinogenic potential

ID = Inadequate information to assess carcinogenic potential according to the Draft U.S. EPA 1999 or the Final 2005 Guidelines for Carcinogen Risk Assessment

Oral Reference Doses for Chordane and Methoxychlor are based on child-specific values (OEHHA, 2005)

[c] The dermal slope factors and reference doses were calculated using the following equations:

SFd = SFo x $1/ABS_{GI}$

RfDd = RfDo x ABS_{GI}

Table C-4
Calculation of Particulate Emission Factor for Fugitive Dust
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Factors	Symbols	Units	Values	References
Respirable Fraction	RF	g/m^2-hr	0.036	Default (EPA, 1991b)
Fraction of Vegetation Cover	V	unitless	0.5	Default (EPA, 1991b)
Mean Annual Wind Speed	U_m	m/s	4.69	Default (EPA, 1996)
Threshold Wind Speed	U_t	m/s	11.32	Default (EPA, 1996)
Function Specific to Model	F_x	unitless	1.94E-01	Default (Cowherd, 1985; EPA, 1996)
Total Dust Flux (<10 Um)	E	g/m^2-hr	2.5E-04	Calculated
Area of Impacted Soil Exposed [a]	A	m^2	2.03E+03	Default (0.5 Acre)
Wind speed in mixing zone	WS	m/s	2.25E+00	Default (EPA, 1991b)
Length of Soil Perpendicular to Wind Direction	LS	m	45	Site Specific (estimated)
Mixing Height	MH	m	2	Default (EPA, 1991b)
Default Particulate Emission Factor (DTSC)	PEF	m^3/kg	1.00E+06	Default

Equations

Total Dust Flux (<10 Um)

$$E = RF \times (1-V) \times (U_m/U_t)^3 \times F_x$$

Abbreviations:

g/kg = grams per kilogram
g/m^2-hr = grams per meter squared per hour
m = meter
m/s = meters per second
m^2 = meter squared
m^3/kg = cubic meter per kilogram

Footnotes:

[a] Area of impacted soil is set equal to default area of 0.5 acres.

References:

Cowherd, C., G. Muleski, P. Engelhart, and D. Gillette. 1985. Rapid Assessment of Exposure to Particulate Emissions from Surface Contamination. EPA/600/8-85/002. NTIS PB85-192219. Office of Health and Environmental Assessment, United States Environmental Protection Agency, Washington, DC.

Department of Toxic Substances Control, HERO HHRA Note Number 1, http://www.dtwc.ca.gov/AssessingRisk/upload/HHRA_Note 1-2.pdf

United States Environmental Protection Agency (USEPA), 1991b, Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals. Publication 9285.7-01B. December).

USEPA, 1996, Soil Screening Guidance: Technical Background Document. EPA/540/R95/128. May.

Table C-5
Incidental Ingestion of Soil - Residential Receptor
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration (EPC) in Soil [a]	Average Daily Dose [b]	Oral Chronic Reference Dose [c]	Hazard Quotient [b]	Lifetime Daily Dose	Oral Slope Factor [c]	Incremental Cancer Risk
	Cs	ADD	RfDo	HQ	LDD	SFo	CR
	(mg/kg)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg\text{-}d)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	5.9E-07	NA	NA	6.6E-08	2.4E-01	1.6E-08
4,4'-DDE (DDE)	0.646	8.3E-06	NA	NA	9.3E-07	3.4E-01	3.2E-07
4,4'-DDT (DDT)	0.358	4.6E-06	5.0E-04	9.2E-03	5.1E-07	3.4E-01	1.8E-07
alpha Chlordane	0.00901	1.2E-07	3.3E-05	3.5E-03	1.3E-08	1.3E+00	1.7E-08
gamma Chlordane	0.0115	1.5E-07	3.3E-05	4.5E-03	1.7E-08	1.3E+00	2.2E-08
Dieldrin	0.0242	3.1E-07	5.0E-05	6.2E-03	3.5E-08	1.6E+01	5.6E-07
Endrin	0.0858	1.1E-06	3.0E-04	3.7E-03	1.2E-07	NA	NA
Methoxychlor	0.231	3.0E-06	2.0E-05	1.5E-01	3.3E-07	NA	NA
Toxaphene	2.51	3.2E-05	NA	NA	3.6E-06	1.2E+00	4.3E-06
			Total Noncancer Hazard Index [d] =	0.17	Total Lifetime Cancer Risk [d] =		5.4E-06

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times IngR \times EF \times ED \times FI \times CF_{kg/mg}) / (AT_{nc} \times BW$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDo$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times IngF \times EF \times FI \times CF_{kg/mg}) / AT_c$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFo$$

Ingestion Rate Factor (IngF)

$$IngF = ([ED_c \times IngR_c] / BW_c) + ([ED_a \times IngR_a] / BW_a)$$

Abbreviations:

kg = kilograms
kg/mg = kilograms per milligram
mg/day = milligrams per day
mg/kg = milligrams per kilogram
mg/kg-d = milligrams per kilogram per day
mg-yr/kg-day = milligrams-year per kilogram-day
NA = Not Applicable or Not Available

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Fraction Ingested from Source	FI	1	unitless
Ingestion Rate	IngR	Table C-2	mg/day

Footnotes:

a From Table C-1, maximum concentration of constituent detected in soil
[b] The ADD was calculated for a child residential receptor, since the child represents the most sensitive residential receptor.
[c] From Table C-3.
[d] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-6
Dermal Contact with Soil - Residential Receptor
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Dermal Absorption Fraction from Soil [b]	Average Daily Dose [c]	Dermal Chronic Reference Dose [d]	Hazard Quotient [c]	Lifetime Daily Dose	Oral Slope Factor [d]	Incremental Cancer Risk [e]
	Cs	ABS_d	ADD	RfDd	HQ	LDD	SFo	CR
	(mg/kg)	(unitless)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg\text{-}d)^{-1}$	(unitless)
Organochlorine Pesticides								
4,4'-DDD (DDD)	0.0461	0.05	8.5E-08	NA	NA	1.1E-08	2.4E-01	2.6E-09
4,4'-DDE (DDE)	0.646	0.05	1.2E-06	NA	NA	1.5E-07	3.4E-01	5.1E-08
4,4'-DDT (DDT)	0.358	0.05	6.6E-07	5.0E-04	1.3E-03	8.3E-08	3.4E-01	2.8E-08
alpha Chlordane	0.00901	0.05	1.7E-08	3.3E-05	5.1E-04	2.1E-09	1.3E+00	2.7E-09
gamma Chlordane	0.0115	0.05	2.1E-08	3.3E-05	6.5E-04	2.7E-09	1.3E+00	3.5E-09
Dieldrin	0.0242	0.05	4.5E-08	5.0E-05	9.0E-04	5.6E-09	1.6E+01	9.0E-08
Endrin	0.0858	0.05	1.6E-07	3.0E-04	5.3E-04	2.0E-08	NA	NA
Methoxychlor	0.231	0.05	4.3E-07	2.0E-05	2.1E-02	5.3E-08	NA	NA
Toxaphene	2.51	0.05	4.7E-06	NA	NA	5.8E-07	1.2E+00	7.0E-07
				Total Noncancer Hazard Index [e] =	0.025	Total Lifetime Cancer Risk [e] =		8.7E-07

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times SA \times SAF \times ABS_d \times EF \times ED \times CF_{kg/mg}) / (AT_{nc} \times BW)$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDd$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times DF \times ABS_d \times EF \times CF_{kg/mg}) / AT_c$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFd$$

Dermal Factor (DF)

$$DF = ([ED_c \times SA_c \times SAF_c] / BW_c) + ([ED_a \times SA_a \times SAF_a] / BW_a)$$

Abbreviations:

cm^2 = centimeter squared
kg = kilograms
kg/mg = kilograms per milligram
mg/cm^2-d = milligrams per centimeter squared per day
mg/kg = milligrams per kilogram
mg/kg-d = milligrams per kilogram per day
mg-yr/kg-day = milligrams-year per kilogram-day
NA = Not Applicable or Not Available

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] Dermal Exposure from DTSC, 2015, Department of Toxic Substances Control, Preliminary Endangerment Assessment Guidance Manual, Table 1: Screening Level Dermal Absorption Fractions from Soil. January 1994 (Revised October 2015).

[c] The ADD was calculated for a child residential receptor, since the child represents the most sensitive residential receptor.

[d] From Table C-3.

[e] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Dermal Factor	DF	338	mg-yr/kg-day
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Soil-to-Skin Adherence Factor	SAF	Table C-2	mg/cm^2-d
Surface Area	SA	Table C-2	cm^2

Table C-7
Inhalation of Fugitive Dust - Residential Receptor
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Averaged Air Concentration [b]	Inhalation Chronic Reference Concentration [c]	Hazard Quotient [b]	Lifetime Air Concentration	Inhalation Unit Risk Factor [c]	Incremental Cancer Risk
	Cs	AAC	RfC	HQ	LAC	IUR	CR
	(mg/kg)	($\mu g/m^3$)	($\mu g/m^3$)	(unitless)	($\mu g/m^3$)	$(\mu g/m^3)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	4.4E-05	NA	NA	1.6E-05	6.9E-05	1.1E-09
4,4'-DDE (DDE)	0.646	6.2E-04	NA	NA	2.3E-04	9.7E-05	2.2E-08
4,4'-DDT (DDT)	0.358	3.4E-04	4.0E-01	8.6E-04	1.3E-04	9.7E-05	1.2E-08
alpha Chlordane	0.00901	8.6E-06	7.0E-01	1.2E-05	3.2E-06	3.4E-04	1.1E-09
gamma Chlordane	0.0115	1.1E-05	7.0E-01	1.6E-05	4.1E-06	3.4E-04	1.4E-09
Dieldrin	0.0242	2.3E-05	NA	NA	8.6E-06	4.6E-03	4.0E-08
Endrin	0.0858	8.2E-05	2.0E-01	4.1E-04	3.1E-05	NA	NA
Methoxychlor	0.231	2.2E-04	1.0E-02	2.2E-02	8.2E-05	NA	NA
Toxaphene	2.51	2.4E-03	NA	NA	8.9E-04	3.4E-04	3.0E-07
			Total Noncancer Hazard Index [d] =	2.E-02	Total Lifetime Cancer Risk [d] =		3.8E-07

Equations

Noncancer

Averaged Air Concentration (AAC)

$$AAC = ((Cs/PEF) \times ET \times EF \times ED \times CF_{\mu g/mg}) / (AT_{nc} \times CF_{hr/d})$$

Hazard Quotient (HQ)

$$HQ = AAC / RfC$$

Cancer

Lifetime Air Concentration (LAC)

$$LAC = ((Cs/PEF) \times ET \times EF \times EDF \times CF_{\mu g/mg}) / (AT_{c} \times CF_{hr/d})$$

Excess Cancer Risk (CR)

$$CR = LAC \times IUR$$

Exposure Duration Factor (EDF)

$$EDF = (ED_c + ED_a)$$

Abbreviations:

kg = kilograms
m^3/kg = cubic meter per kilogram
mg/kg = milligrams per kilogram
NA = Not Applicable or Not Available
$\mu g/m^3$ = micrograms per cubic meter
µg/mg = micrograms per milligrams

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{hr/d}$	24	hours/day
Conversion Factor	$CF_{\mu g/mg}$	1000	µg/mg
Exposure Duration	ED	Table C-2	years
Exposure Duration Factor	EDF	26	years
Exposure Frequency	EF	Table C-2	days/year
Exposure Time	ET	Table C-2	hours/day
Particulate Emission Factor	PEF	Table C-4	m^3/kg

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] The AAC was calculated for a child residential receptor, since the child represents the most sensitive residential receptor.

[c] From Table C-3.

[d] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk

Table C-8
Incidental Ingestion of Soil - Site Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Average Daily Dose	Oral Chronic Reference Dose [b]	Hazard Quotient	Lifetime Daily Dose	Oral Slope Factor [b]	Incremental Cancer Risk
	Cs	ADD	RfDo	HQ	LDD	SFo	CR
	(mg/kg)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg\text{-}d)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	2.8E-08	NA	NA	1.0E-08	2.4E-01	2.4E-09
4,4'-DDE (DDE)	0.646	4.0E-07	NA	NA	1.4E-07	3.4E-01	4.8E-08
4,4'-DDT (DDT)	0.358	2.2E-07	5.0E-04	4.4E-04	7.9E-08	3.4E-01	2.7E-08
alpha Chlordane	0.00901	5.6E-09	3.3E-05	1.7E-04	2.0E-09	1.3E+00	2.6E-09
gamma Chlordane	0.0115	7.1E-09	3.3E-05	2.1E-04	2.5E-09	1.3E+00	3.3E-09
Dieldrin	0.0242	1.5E-08	5.0E-05	3.0E-04	5.3E-09	1.6E+01	8.5E-08
Endrin	0.0858	5.3E-08	3.0E-04	1.8E-04	1.9E-08	NA	NA
Methoxychlor	0.231	1.4E-07	2.0E-05	7.1E-03	5.1E-08	NA	NA
Toxaphene	2.51	1.5E-06	NA	NA	5.5E-07	1.2E+00	6.6E-07
			Total Noncancer Hazard Index [c] =	0.008	Total Lifetime Cancer Risk [c] =		8.3E-07

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times IngR \times EF \times ED \times FI \times CF_{kg/mg}) / (AT_{nc} \times BW)$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDo$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times IngR \times EF \times ED \times FI \times CF_{kg/mg}) / (AT_{c} \times BW)$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFo$$

Abbreviations:

kg = kilograms
kg/mg = kilograms per milligram
mg/day = milligrams per day
mg/kg = milligrams per kilogram
mg/kg-d = milligrams per kilogram per day
NA = Not Applicable or Not Available

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Fraction Ingested from Source	FI	1	unitless
Ingestion Rate	IngR	Table C-2	mg/day

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] From Table C-6.

[c] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-9
Dermal Contact with Soil - Site Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Dermal Absorption Fraction from Soil [b]	Average Daily Dose	Dermal Chronic Reference Dose [c]	Hazard Quotient	Lifetime Daily Dose	Oral Slope Factor [c]	Incremental Cancer Risk
	Cs	ABS_d	ADD	RfDd	HQ	LDD	SFo	CR
	(mg/kg)	(unitless)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg-d)^{-1}$	(unitless)
Organochlorine Pesticides								
4,4'-DDD (DDD)	0.0461	0.05	1.7E-08	NA	NA	6.1E-09	2.4E-01	1.5E-09
4,4'-DDE (DDE)	0.646	0.05	2.4E-07	NA	NA	8.6E-08	3.4E-01	2.9E-08
4,4'-DDT (DDT)	0.358	0.05	1.3E-07	5.0E-04	2.7E-04	4.8E-08	3.4E-01	1.6E-08
alpha Chlordane	0.00901	0.05	3.4E-09	3.3E-05	1.0E-04	1.2E-09	1.3E+00	1.6E-09
gamma Chlordane	0.0115	0.05	4.3E-09	3.3E-05	1.3E-04	1.5E-09	1.3E+00	2.0E-09
Dieldrin	0.0242	0.05	9.0E-09	5.0E-05	1.8E-04	3.2E-09	1.6E+01	5.1E-08
Endrin	0.0858	0.05	3.2E-08	3.0E-04	1.1E-04	1.1E-08	NA	NA
Methoxychlor	0.231	0.05	8.6E-08	2.0E-05	4.3E-03	3.1E-08	NA	NA
Toxaphene	2.51	0.05	9.3E-07	NA	NA	3.3E-07	1.2E+00	4.0E-07
				Total Noncancer Hazard Index [d] =	0.005	Total Lifetime Cancer Risk [d] =		5.0E-07

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times SA \times SAF \times ABS_d \times EF \times ED \times CF_{kg/mg}) / (AT_{nc} \times BW)$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDd$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times ED \times SA \times SAF \times ABS_d \times EF \times CF_{kg/mg}) / (AT_c \times BW)$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFd$$

Abbreviations:

cm^2 = centimeter squared

kg = kilograms

kg/mg = kilograms per milligram

mg/cm^2-d = milligrams per centimeter squared per day

mg/kg = milligrams per kilogram

mg/kg-d = milligrams per kilogram per day

NA = Not Applicable or Not Available

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Soil-to-Skin Adherence Factor	SAF	Table C-2	mg/cm^2-d
Surface Area	SA	Table C-2	cm^2

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] Dermal Exposure from DTSC, 2015, Department of Toxic Substances Control, Preliminary Endangerment Assessment Guidance Manual, Table 1: Screening Level Dermal Absorption Fractions from Soil. January 1994 (Revised October 2015).

[c] From Table C-3.

[d] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-10
Inhalation of Fugitive Dust - Site Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Averaged Air Concentration	Inhalation Chronic Reference Concentration [b]	Hazard Quotient	Lifetime Air Concentration	Inhalation Unit Risk Factor [b]	Incremental Cancer Risk
	Cs	AAC	RfC	HQ	LAC	IUR	CR
	(mg/kg)	($\mu g/m^3$)	($\mu g/m^3$)	(unitless)	($\mu g/m^3$)	$(\mu g/m^3)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	7.6E-06	NA	NA	2.7E-06	6.9E-05	1.9E-10
4,4'-DDE (DDE)	0.646	1.1E-04	NA	NA	3.8E-05	9.7E-05	3.7E-09
4,4'-DDT (DDT)	0.358	5.9E-05	4.0E-01	1.5E-04	2.1E-05	9.7E-05	2.0E-09
alpha Chlordane	0.00901	1.5E-06	7.0E-01	2.1E-06	5.3E-07	3.4E-04	1.8E-10
gamma Chlordane	0.0115	1.9E-06	7.0E-01	2.7E-06	6.8E-07	3.4E-04	2.3E-10
Dieldrin	0.0242	4.0E-06	NA	NA	1.4E-06	4.6E-03	6.5E-09
Endrin	0.0858	1.4E-05	2.0E-01	7.1E-05	5.0E-06	NA	NA
Methoxychlor	0.231	3.8E-05	1.0E-02	3.8E-03	1.4E-05	NA	NA
Toxaphene	2.51	4.1E-04	NA	NA	1.5E-04	3.4E-04	5.0E-08
			Total Noncancer Hazard Index [c] =	4.E-03	Total Lifetime Cancer Risk [c] =		6.E-08

Equations

Noncancer

Annual Air Concentration (AAC)

$$AAC = ((Cs/PEF) \times ET \times EF \times ED \times CF_{\mu g/mg}) / (AT_{nc} \times CF_{hr/d})$$

Hazard Quotient (HQ)

$$HQ = AAC / RfC$$

Cancer

Lifetime Air Concentration (LAC)

$$LAC = ((Cs/PEF) \times ET \times EF \times ED \times CF_{\mu g/mg}) / (AT_{c} \times CF_{hr/d})$$

Excess Cancer Risk (CR)

$$CR = LAC \times IUR$$

Abbreviations:

kg = kilograms

m^3/kg = cubic meter per kilogram

mg/kg = milligrams per kilogram

NA = Not Applicable or Not Available

$\mu g/m^3$ = micrograms per cubic meter

µg/mg = micrograms per milligrams

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Conversion Factor	$CF_{hr/d}$	24	hours/day
Conversion Factor	$CF_{\mu g/mg}$	1000	µg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Exposure Time	ET	Table C-2	hours/day
Particulate Emission Factor	PEF	Table C-4	m^3/kg

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] From Table C-3.

[c] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-11
Incidental Ingestion of Soil - Student
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Average Daily Dose	Oral Chronic Reference Dose [b]	Hazard Quotient	Lifetime Daily Dose	Oral Slope Factor [b]	Incremental Cancer Risk
	Cs	ADD	RfDo	HQ	LDD	SFo	CR
	(mg/kg)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg\text{-}d)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	4.7E-08	NA	NA	6.0E-09	2.4E-01	1.4E-09
4,4'-DDE (DDE)	0.646	6.6E-07	NA	NA	8.4E-08	3.4E-01	2.9E-08
4,4'-DDT (DDT)	0.358	3.6E-07	5.0E-04	7.3E-04	4.7E-08	3.4E-01	1.6E-08
alpha Chlordane	0.00901	9.1E-09	3.3E-05	2.8E-04	1.2E-09	1.3E+00	1.5E-09
gamma Chlordane	0.0115	1.2E-08	3.3E-05	3.5E-04	1.5E-09	1.3E+00	1.9E-09
Dieldrin	0.0242	2.5E-08	5.0E-05	4.9E-04	3.2E-09	1.6E+01	5.1E-08
Endrin	0.0858	8.7E-08	3.0E-04	2.9E-04	1.1E-08	NA	NA
Methoxychlor	0.231	2.3E-07	2.0E-05	1.2E-02	3.0E-08	NA	NA
Toxaphene	2.51	2.5E-06	NA	NA	3.3E-07	1.2E+00	3.9E-07
			Total Noncancer Hazard Index [c] =	0.014	Total Lifetime Cancer Risk [c] =		4.9E-07

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times IngR \times EF \times ED \times FI \times CF_{kg/mg}) / (AT_{nc} \times BW)$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDo$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times IngR \times EF \times ED \times FI \times CF_{kg/mg}) / (AT_{c} \times BW)$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFo$$

Abbreviations:

kg = kilograms
kg/mg = kilograms per milligram
mg/day = milligrams per day
mg/kg = milligrams per kilogram
mg/kg-d = milligrams per kilogram per day
NA = Not Applicable or Not Available

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Fraction Ingested from Source	FI	1	unitless
Ingestion Rate	IngR	Table C-2	mg/day

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] From Table C-6.

[c] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-12
Dermal Contact with Soil - Student
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Dermal Absorption Fraction from Soil [b]	Average Daily Dose	Dermal Chronic Reference Dose [c]	Hazard Quotient	Lifetime Daily Dose	Oral Slope Factor [c]	Incremental Cancer Risk
	Cs	ABS_d	ADD	RfDd	HQ	LDD	SFo	CR
	(mg/kg)	(unitless)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg-d)^{-1}$	(unitless)
Organochlorine Pesticides								
4,4'-DDD (DDD)	0.0461	0.05	1.9E-08	NA	NA	2.4E-09	2.4E-01	5.8E-10
4,4'-DDE (DDE)	0.646	0.05	2.6E-07	NA	NA	3.4E-08	3.4E-01	1.2E-08
4,4'-DDT (DDT)	0.358	0.05	1.5E-07	5.0E-04	2.9E-04	1.9E-08	3.4E-01	6.4E-09
alpha Chlordane	0.00901	0.05	3.7E-09	3.3E-05	1.1E-04	4.7E-10	1.3E+00	6.2E-10
gamma Chlordane	0.0115	0.05	4.7E-09	3.3E-05	1.4E-04	6.0E-10	1.3E+00	7.9E-10
Dieldrin	0.0242	0.05	9.9E-09	5.0E-05	2.0E-04	1.3E-09	1.6E+01	2.0E-08
Endrin	0.0858	0.05	3.5E-08	3.0E-04	1.2E-04	4.5E-09	NA	NA
Methoxychlor	0.231	0.05	9.4E-08	2.0E-05	4.7E-03	1.2E-08	NA	NA
Toxaphene	2.51	0.05	1.0E-06	NA	NA	1.3E-07	1.2E+00	1.6E-07
				Total Noncancer Hazard Index [d] =	0.006	Total Lifetime Cancer Risk [d] =		2.0E-07

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times SA \times SAF \times ABS_d \times EF \times ED \times CF_{kg/mg}) / (AT_{nc} \times BW)$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDd$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times ED \times SA \times SAF \times ABS_d \times EF \times CF_{kg/mg}) / (AT_c \times BW)$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFd$$

Abbreviations:

cm^2 = centimeter squared

kg = kilograms

kg/mg = kilograms per milligram

mg/cm^2-d = milligrams per centimeter squared per day

mg/kg = milligrams per kilogram

mg/kg-d = milligrams per kilogram per day

NA = Not Applicable or Not Available

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Soil-to-Skin Adherence Factor	SAF	Table C-2	mg/cm^2-d
Surface Area	SA	Table C-2	cm^2

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] Dermal Exposure from DTSC, 2015, Department of Toxic Substances Control, Preliminary Endangerment Assessment Guidance Manual, Table 1: Screening Level Dermal Absorption Fractions from Soil. January 1994 (Revised October 2015).

[c] From Table C-3.

[d] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-13
Inhalation of Fugitive Dust - Student
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Averaged Air Concentration	Inhalation Chronic Reference Concentration [b]	Hazard Quotient	Lifetime Air Concentration	Inhalation Unit Risk Factor [b]	Incremental Cancer Risk
	Cs	AAC	RfC	HQ	LAC	IUR	CR
	(mg/kg)	($\mu g/m^3$)	($\mu g/m^3$)	(unitless)	($\mu g/m^3$)	$(\mu g/m^3)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	7.6E-06	NA	NA	2.7E-06	6.9E-05	1.9E-10
4,4'-DDE (DDE)	0.646	1.1E-04	NA	NA	3.8E-05	9.7E-05	3.7E-09
4,4'-DDT (DDT)	0.358	5.9E-05	4.0E-01	1.5E-04	2.1E-05	9.7E-05	2.0E-09
alpha Chlordane	0.00901	1.5E-06	7.0E-01	2.1E-06	5.3E-07	3.4E-04	1.8E-10
gamma Chlordane	0.0115	1.9E-06	7.0E-01	2.7E-06	6.8E-07	3.4E-04	2.3E-10
Dieldrin	0.0242	4.0E-06	NA	NA	1.4E-06	4.6E-03	6.5E-09
Endrin	0.0858	1.4E-05	2.0E-01	7.1E-05	5.0E-06	NA	NA
Methoxychlor	0.231	3.8E-05	1.0E-02	3.8E-03	1.4E-05	NA	NA
Toxaphene	2.51	4.1E-04	NA	NA	1.5E-04	3.4E-04	5.0E-08
			Total Noncancer Hazard Index [c] =	4.E-03	Total Lifetime Cancer Risk [c] =		6.E-08

Equations

Noncancer

Annual Air Concentration (AAC)

$$AAC = ((Cs/PEF) \times ET \times EF \times ED \times CF_{\mu g/mg}) / (AT_{nc} \times CF_{hr/d})$$

Hazard Quotient (HQ)

$$HQ = AAC / RfC$$

Cancer

Lifetime Air Concentration (LAC)

$$LAC = ((Cs/PEF) \times ET \times EF \times ED \times CF_{\mu g/mg}) / (AT_{c} \times CF_{hr/d})$$

Excess Cancer Risk (CR)

$$CR = LAC \times IUR$$

Abbreviations:

kg = kilograms

m^3/kg = cubic meter per kilogram

mg/kg = milligrams per kilogram

NA = Not Applicable or Not Available

$\mu g/m^3$ = micrograms per cubic meter

µg/mg = micrograms per milligrams

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Conversion Factor	$CF_{hr/d}$	24	hours/day
Conversion Factor	$CF_{\mu g/mg}$	1000	µg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Exposure Time	ET	Table C-2	hours/day
Particulate Emission Factor	PEF	Table C-4	m^3/kg

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] From Table C-3.

[c] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-14
Incidental Ingestion of Soil - Construction Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Average Daily Dose	Oral Chronic Reference Dose [b]	Hazard Quotient	Lifetime Daily Dose	Oral Slope Factor [b]	Incremental Cancer Risk
	Cs	ADD	RfDo	HQ	LDD	SFo	CR
	(mg/kg)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg\text{-}d)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	1.3E-07	NA	NA	1.9E-09	2.4E-01	4.5E-10
4,4'-DDE (DDE)	0.646	1.8E-06	NA	NA	2.6E-08	3.4E-01	8.9E-09
4,4'-DDT (DDT)	0.358	1.0E-06	5.0E-04	2.0E-03	1.4E-08	3.4E-01	4.9E-09
alpha Chlordane	0.00901	2.5E-08	3.3E-05	7.7E-04	3.6E-10	1.3E+00	4.7E-10
gamma Chlordane	0.0115	3.2E-08	3.3E-05	9.8E-04	4.6E-10	1.3E+00	6.0E-10
Dieldrin	0.0242	6.8E-08	5.0E-05	1.4E-03	9.8E-10	1.6E+01	1.6E-08
Endrin	0.0858	2.4E-07	3.0E-04	8.1E-04	3.5E-09	NA	NA
Methoxychlor	0.231	6.5E-07	2.0E-05	3.3E-02	9.3E-09	NA	NA
Toxaphene	2.51	7.1E-06	NA	NA	1.0E-07	1.2E+00	1.2E-07
			Total Noncancer Hazard Index [c] =	0.039	Total Lifetime Cancer Risk [c] =		1.5E-07

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times IngR \times EF \times ED \times FI \times CF_{kg/mg}) / (AT_{nc} \times BW$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDo$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times IngR \times EF \times ED \times FI \times CF_{kg/mg}) / (AT_{c} \times BW)$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFo$$

Abbreviations:

kg = kilograms
kg/mg = kilograms per milligram
mg/day = milligrams per day
mg/kg = milligrams per kilogram
mg/kg-d = milligrams per kilogram per day
NA = Not Applicable or Not Available

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Fraction Ingested from Source	FI	1	unitless
Ingestion Rate	IngR	Table C-2	mg/day

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] From Table C-3.

[c] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-15
Dermal Contact with Soil - Construction Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Dermal Absorption Fraction from Soil [b]	Average Daily Dose	Dermal Chronic Reference Dose [c]	Hazard Quotient	Lifetime Daily Dose	Oral Slope Factor [c]	Incremental Cancer Risk
	Cs	ABS_d	ADD	RfDd	HQ	LDD	SFo	CR
	(mg/kg)	(unitless)	(mg/kg-d)	(mg/kg-d)	(unitless)	(mg/kg-d)	$(mg/kg-d)^{-1}$	(unitless)
Organochlorine Pesticides								
4,4'-DDD (DDD)	0.0461	0.05	9.5E-08	NA	NA	1.4E-09	2.4E-01	3.3E-10
4,4'-DDE (DDE)	0.646	0.05	1.3E-06	NA	NA	1.9E-08	3.4E-01	6.5E-09
4,4'-DDT (DDT)	0.358	0.05	7.4E-07	5.0E-04	1.5E-03	1.1E-08	3.4E-01	3.6E-09
alpha Chlordane	0.00901	0.05	1.9E-08	3.3E-05	5.6E-04	2.7E-10	1.3E+00	3.5E-10
gamma Chlordane	0.0115	0.05	2.4E-08	3.3E-05	7.2E-04	3.4E-10	1.3E+00	4.4E-10
Dieldrin	0.0242	0.05	5.0E-08	5.0E-05	1.0E-03	7.1E-10	1.6E+01	1.1E-08
Endrin	0.0858	0.05	1.8E-07	3.0E-04	5.9E-04	2.5E-09	NA	NA
Methoxychlor	0.231	0.05	4.8E-07	2.0E-05	2.4E-02	6.8E-09	NA	NA
Toxaphene	2.51	0.05	5.2E-06	NA	NA	7.4E-08	1.2E+00	8.9E-08
				Total Noncancer Hazard Index [d] =	0.028	Total Lifetime Cancer Risk [d] =		1.E-07

Equations

Noncancer

Average Daily Dose (ADD)

$$ADD = (Cs \times SA \times SAF \times ABS_d \times EF \times ED \times CF_{kg/mg}) / (AT_{nc} \times BW)$$

Hazard Quotient (HQ)

$$HQ = AADD / RfDd$$

Cancer

Lifetime Daily Dose (LDD)

$$LDD = (Cs \times ED \times SA \times SAF \times ABS_d \times EF \times CF_{kg/mg}) / (AT_c \times BW)$$

Excess Cancer Risk (CR)

$$CR = LADD \times SFd$$

Abbreviations:

cm^2 = centimeter squared

kg = kilograms

kg/mg = kilograms per milligram

mg/cm^2-d = milligrams per centimeter squared per day

mg/kg = milligrams per kilogram

mg/kg-d = milligrams per kilogram per day

NA = Not Applicable or Not Available

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Body Weight	BW	Table C-2	kg
Conversion Factor	$CF_{kg/mg}$	0.000001	kg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Soil-to-Skin Adherence Factor	SAF	Table C-2	mg/cm^2-d
Surface Area	SA	Table C-2	cm^2

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] Dermal Exposure from DTSC, 2015, Department of Toxic Substances Control, Preliminary Endangerment Assessment Guidance Manual, Table 1: Screening Level Dermal Absorption Fractions from Soil. January 1994 (Revised October 2015).

[c] From Table C-3.

[d] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-16
Inhalation of Fugitive Dust - Construction Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Exposure Point Concentration in Soil [a]	Averaged Air Concentration	Inhalation Chronic Reference Concentration [b]	Hazard Quotient	Lifetime Air Concentration	Inhalation Unit Risk Factor [b]	Incremental Cancer Risk
	Cs	AAC	RfC	HQ	LAC	IUR	CR
	(mg/kg)	($\mu g/m^3$)	($\mu g/m^3$)	(unitless)	($\mu g/m^3$)	$(\mu g/m^3)^{-1}$	(unitless)
Organochlorine Pesticides							
4,4'-DDD (DDD)	0.0461	1.1E-05	NA	NA	1.5E-07	6.9E-05	1.0E-11
4,4'-DDE (DDE)	0.646	1.5E-04	NA	NA	2.1E-06	9.7E-05	2.0E-10
4,4'-DDT (DDT)	0.358	8.2E-05	4.0E-01	2.0E-04	1.2E-06	9.7E-05	1.1E-10
alpha Chlordane	0.00901	2.1E-06	7.0E-01	2.9E-06	2.9E-08	3.4E-04	1.0E-11
gamma Chlordane	0.0115	2.6E-06	7.0E-01	3.8E-06	3.8E-08	3.4E-04	1.3E-11
Dieldrin	0.0242	5.5E-06	NA	NA	7.9E-08	4.6E-03	3.6E-10
Endrin	0.0858	2.0E-05	2.0E-01	9.8E-05	2.8E-07	NA	NA
Methoxychlor	0.231	5.3E-05	1.0E-02	5.3E-03	7.5E-07	NA	NA
Toxaphene	2.51	5.7E-04	NA	NA	8.2E-06	3.4E-04	2.8E-09
				Total Noncancer Hazard Index [c] =	6.E-03	Total Lifetime Cancer Risk [c] =	3.5E-09

Equations

Noncancer

Averaged Air Concentration (AAC)

$$AAC = ((Cs/PEF) \times ET \times EF \times ED \times CF_{\mu g/mg}) / (AT_{nc} \times CF_{hr/d})$$

Hazard Quotient (HQ)

$$HQ = AAC / RfC$$

Cancer

Lifetime Air Concentration (LAC)

$$LAC = ((Cs/PEF) \times ET \times EF \times ED \times CF_{\mu g/mg}) / (AT_{c} \times CF_{hr/d})$$

Excess Cancer Risk (CR)

$$CR = LAC \times IUR$$

Abbreviations:

kg = kilograms

m^3/kg = cubic meter per kilogram

mg/kg = milligrams per kilogram

NA = Not Applicable or Not Available

$\mu g/m^3$ = micrograms per cubic meter

µg/mg = micrograms per milligrams

Parameter	Symbol	Value	Units
Averaging Time - Cancer	AT_c	Table C-2	days
Averaging Time - Noncancer	AT_{nc}	Table C-2	days
Conversion Factor	$CF_{hr/d}$	24	hours/day
Conversion Factor	$CF_{\mu g/mg}$	1000	µg/mg
Exposure Duration	ED	Table C-2	years
Exposure Frequency	EF	Table C-2	days/year
Exposure Time	ET	Table C-2	hours/day
Particulate Emission Factor	PEF	Table C-4	m^3/kg

Footnotes:

[a] From Table C-1, maximum concentration of constituent detected in soil

[b] From Table C-3.

[c] The total noncancer hazard index is the sum of the chemical-specific noncancer hazard and and the total lifetime cancer risk is the sum of the cancer risks.

Table C-17
Summary of Noncancer Hazards for Residential Receptors
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Hazard Index
Organochlorine Pesticides				
4,4'-DDD (DDD)	NA	NA	NA	NA
4,4'-DDE (DDE)	NA	NA	NA	NA
4,4'-DDT (DDT)	9.2E-03	1.3E-03	8.6E-04	0.011
alpha Chlordane	3.5E-03	5.1E-04	1.2E-05	0.0040
gamma Chlordane	4.5E-03	6.5E-04	1.6E-05	0.0051
Dieldrin	6.2E-03	9.0E-04	NA	0.0071
Endrin	3.7E-03	5.3E-04	4.1E-04	0.0046
Methoxychlor	1.5E-01	2.1E-02	2.2E-02	0.19
Toxaphene	NA	NA	NA	NA
Total Noncancer Hazard Index[1]	0.17	0.025	2.E-02	0.22

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative Hazard Index based on the sum of all exposure pathways.
All hazard indices based on maximum detected concentrations of constituents in soil

Table C-18
Summary of Cancer Risks for Residential Receptors
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidential Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Cancer Risk
Organochlorine Pesticides				
4,4'-DDD (DDD)	1.6E-08	2.6E-09	1.1E-09	2.0E-08
4,4'-DDE (DDE)	3.2E-07	5.1E-08	2.2E-08	3.9E-07
4,4'-DDT (DDT)	1.8E-07	2.8E-08	1.2E-08	2.2E-07
alpha Chlordane	1.7E-08	2.7E-09	1.1E-09	2.1E-08
gamma Chlordane	2.2E-08	3.5E-09	1.4E-09	2.6E-08
Dieldrin	5.6E-07	9.0E-08	4.0E-08	6.9E-07
Endrin	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA
Toxaphene	4.3E-06	7.0E-07	3.0E-07	5.3E-06
Total Cancer Risk [1]	5.4E-06	8.7E-07	3.8E-07	6.7E-06

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative cancer risk based on the sum of all exposure pathways.
All risk estimates based on maximum detected concentrations of constituents in soil

Table C-19
Summary of Noncancer Hazards for Site Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Hazard Index
Organochlorine Pesticides				
4,4'-DDD (DDD)	NA	NA	NA	NA
4,4'-DDE (DDE)	NA	NA	NA	NA
4,4'-DDT (DDT)	4.4E-04	2.7E-04	1.5E-04	0.0009
alpha Chlordane	1.7E-04	1.0E-04	2.1E-06	0.00027
gamma Chlordane	2.1E-04	1.3E-04	2.7E-06	0.00035
Dieldrin	3.0E-04	1.8E-04	NA	0.00048
Endrin	1.8E-04	1.1E-04	7.1E-05	0.00035
Methoxychlor	7.1E-03	4.3E-03	3.8E-03	0.015
Toxaphene	NA	NA	NA	NA
Total Noncancer Hazard Index[1]	0.008	0.0051	4.E-03	0.018

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative Hazard Index based on the sum of all exposure pathways.
All hazard indices based on maximum detected concentrations of constituents in soil

Table C-20
Summary of Cancer Risks for Site Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Cancer Risk
Organochlorine Pesticides				
4,4'-DDD (DDD)	2.4E-09	1.5E-09	1.9E-10	4.1E-09
4,4'-DDE (DDE)	4.8E-08	2.9E-08	3.7E-09	8.1E-08
4,4'-DDT (DDT)	2.7E-08	1.6E-08	2.0E-09	4.5E-08
alpha Chlordane	2.6E-09	1.6E-09	1.8E-10	4.3E-09
gamma Chlordane	3.3E-09	2.0E-09	2.3E-10	5.5E-09
Dieldrin	8.5E-08	5.1E-08	6.5E-09	1.4E-07
Endrin	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA
Toxaphene	6.6E-07	4.0E-07	5.0E-08	1.1E-06
Total Cancer Risk [1]	8.3E-07	5.0E-07	6.3E-08	1.4E-06

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative cancer risk based on the sum of all exposure pathways.
All risk estimates based on maximum detected concentrations of constituents in soil

Table C-21
Summary of Noncancer Hazards for Student
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Hazard Index
Organochlorine Pesticides				
4,4'-DDD (DDD)	NA	NA	NA	NA
4,4'-DDE (DDE)	NA	NA	NA	NA
4,4'-DDT (DDT)	7.3E-04	2.9E-04	1.5E-04	0.0012
alpha Chlordane	2.8E-04	1.1E-04	2.1E-06	0.00039
gamma Chlordane	3.5E-04	1.4E-04	2.7E-06	0.00050
Dieldrin	4.9E-04	2.0E-04	NA	0.00069
Endrin	2.9E-04	1.2E-04	7.1E-05	0.00048
Methoxychlor	1.2E-02	4.7E-03	3.8E-03	0.020
Toxaphene	NA	NA	NA	NA
Total Noncancer Hazard Index[1]	0.014	0.0056	4.E-03	0.023

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative Hazard Index based on the sum of all exposure pathways.
All hazard indices based on maximum detected concentrations of constituents in soil

Table C-22
Summary of Cancer Risks for Student
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Cancer Risk
Organochlorine Pesticides				
4,4'-DDD (DDD)	1.4E-09	5.8E-10	1.9E-10	2.2E-09
4,4'-DDE (DDE)	2.9E-08	1.2E-08	3.7E-09	4.4E-08
4,4'-DDT (DDT)	1.6E-08	6.4E-09	2.0E-09	2.4E-08
alpha Chlordane	1.5E-09	6.2E-10	1.8E-10	2.3E-09
gamma Chlordane	1.9E-09	7.9E-10	2.3E-10	3.0E-09
Dieldrin	5.1E-08	2.0E-08	6.5E-09	7.7E-08
Endrin	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA
Toxaphene	3.9E-07	1.6E-07	5.0E-08	6.0E-07
Total Cancer Risk [1]	4.9E-07	2.0E-07	6.3E-08	7.5E-07

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative cancer risk based on the sum of all exposure pathways.
All risk estimates based on maximum detected concentrations of constituents in soil

Table C-23
Summary of Noncancer Hazards for Construction Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Hazard Index
Organochlorine Pesticides				
4,4'-DDD (DDD)	NA	NA	NA	NA
4,4'-DDE (DDE)	NA	NA	NA	NA
4,4'-DDT (DDT)	2.E-03	1.E-03	2.E-04	0.0037
alpha Chlordane	8.E-04	6.E-04	3.E-06	0.0013
gamma Chlordane	1.E-03	7.E-04	4.E-06	0.0017
Dieldrin	1.E-03	1.E-03	NA	0.0024
Endrin	8.E-04	6.E-04	1.E-04	0.0015
Methoxychlor	3.E-02	2.E-02	5.E-03	0.062
Toxaphene	NA	NA	NA	NA
Total Noncancer Hazard Index[1]	0.039	0.028	6.E-03	0.072

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative Hazard Index based on the sum of all exposure pathways.
All hazard indices based on maximum detected concentrations of constituents in soil

Table C-24
Summary of Cancer Risks for Construction Worker
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Constituents	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Fugitive Dust	Cumulative Cancer Risk
Organochlorine Pesticides				
4,4'-DDD (DDD)	4.5E-10	3.3E-10	1.0E-11	7.8E-10
4,4'-DDE (DDE)	8.9E-09	6.5E-09	2.0E-10	1.6E-08
4,4'-DDT (DDT)	4.9E-09	3.6E-09	1.1E-10	8.6E-09
alpha Chlordane	4.7E-10	3.5E-10	1.0E-11	8.3E-10
gamma Chlordane	6.0E-10	4.4E-10	1.3E-11	1.1E-09
Dieldrin	1.6E-08	1.1E-08	3.6E-10	2.7E-08
Endrin	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA
Toxaphene	1.2E-07	8.9E-08	2.8E-09	2.1E-07
Total Cancer Risk [1]	1.5E-07	1.1E-07	3.5E-09	2.7E-07

Abbreviations:
NA = Not Applicable or Not Available
[1] - Cumulative cancer risk based on the sum of all exposure pathways.
All risk estimates based on maximum detected concentrations of constituents in soil

Table C-25
Summary of Noncancer Hazard Indices and Cancer Risks
Screening Human Health Risk Assessment
Proposed School Site at Doris Avenue and N. Patterson Road
Oxnard, California

Receptor	Hazard Index [1]	Lifetime Incremental Cancer Risk[1]
Residential	0.22	6.7E-06
Site Worker	0.018	1.4E-06
Site Student	0.023	7.5E-07
Construction Worker	0.072	2.7E-07

Notes:

[1] - Cumulative hazard index and cancer risk based on the sum of all exposure pathways and all COPCs.

Cumulative hazard indices and risks based on maximum detected concentrations of constituents in soil.

APPENDIX D

ECOLOGICAL SCREENING EVALUATION

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January 31, 2017
Project No: 17-03734

Greg Buchanan
ATC Group Services, LLC
25 Cupania Circle
Monterey Park, CA, 91755
Via email: greg.buchanan@atcassociates.com

Subject: Ecological Screening Evaluation for the New Elementary and Middle School Project, Oxnard, Ventura County, California

Dear Mr. Buchanan:

Rincon Consultants, Inc. (Rincon) is pleased to submit this Ecological Screening Evaluation for the New Elementary and Middle School Project (Project) located in Oxnard, Ventura County, California. This evaluation was conducted in response to Department of Toxic Substances Control comments on the Draft Endangerment Assessment Workplan. Ecological exposure pathways for each chemical of potential concern occurring onsite were also evaluated.

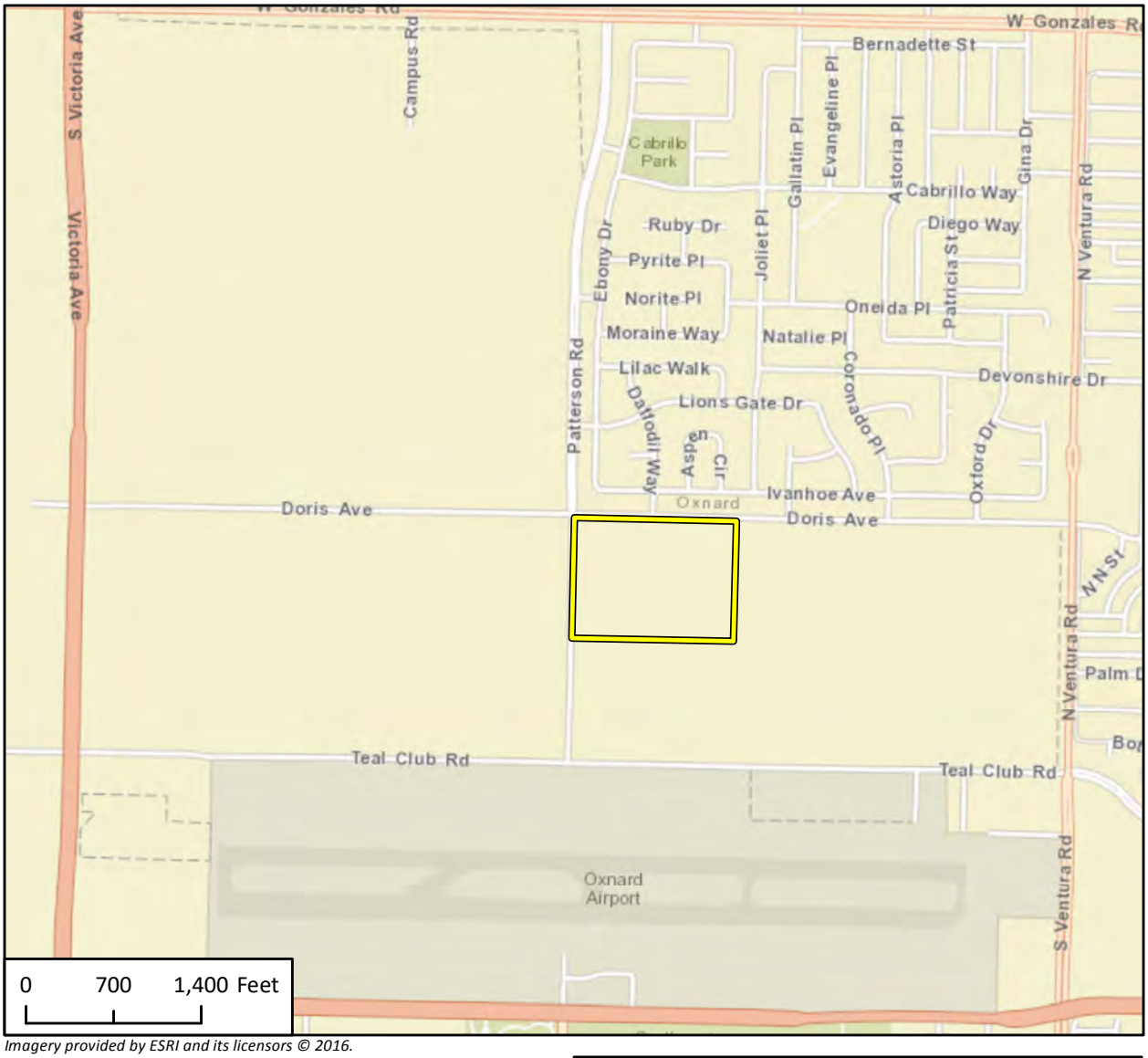
Project Description

The project is located at the southeast corner of Doris Avenue and Patterson Road in the City of Oxnard, California (Figure 1). The project site is bordered by Doris Avenue and residential neighborhoods to the north, Patterson Road and agricultural fields to the west, and unnamed dirt roads and agricultural fields to the east and south. The project includes the development of approximately 25 acres of agricultural land (historic and current use) for new elementary and middle schools. The project site is depicted in the Township 1 North and Range 21 West of the U.S. Geological Survey (USGS) Oxnard California 7.5-minute topographic quadrangle.

Literature Review

As part of the Ecological Screening Assessment, and to characterize the existing biological resources onsite and in the immediate vicinity, current and historic aerial photographs, topographic maps, soil survey maps, geologic maps, and climatic data related to the site and vicinity were reviewed.

Rincon conducted a search and review of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB) and Biogeographic Information and Observation System (BIOS), as well as the USFWS Critical Habitat Portal and National Marine Fisheries Service (NMFS) designated Critical Habitat data, to determine if there were any recorded observations of special status species, habitats, or other special status biological resources within the vicinity of the project site. Other resources reviewed include the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants of California, CDFW Special Animals List and Special Vascular Plants, Bryophytes, and Lichens List, and USFWS National Wetlands Inventory online mapper.



Imagery provided by ESRI and its licensors © 2016.

Project Location

N

Project Location

Figure 1

Biological Survey and Habitat Evaluation

Following the review of existing information, Rincon conducted a reconnaissance-level field survey on January 10, 2017, to identify flora and fauna within the proposed project site and to characterize the habitat present onsite. All biological resources, plant communities and habitat types within and adjacent to the project site, incidental observations of wildlife and botanical species, and other project features were recorded. Particular attention was given to identify the presence, or potential presence, of special status species as well as to identify any surface features that could transport contaminates (pathway assessment).

The identification of potentially suitable habitat for special status species was based on a suitability analysis level only and did not include definitive surveys (e.g., focused protocol-level plant or wildlife surveys) for the presence or absence of any species that may be present. The pathway assessment was based on physical transport of contaminants through any potential surface feature. A formal wetland and/or waters of the U.S. and State delineation(s) was not included as a component of the assessment.

Results

The project site is currently being used to grow cilantro (*Coriandrum sativum*) and was historically used to grow a variety of agricultural crops. Due to the current and historical agricultural land use, native plant and wildlife species occurring onsite are limited, and common species expected to occur in this type of environment were observed. No special status species or suitable habitat for special status species were observed during the survey. The site is not mapped as a wildlife corridor, nursery site, critical habitat, or wetland. Plant species observed onsite include lamb's quarters (*Chenopodium album*), sow thistle (*Sonchus oleraceus*), cheeseweed mallow (*Malva parviflora*), Shepherd's purse (*Capsella bursa-pastoris*), mustard (*Brassica* sp.), common purslane (*Portulaca oleracea*), filaree (*Erodium* sp.), cabbage (*Brassica* sp.), cilantro, nettle species, and non-native grass (*Bromus* sp.). Plant species observed, aside from the cilantro crop, are species that typically become established in disturbed/ruderal environments. These plant species were sparsely located throughout the site and did not contribute to any substantial habitat or biological value. Wildlife observed onsite and adjacent to the site include house finch (*Haemorhous mexicanus*), yellow-rumped warbler (*Setophaga coronata*), Eurasian collared dove (*Streptophelia decaocto*), American crow (*Corvus brachyrhynchos*), black phoebe (*Sayornis nigricans*), and California towhee (*Melozone crissalis*). Wildlife species occurring onsite, primarily birds, were observed foraging among the cilantro plants and drinking water that originated from field irrigation. Although not observed, reptiles such as the western fence lizard (*Sceloporus occidentalis*) and mammals such as the house mouse (*Mus musculus*) may also occur onsite.

All wildlife species observed onsite are commonly observed in urban and agricultural environments and are highly mobile. Although the site provides somewhat limited foraging habitat for wildlife, it does not provide natural or sensitive wildlife habitat. Wildlife species observed will readily use adjacent lands for foraging, breeding, nesting, etc. Additionally, due to the frequent tilling of the project site for agriculture, no wildlife burrows or burrowing animals were observed. The nearest natural wildlife habitat to the project site occurs approximately 1.75 miles north in the Santa Clara River.

Ecological Pathway Assessment

A complete exposure pathway includes the following elements: source of contaminant, transport media, exposure point, exposure route, and receptor population. Undisturbed natural habitat, perennial surface water bodies, and sensitive riparian habitats do not occur onsite or adjacent to the site. Due to the lack of undisturbed natural habitat, perennial surface water bodies, and sensitive riparian habitat, sensitive

biological resources are not expected to occur. Therefore, a complete exposure pathway, via soil or surface flow, to wildlife and plant species and their habitats does not occur.

Conclusion

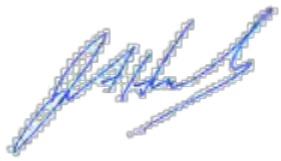
As previously mentioned, the project site and adjacent lands were historically used for agriculture and no sensitive biological resources are expected to occur on, or adjacent to, the site, primarily due to lack of undisturbed natural habitat. Therefore, the proposed project is not expected to result in potential contaminant exposure to wildlife, plants, or habitat.

Rincon Consultants, Inc., on behalf of ATC Group Service, LLC, is committed to providing exceptional environmental consulting services for this project. Please contact us if you have any questions or need any additional information.

Sincerely,

Rincon Consultants, Inc.

James Rasico, CISEC
Associate Biologist



John Hindley, PhD
Senior Biologist

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

May 4, 2017

Ms. Lisa Cline
Deputy Superintendent
Business and Fiscal Services
1051 South A Street
Oxnard, California 93030

APPROVAL OF PRELIMINARY ENVIRONMENTAL ASSESSMENT REPORT – PROPOSED NEW ELEMENTARY AND MIDDLE SCHOOLS, SOUTHEAST CORNER OF DORIS AVENUE AND PATTERSON ROAD, OXNARD, CALIFORNIA 93030 (SITE CODE: 304663)

Dear Ms. Cline:

The Department of Toxic Substances Control (DTSC) reviewed the Preliminary Endangerment Assessment Report (PEA) prepared by ATC Group Services LLC on behalf of the Oxnard School District (District), dated March 29, 2017 and received electronically on April 14, 2017. The PEA was revised in response to DTSC comments on the Draft version forwarded in a letter dated March 15, 2017, and subsequent comments forwarded electronically on March 29, 2017 and April 12, 2017. The PEA includes site background information, and presents investigation results and conclusions and recommendations based on a risk screening evaluation at the proposed new elementary and middle schools site (Site).

In addition, the District notified DTSC on April 27, 2017 that it has complied with all public review and comment requirements for the PEA pursuant to Option A (Ed. Code § 17213.1, subd. (a)(6)(A)). The District made the PEA available for public review and comment from March 23 through April 24, 2017 and a public hearing was held on April 19, 2017. No public comments were received regarding the PEA.

According to the PEA, the proposed 25-acre school site, depicted on the figure enclosed herein, is located at the southeast corner of Doris Avenue and Patterson Road in the City of Oxnard, California. According to the Phase I Environmental Site Assessment, the area was used for agriculture from 1940 to present. A closed Leaking Underground Storage Tank (LUST) site is located approximately 2,000 feet east of the site, which received regulatory closure in 1998. A plugged and inactive oil well is located approximately 475 feet south of the Site. The Site is bordered by residential

development on the north, and agricultural land on the east, west, and north. To evaluate the impact from residual agricultural chemicals and the off-site oil well, the Site was investigated for organochlorine pesticides (OCPs) and metals in soil, and methane and hydrogen sulfide in soil gas.

Based on information presented in the PEA, Toxaphene was the only constituent detected at concentrations in excess of the risk screening levels. Risk screening evaluation using school based scenario indicate that the Site does not pose a significant risk to students and staff, and is suitable for use as a school. Risk screening using residential based scenario indicate potential risk to future residents. The PEA Report recommends land use covenant (LUC) to limit the Site's future use to non-residential purposes, along with a soil management plan (SMP).

Based on review of the PEA, a release or threatened release of hazardous material or the presence of a naturally occurring hazardous material, which would pose a threat to public health or the environment under school land use, was not indicated at the Site. Therefore, DTSC concurs with the conclusion of the PEA that a LUC for the Site is required and hereby approves the PEA.

If you have any questions regarding this project, please contact Xihong Scarlett Zhai, Project Manager, at (714) 484-5316 or by e-mail at Xihong.Zhai@dtsc.ca.gov, or contact me at (714) 484-5368 or by e-mail at Shahir.Haddad@dtsc.ca.gov.

Sincerely,

Shahir Haddad, P.E.
Supervising Engineer
Brownfields Restoration and School Evaluation Branch
Brownfields and Environmental Restoration Program

kl/xsz/sh

Enclosure

cc: See next page

cc: (via e-mail)

Mr. Ben Chevlen, P.G.
Program Manager
ATC Group Services LLC
Ben.Chevlen@atcassociates.com

Mr. Greg Buchanan, P.G.
Senior Project Manager
ATC Group Services LLC
Greg.Buchanan@atcassociates.com

Mr. Shahir Haddad
Supervising Engineer
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Dr. CY Jeng
Staff Toxicologist
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Mr. Joe Hwong
Senior Geologist
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Joe.Hwong@dtsc.ca.gov

Brownfields Restoration and School Evaluation Branch Reading File

LEGEND

SITE BOUNDARY

N

0 200

Approximate Scale in Feet

SCALE: 1" = 200'

SITE PLAN

DORIS AVENUE AND NORTH PATTERSON ROAD
OXNARD, CALIFORNIA

PROJECT NUMBER: 1011600826	PHASE: 1	FIGURE 1
REVIEW BY: G. BUCHANAN	DRAWN BY: DAW	

ATC
25 Cupania Circle
Monterey Park, CA 91755
Ph: (323) 517-9780 *** Fax: (323) 517-9781

FILE: W:\Oxnard School District (45457)\1011600826- Proposed Academy Site (Doris & Patterson)\Cad\1011600538_SP_Doris_Patterson_Oxnard SD_9-27-16 revised.dwg May 03, 2017

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

25 Cupania Circle
Monterey Park, CA 91755
Telephone 323-517-9780
Fax 323-517-9781
www.atcgroupservices.com

May 17, 2017

Oxnard School District
1051 South A Street
Oxnard, CA 93030

SUBJECT **Soil Management Plan**
Proposed Elementary and Middle Schools
Southeast Corner of Doris Avenue and North Patterson Road
Oxnard, California
ATC Project No. 1011600893

To whom it may concern,

As recommended in ATC Group Services LLC's (ATC's) *Preliminary Endangerment Assessment (PEA) Report*, dated March 29, 2017, ATC has prepared this Soil Management Plan (SMP) to attempt to mitigate potential risks to human health and the environment in the event of future construction and/or land improvement activities at the site. Shallow soil beneath the site has been shown to contain residual concentrations of pesticides which are believed to have originated during historical agricultural usage of the site. The Department of Toxic Substances Control (DTSC) has determined that adherence to this SMP and the completion of a Land Use Covenant Agreement restricting usage of the site to non-residential purposes are satisfactory to mitigate potential hazards associated with residual pesticide concentrations at the site.

OBJECTIVE

The primary objective of this SMP is to provide protocols for the management of soil potentially contaminated with residual amounts of pesticides at the site, as shown on **Figure 1**. This SMP is a tool for contractors to utilize when performing activities that intrude into the soil at the site, such as excavation, grading, and utility installation. This SMP provides guidance regarding how to handle contaminated soil that may be encountered, as well as how to identify, sample, and properly dispose of contaminated soil within the project area, and what personal protective equipment (PPE) is appropriate for site workers coming into contact with potentially contaminated soil.

BACKGROUND

The property located at the southeast corner of Doris Avenue and Patterson Road consists of a rectangular-shaped, 25-acre parcel of land, which is currently utilized as an agricultural field. The Oxnard School District (OSD) is planning to develop the site into elementary and middle schools. This Preliminary Endangerment Assessment (PEA) report was prepared for the site as required by the Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup Division.

The site is currently an actively farmed agricultral field. Cardno ATC (now ATC) prepared a *Phase I Environmental Site Assessment* (ESA) report for the site, dated March 5, 2014. In the report, ATC identified historical usage of the site for agricultural purposes from at least 1940 to the present. A closed Leaking Underground Storage Tank (LUST) site is located approximately 2,000 feet east of the site, where a 550-gallon and a 3,000-gallon gasoline-containing underground storage tank (UST) were present. The site received regulatory closure in 1998. The Phase I report concluded that the LUST site does not represent a *Recongized Environmental Condtion* (REC) to the subject property. No other onsite or offsite RECs were reported in the Phase I ESA.

In December of 2016, ATC advanced soil borings SB-1 through SB-36 to 2.5 feet below ground surface (bgs) in a grid pattern across the site. Soil samples were collected using a hand auger, and stored in eight-ounce jars.

The 36 soil samples collected from 0 to 0.5 feet bgs for OCP analysis (EPA Method 8081A) were combined in the laboratory from four adjacent soil samples, for a total of nine composite samples and one duplicate sample. The 36 soil samples collected from 2 to 2.5 feet bgs were placed on hold in the laboratory pending analysis of the surface samples. Toxaphene was the only pesticide compound that exceeded its Regional Screening Level (RSL) for residential properties. Due to detection of various OCPs in the 0 to 0.5-foot composite samples, the two-foot composite samples were also analyzed. Toxaphene was detected at lower concentrations in the two-foot samples compared to the 0.5-foot samples.

Nine discrete non-contiguous soil samples and one duplicate were analyzed for arsenic using EPA Method 6010B. The soil samples exceeded the Regional Screening Level (RSL) for residential properties. However, arsenic results did not exceed the DTSC-suggested background screening level of 12 milligrams per kilogram (mg/kg).

Soil vapor samples were collected from ten direct-push boring locations at five and 10 feet bgs, respectively. Samples were collected following applicable DTSC and Regional Water Quality Control Board (RWQCB) protocols for soil vapor surveys. The vapor samples were analyzed for methane using EPA Method 8015M. A maximum of 15.26 parts per million by volume (ppmv) was detected near the northeastern corner of the site. This is equivalent to approximately 0.03 percent of the Lower Explosive Limit (LEL), and is not considered to be a hazard to the site.

Each vapor sample was tested for hydrogen sulfide using a hand-held field instrument. No hydrogen sulfide was detected in soil gas at the site.

A Human Health Screening Evaluation was performed using soil sample results from the December 2016 site assessment. The assessment evaluated potential soil exposures associated with four potential receptors, including the hypothetical future resident, future site worker, future site student, and construction worker. Estimated upper-bound hazard indices ranged from 0.014 for the site worker scenario to 0.2 for the residential scenario. The results of the risk assessment indicated that the presence of OCPs in soil is not expected to result in adverse, non-cancer health impacts to any of the potential receptors evaluated.

Estimates of potential cumulative upper-bound lifetime incremental cancer risks ranged from $6.3x10^{-6}$ for the hypothetical future resident to $2.6x10^{-7}$ for the construction worker scenarios. Upper-bound lifetime incremental cancer risk estimates for the school site receptors ranged from $1.3x10^{-6}$ to $6.9x10^{-7}$ for the site worker and student, respectively. The lifetime incremental cancer risk estimate for the hypothetical residential receptor exceeds the point of departure of $1x10^{-6}$ typically utilized by DTSC to determine whether a removal action is warranted to protect human health for unrestricted land uses. The lifetime incremental cancer risk estimates for the site worker, site student, and construction worker are consistent with or below the $1x10^{-6}$ point of departure. Based on the results of the risk, the concentrations of OCPs, including toxaphene detected in soil samples collected during this investigation do not present a significant risk to future site workers, students or construction workers. Consequently, no additional mitigation or risk management measures would be warranted for the proposed development and use of the property as a school site.

In general, the vertical extent of toxaphene in soil appears to be limited to the first few feet below ground surface. The limited vertical extent of toxaphene is consistent with the historical application of this now banned pesticide.

SOIL MANAGEMENT PLAN

Health and Safety

Contractors performing invasive activities at the site (ex. excavation, grading, and trenching) will be required to utilize a site-specific health and safety plan (HASP) that will address individual tasks and chemical exposure scenarios as they relate to soil management practices and any planned construction and land development activities. All individuals working within close proximity of disturbed soil will be required to read and sign the HASP to acknowledge their understanding of the information. The HASP will describe hazardous conditions that may be encountered, and will prescribe the necessary safety protocols to protect employees from these hazards. The HASP will be reviewed by the project management team and then reviewed and approved for field use by the site health and safety officer or site supervisor. The HASP will be implemented and enforced by the assigned site health and safety officer or site supervisor, as appropriate.

A generalized HASP for the site has been prepared by ATC and is included as **Attachment 1**; however, all contractors will be required to prepare task-specific Job Hazard Analyses (JHAs) for the tasks they are going to perform (blank JHA forms are included in the HASP).

Soil Management

Based on data collected to-date, residual pesticides in site soil are widespread and do not exhibit point-source contamination profiles (i.e. they appear to have originated from the application of pesticides, not leaking containers or intentional dumping of pesticides at the site). ATC recommends that the proposed school site be designed to further minimize the potential for direct contact with OCP impacted soil. Representative measures may include, but are not necessarily limited to, import of clean, documented fill material for use in planters, playgrounds, and playing fields within the first foot of ground surface, and removing topsoil from planned playfield areas for use beneath asphalt-covered areas. These additional measures would serve to further reduce and/or eliminate exposures to residual OCPs in soil.

Dust suppression may be necessary to reduce the spread of airborne soil particles that may contain adsorbed-phase contaminants. Whenever site soil is being removed from the work area and/or moved with heavy equipment, that soil shall be lightly sprayed with water to minimize dust. Any dirt tracked off-site due to on-site construction activities being performed at the site shall be swept up daily. Any soil stockpiles segregated on the basis of confirmed or suspected soil contamination shall be lightly sprayed with water to minimize dust, and covered with tarps or other effective covers overnight.

Equipment decontamination can be completed by scraping excess soil form larger heavy equipment such as front end loaders and backhoe buckets. All recovered soils should be temporarily stockpiled on-site for laboratory analysis and possible off-site disposal. Smaller hand-held equipment can be decontaminated by pressure washing and/or scrubbing with an Alconox® soap solution (or equivalent) and rinsed with clean potable water. Equipment decontamination should be performed in a designated portion of the site, preferably on plastic sheeting.

The first two feet of topsoil should be excavated and temporarily stockpiled on-site for sampling and laboratory analysis. All stockpiled soils will be covered daily with plastic sheeting. A four-point composite sample shall be collected from each stockpile at different locations and depths for each 1,000 cubic yards (or fraction thereof) of soil generated. The individual soil samples will be retained pending analysis of the composite samples. The composites sample will be analyzed for OCPs by EPA Method 8081A (or equivalent). The laboratory results shall be compared to the most recent updated version of EPA's and DTSC's screening levels divided by four. If the "adjusted" screening level is exceeded, then the individual point soil sample results will be compared to the "un-adjusted" screening level to determine if the suspect soil should be removed from the site.

In the event that contaminated soil is encountered (defined as having one or more analytes present at concentrations exceeding their respective screening levels), the DTSC shall be contacted prior to the soil being removed from the site. Additionally, prior to the contaminated soil being removed from the site, the contractor performing the work shall obtain a waste acceptance letter from the intended disposal facility (including, but not limited to additional soil analyses or sampling frequency, as required by the disposal facility), and verify that the facility is authorized to accept the profiled waste. Excavated contaminated soil shall not be reworked into site soils, or used as backfill materials in any site excavations. DTSC notification is not required for the on-site reworking or off-site disposal of soil not found to be contaminated. Soil stockpiled for off-site disposal should not remain on-site for more than 90 days.

In the event that off-site soil disposal activities necessitate the importation of fill soil, the contractor shall follow the guidance presented in the DTSC's *Information Advisory Clean Imported Fill*, dated October 2001 (or any updated version as appropriate). A copy of the most-current version of the DTSC advisory is available online at:

https://www.dtsc.ca.gov/Schools/upload/SMP_FS_Cleanfill-Schools.pdf

Soil Analysis and Disposal

Prior to removing any soil from the site for disposal, soil samples for waste profiling purposes shall be submitted under chain-of-custody to a California State-certified analytical laboratory. The waste profile samples will be analyzed for OCPs by EPA Method 8081A (or equivalent). Stockpiled soil shall not be disposed of until the laboratory results are received and provided to the intended landfill for profiling purposes.

Regulations have been established by the EPA and DTSC to protect human health and the environment that include the known contaminants of potential concern detected in soil at the site. Analytical results should be compared to the most recent updated versions of the EPA's and DTSC's screening levels, as appropriate. In the event that both the EPA and DTSC have established screening levels for a given constituent, the most-conservative value shall be utilized. The most-current EPA screening levels are available on-line at:

https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016

The most-current DTSC screening levels are available on-line at:

https://www.dtsc.ca.gov/AssessingRisk/upload/HHRA_Note_3_-2016-06.pdf

Reporting

In the event that contaminated soil is encountered, a summary report will be prepared by the contractor and/or environmental consultant that will include a description of field activities performed, a copy of the laboratory analytical report, a diagram showing where the contaminated soils originated, and disposal documentation. The summary report will include comparisons of laboratory analytical results to the then-current EPA and/or DTSC screening levels.

Reports will be submitted to DTSC within 60 days following the completion of field activities. The property owner shall maintain copies (either electronic or physical) of all submitted reports for a minimum of ten years past their date of issue, and shall make those reports available to any prospective buyers of the property within that time frame.

Miscellaneous

If the expected scope of work will require a storm water pollution prevention plan (SWPPP), excavation and shoring plan, and/or a spill contingency plan (or any similar documents), those document(s) will be prepared by a qualified individual prior to commencing with the construction activities.

CLOSING

This Soil Management Plan has been prepared for Oxnard School District for the above subject location. ATC provided these services consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. Should you have any questions or require additional information regarding this Soil Management Plan, please contact the undersigned.

Sincerely,
ATC Group Services LLC

Greg Buchanan, P.G.
Senior Project Manager
Direct Line +1 323 517 9680
Email: greg.buchanan@atcassociates.com

J. Russell Greisler, P.G.
Senior Geologist
Direct Line +1 323 517 9648
Email: russ.greisler@atcassociates.com

Attachments:

Table 1 – Response to May 17, 2017 DTSC Letter
Figure 1 – Site Plan
Attachment 1 – Health and Safety Plan

Table 1 - Response to May 12, 2017 DTSC Letter
Proposed New Elementary and Middle Schools
Southeast Corner of Doris Avenue and Patterson Road
Oxnard, California

Item Number	DTSC Comment	ATC's Response
1	*During the excavations, DTSC recommends the shallow soils be segregated from the deeper soils since the OCP-impacted soils were only encountered at shallow depths. When collecting soil samples for evaluation of potential onsite reuse, DTSC requests that the samples be collected from different locations and different depths from the stockpiles.*	ATC will add the proposed recommendations to the Soil Management Plan (SMP).
2	*The PEA, dated March 29, 2017, proposed some precautionary measures to reduce exposure to residual OCPs in soil, such as replacement of the current topsoil with clean fill for potentially "high-contact" areas (e.g., planters, playgrounds, and playing fields). Please clarify whether these precautionary measures will be integrated into the SMP.*	The language in the PEA regarding precautionary measures to reduce exposure to residual OCPs has been moved from the "Background" Section to the "Soil Management" Subsection of the SMP.
3	<u>Page 3, second to last paragraph:</u> *When determining whether the soil from a certain stockpile can be reused on site, HERO recommends using the screening levels for residential land use (as school-based screeing levels are not available) for evaluating stockpile soil sampling results. For composite samples,individual soil samples prior to compositing should be retained and the screening levels should be adjusted by dividing the number of points (four in this case) for composite. If any composite sampling data exceed the "adjusted" screening levels, the individual soil samples should be analyzed for comparison with the "un-adjusted" screening levels to determine if the soil should be removed from the site.*	HERO's recommendations will be addressed in the SMP.

LEGEND

SITE BOUNDARY

N

0 200

Approximate Scale in Feet

SCALE: 1" = 200'

SITE PLAN

DORIS AVENUE AND NORTH PATTERSON ROAD
OXNARD, CALIFORNIA

PROJECT NUMBER: 1011600826	PHASE: 1	FIGURE 1
REVIEW BY: G. BUCHANAN	DRAWN BY: DAW	

ATC
25 Cupania Circle
Monterey Park, CA 91755
Ph: (323) 517-9780 *** Fax: (323) 517-9781

FILE: W:\Oxnard School District (45457)\1011600826- Proposed Academy Site (Doris & Patterson)\Cad\1011600538_SP_Doris_Patterson_Oxnard SD_9-27-16 revised.dwg May 03, 2017

HEALTH AND SAFETY PLAN

Prepared By:
ATC Group
25 Cupania Circle
Monterey Park, CA 91755
Branch #10116
Los Angeles, California

Prepared For:
Oxnard School District
Proposed Elementary and Middle Schools
Southeast Corner of Doris Avenue and North Patterson Road
Oxnard, CA 93030

ATC Project No. 1011600893

ATC GROUP SERVICES
HEALTH AND SAFETY PLAN (HASP)

CLIENT: Oxnard School District PROJECT NUMBER: 1011600893

SITE NAME: Proposed Elementary and Middle Schools

SITE LOCATION: Southeast Corner of Doris Avenue and North Patterson Road

PROJECT DESCRIPTION: Generalized site activities which intrude into subsurface soil at the site.

PREPARED BY: **Greg Buchanan** TITLE: **Senior Project Manager** DATE PREPARED: **3/22/17**

Greg Buchanan		4/17/17
Senior Project Manger	Signature	Date

This Health and Safety Plan (HASP) has been written for the use of the Oxnard School District and its employees and subcontractors. ATC assumes that all workers utilizing this HASP are properly trained and experienced; however, ATC does not guarantee the health or safety of any person performing work at this Site. This HASP has been prepared for the express purpose of mitigating risk associated with worker exposure to residual pesticides present in soil at the site. This HASP does not address potential hazards related to the physical activities to be performed at the site.

Due to the potential hazardous nature of this Site and the activity occurring thereon, it is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this Site. The health and safety guidelines in this Plan were prepared specifically for this Site and should not be used on any other Site without prior research by trained health and safety specialists.

ATC claims no responsibility for use of this Plan by others. The Plan is written for the specific Site conditions, purposes, dates, and personnel specified and must be amended if these conditions change.

TABLE OF CONTENTS

EMERGENCY INFORMATION

Site Emergencies Call:

Ambulance	**911**	**Local number: (805) 278-8160**
Fire:	**911**	**Local number: (805) 385-7222**
Police:	**911**	**Local number: (805) 385-8182**

Nationwide Call Before You Dig **811 (USA Dig Alert)**

Poison Control Center: **(800) 222-1222**

National Response Center: **(800) 424-8802**

Spills:	**Local USEPA Office**	**1-866-EPA-WEST (Region 9)**
	State Environmental Agency	**1-916-323-2514 (Emergency)**

Hospital

808-988-2500

St John's Regional Center
1600 N. Rose Avenue
Oxnard, CA 93030

See map for directions to hospital. Approximate travel time is 11 minutes

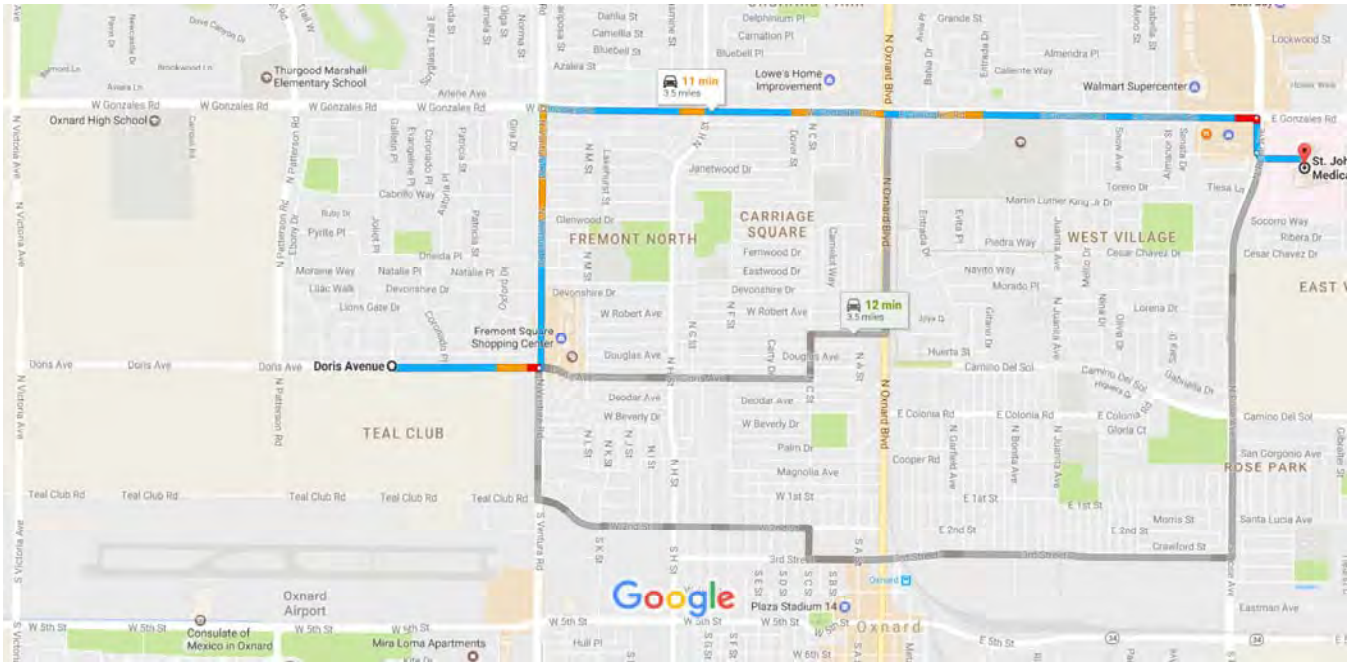
EMERGENCY MEDICAL ROUTE TO HOSPITAL

St John Regional Center
1600 N. Rose Avenue
Oxnard, CA 93030

Doris Ave, Oxnard, CA to St. John's Regional Medical Center

Drive 3.5 miles, 11 min

Southeast Corner of Doris Avenue and North Patterson Road



Doris Ave

Oxnard, CA

1. Head south on Doris Ave toward Doris Ave — 0.4 mi
2. Turn left onto N Ventura Rd — 0.8 mi
3. Turn right onto W Gonzales Rd — 2.1 mi
4. Turn right onto N Rose Ave — 0.1 mi
5. Turn left onto Mc Grath Dr W
   Destination will be on the right — 0.1 mi

St. John's Regional Medical Center

1600 N Rose Ave, Oxnard, CA 93030

1.0 - INTRODUCTION

1.1 Scope and Applicability of the Site Health and Safety Plan

This HASP has been prepared by ATC for any activities that involve the disturbance of subsurface soil within the proposed elementary and middle school sites, located southeast of Doris Avenue and North Patterson Road in Oxnard, California.

The health and safety protocols established in this Plan are based on the Occupational Safety and Health Administration (OSHA) Regulations, past field experiences, specific Site conditions, and chemical hazards known or anticipated to be present from available Site data. The HASP is intended solely to address hazards associated with residual contamination previously encountered in site soil. This HASP does not cover hazards unrelated to the encountered soil contamination (ex. hazards associated with operation of heavy equipment, shoring, etc.). Specifications herein are subject to review and revision based on actual conditions encountered in the field during Site characterization activities. Such changes may be instituted by using the HASP List of Approved Amendments and/or Changes (see Appendix C).

Before Site operations begin, all employees covered by this plan (defined as those individuals working within close proximity of disturbed soil, involved in these operations will have read and understood this HASP and all revisions. All Site personnel have the authority to "Stop Work" if unsafe conditions are present or discovered during Site activities. Before work begins, all affected workers will sign the Health and Safety Plan Acknowledgment Form. By signing this form, all individuals recognize the requirements of the HASP, known or suspected hazards, and will adhere to the protocols required for the project Site.

This HASP is intended to complement, rather than supersede, any HASP prepared for the site by the Oxnard School District or any of their contractors. The scope of this HASP has been limited to the hazards associated with worker contact with pesticide-contaminated soil present at the site.

2.0 – TASK/OPERATION HEALTH AND SAFETY RISK ANALYSIS SUMMARY

This section of the HASP describes the safety and health hazards associated with the Site work and control measures selected to protect workers. The purpose of the Job Safety Analysis (JSA) is to identify the routine safety and health hazards associated with the routine Site tasks and operations. Using this information, appropriate control methods are selected to eliminate the identified risks or effectively control them.

2.1 Job Safety Analysis (JSA)

Task specific JSAs anticipated for the work are included in Appendix A. A single JSA may be used for a task/operation performed in multiple locations if the hazards, potential exposures, and controls are the same at each location.

If new JSAs or modified JSAs are required, site workers and/or contractors will consult with their management prior to proceeding. Blank JSA forms are included in Appendix A.

3.0 - PERSONAL PROTECTIVE EQUIPMENT

At a minimum, workers handling soil or cleaning equipment covered in soil are required to wear disposable nitrile (or equivalent) gloves when in contact with site soils. Depending on the task being performed, some or all of the personal protective equipment listed below may be necessary.

- Work uniform – Long pants and shirt with sleeves (no tank tops)
- ANSI cut and abrasion resistant gloves
- Chemical-resistant boots with steel toe
- Safety glasses with side shields
- High Visibility Reflective Vest
- Hard hat
- Hearing protection

Refer to the JSA prepared for the task being performed to determine which of the above-listed additional personal protective equipment is necessary.

4.0 - SITE SECURITY AND CONTROL

4.1 Work Zones

Restricted Site areas will include, but not necessarily be limited to, the following zones:

- **Exclusion Zone or Hot Zone** - any area where contamination is either known or likely to be present in concentrations that could pose a threat to human health and safety or that potential for harm to personnel exists because of the type of work activities being conducted. Appropriate PPE and warning signs should be utilized in this area.
- **Contamination Reduction Zone** - any area where workers conduct personal and equipment decontamination.
- **Support Zone** - areas where access is controlled, but the chance to encounter hazardous materials or conditions are minimal.

Access to the work zones will be controlled by work zone delineators (e.g. traffic cones, flags, vehicles, DOT approved devices, temporary or permanent fencing, and/or safety barrier tape).

In the event on-site personnel must upgrade their personal protective equipment, the work zones may require modification in order to provide for the safety of nearby personnel not associated with this work.

4.2 Site Communication

A loud and clear form of communication should be made available for Site personnel entering the work zones. Site communication may be in the form of hand signals, voice, or other communication devices. All forms of communication should be understood by all workers on the Site prior to starting work.

5.0 - DECONTAMINATION PROCEDURES

5.1 Personnel Decontamination

All personnel must complete appropriate decontamination procedures in a way that is responsive to actual Site conditions before leaving the Site. The decontamination of personnel and equipment will be performed within the exclusion and contamination reduction zones. If warranted, wash tubs containing an appropriate decon solution and soft bristle brushes will be used to decontaminate personal protective clothing and boots. Potable water will be used for the final rinse. In general, the four types of decontamination solutions to be considered for PPE include:

- Water for removal of low-molecular weight hydrocarbons, inorganic compounds, salts, some organic acids, and other polar compounds.
- Dilute acids (vinegar) for removal of basic (caustic) compounds, amines, and hydrazines.
- Dilute bases (soaps and detergents) for removal of acidic compounds, phenols, thiols, and some nitro and sulfonic compounds.
- Organic solvents for removal of nonpolar compounds (organic).

When performing personnel decontamination activities, complete the following steps (when applicable):

- Establish a segregated equipment drop
- Remove disposable, outer boot covers, if applicable
- Remove chemical resistant, outer gloves, if applicable
- Remove hard hat and goggles, safety glasses, or face shield, if applicable
- Remove disposable, inner gloves

If need arises, a specific plan will be developed for decontamination procedures shown below.

STATION #1: _____

Equipment Required: _____

_____

STATION #2: _____

Equipment Required: _____

_____

STATION #3: _____

Equipment Required: _____

_____

STATION #4: _____

Equipment Required: _____

5.2 Equipment Decontamination

Personnel will decontaminate field equipment appropriately. This may include manual removal of gross contamination with shovels or other tools. If a high-pressure, hot water sprayer is utilized, the possibility of a splash and/or mist inhalation hazard, the task should be performed using appropriate personal protective equipment (goggles or face shield and respiratory protection) at a minimum.

Field tools (ex. shovels) may be scrubbed visually clean with water and a stiff, long-bristled scrub brush.

Equipment Decontamination

Gross Removal By:

X	Hand Scrubbing
	Cold High Pressure Wash
	Hot High Pressure Wash
X	Steam Cleaning
	Other (specify)
X	Clean Rinse
X	Decon solution (specify) Dilute Liquinox

5.3 Disposal of Decontamination Wastes

All materials and equipment used for decontamination should be disposed of in accordance with local, State, and/or Federal Regulations.

Decontamination Waste Water

Collection (specify how): Containerize in drum.

Direct Discharge (specify how and where): NA

Pre-Treatment (specify): NA

Disposal (specify how and where): Removal of drummed waste/discharge by licensed waste hauler.

6.0 - STANDARD OPERATING PROCEDURES

The following Standard Operating Procedures (SOPs) will be applied to each location and activity where work is performed. As hazards increase or decrease on the Site, the applicability of each SOP must be reevaluated.

6.1 Personnel Precautions

1. Eating, drinking, chewing gum or tobacco, smoking, and any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in the exclusion and contamination reduction zone or in any area known to be contaminated.
2. When decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.
3. Contact with contaminated or suspected contaminated surfaces should be avoided when possible.
4. All personnel must be familiar with Standard Operating Procedures and any additional instructions and information contained in this HASP. All workers will read the HASP before entering the work zone.
5. All personnel will be familiar with the chemicals potentially present in site soils. The chemical hazard information for the known on-site chemicals of concern are included in Appendix B of this HASP.

6.2 Operations

1. All personnel going to the Site must be adequately trained and thoroughly briefed on anticipated hazards, equipment, safety practices, emergency procedures, and communications.
2. Personnel and equipment in the contaminated area should be minimized, consistent with effective Site operations.
3. Work areas for various operational activities will be established.
4. Procedures for leaving a contaminated area will be planned and implemented before going to the Site. Work areas and decontamination procedures will be established based on expected Site conditions.

7.0 - CONTINGENCY PLAN

This section of the HASP describes potential emergencies at this Site and the procedures for responding to those emergencies.

7.1 Medical Emergencies

1. The name, address, telephone number, travel distance, and travel time to the nearest medical treatment facility are found in the Emergency Information section (see Emergency Info-1) of this HASP. A map and direction for locating the facility is available in the Emergency Information section of this HASP.
2. Any person who becomes ill or injured in the exclusion zone must be decontaminated as well as possible with consideration to which risk will be greater; the spread of contamination or the health of the individual. If the injury or illness is minor, full decontamination (remove contaminated clothing and wash hands and face with soap and water, See Section 5.0) should be completed and first-aid administered before transport. If the patient's condition is serious, the decontamination requirement may be waived. First-aid should be administered while awaiting an ambulance or paramedics.
3. The following steps should be followed if an injury or illness case occurs:
    - Check the Scene.
    - If safe to do so, check the condition of the injured.
    - Call 911 if the victim is unconscious or your training dictates to do so.
    - Care for the injured. Always use “Universal Precautions”.

7.2 Site Evacuation Conditions

The following conditions will necessitate the cessation of field work in the area of concern, withdrawal from the work area, and revisions to this HASP:

- Fires and/or explosions
- Unexploded ordnance is detected
- A major incident or injury occurs
- Flammable atmosphere readings above 10 percent LEL
- Oxygen readings above 23.5 percent oxygen concentration
- Oxygen readings at or below 19.5 percent oxygen concentration
- PID readings over 50 ppm sustained for more than 5 minutes
- Detector tube readings over the maximum Action Level for the contaminant specified

APPENDIX A
Job Safety Analysis Forms

JSA JOB SAFETY ANALYSIS

For RM Department Use
JSA NO: EM-002f
Primary Job Category: Environmental Management

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Soil Handling		**08/02/16**

PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 1 of 2

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ OTHER:
☐ HARD HAT	☐ COTTON, LEATHER, OR CRAFTSMAN GLOVES	☐ SUPPLIED AIR RESPIRATOR	☐ OTHER:
☐ SAFETY TOED BOOTS	☒ CHEMICAL RESISTANT GLOVE: **Nitrile**	☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:
☐ FACE SHIELD			☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☐ OTHER:	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **PID**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

STOP WORK

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1 JOB STEPS	2 POTENTIAL HAZARDOUS CONDITIONS or UNSAFE PRACTICES	3 SAFE PROCEDURES and PREVENTATIVE MEASURES
Move equipment into place on project site	Pedestrians	• When backing equipment into place a spotter must be used. • Back-up alarm on equipment. • All employees/workers in the area should wear a traffic reflective vest.
	Other vehicles	• When backing equipment into place a spotter must be used. • Spotter must have on traffic safety vest. • Equipment driver should yield to other vehicles.
	Overhead obstacles	• Driver and spotter should walk the travel path and discuss the movement of the equipment. • When backing equipment into place a spotter must be used.
	Damage to private property	• When backing equipment into place a spotter must be used. • Driver and spotter should walk the travel path and discuss the movement of the equipment
Site setup	See JSA site setup	• See JSA site setup
Soil Handling	Chemical contact	• Wear nitrile gloves.
	Back injuries	• Follow safe lifting procedures of lifting with the legs not the back. • Avoid setting tools and other equipment on the ground. Set at waist level.
	Tripping hazards	• Maintain a clear path between the sample location and the preparation area. • Dry up water as quickly as possible.
Drum handling	See JSA drum handling	• See JSA drum handling
Decon	See JSA Decon	• See JSA Decon

JSA JOB SAFETY ANALYSIS

For RM Department Use
JSA NO: EM-002f
Primary Job Category: Environmental Management

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Soil Handling		**08/02/16**

PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 2 of 2

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ OTHER:
☐ HARD HAT	☐ COTTON, LEATHER, OR CRAFTSMAN GLOVES	☐ SUPPLIED AIR RESPIRATOR	☐ OTHER:
☐ SAFETY TOED BOOTS	☐ CHEMICAL RESISTANT GLOVE:	☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:
☐ FACE SHIELD			☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☐ OTHER:	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

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Please explain additional steps, changes or amendments to this JSA in the provided space below. Prior to starting work ensure that all employees understand and agree with the changes in this JSA.

JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Site Setup		**08/02/16**
PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 1 of 4

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ OTHER:
☐ HARD HAT	☐ COTTON, LEATHER, OR CRAFTSMAN GLOVES	☐ SUPPLIED AIR RESPIRATOR	☐ OTHER:
☐ SAFETY TOED BOOTS	☐ CHEMICAL RESISTANT GLOVE:	☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:
☐ FACE SHIELD			☐ OTHER:

REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☐ OTHER:	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

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1 JOB STEPS	2 POTENTIAL HAZARDOUS CONDITIONS or UNSAFE PRACTICES	3 SAFE PROCEDURES and PREVENTATIVE MEASURES
Drive around site	• Traffic	• Use defensive driving techniques
	• Pedestrians	• Yield to all pedestrians. • Use defensive driving techniques
Load/Unload equipment and supplies	• Vehicles	• When backing the drill rig, vehicles with trailers, or other large vehicles a spotter must be used. • Use barrier controls with a height of at least 36 inches. • Wear traffic reflective vest. • Caution tape or snow fence should be used to surround the work site.
	• Pedestrians	• Use barrier controls with a height of at least 36 inches. • Place signs indicating authorized personnel only at entrance to site. • When backing the drill rig, vehicles with trailers, or other large vehicles a spotter must be used. • Caution tape or snow fence should be used to surround the work site.
	• Weather	• Prevent heat and cold illnesses by: drinking water frequently and moderately; rest frequently; wear light colored clothing; eat light meals. • Adjust work schedule to avoid temperature extremes. • Sunscreen • Layer clothing to adjust to changing environmental temperatures • Avoid drinks with caffeine (coffee, tea, or soda) or alcohol. • Use the buddy system (work in pairs).
	• Slips, trips and falls	• Maintain housekeeping. • Set up work zone with enough room for staging of equipment and supplies such that there are aisle ways for walking and working.

JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Site Setup		**08/02/16**
PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 2 of 4

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ OTHER:
☐ HARD HAT	☐ COTTON, LEATHER, OR CRAFTSMAN GLOVES	☐ SUPPLIED AIR RESPIRATOR	☐ OTHER:
☐ SAFETY TOED BOOTS	☐ CHEMICAL RESISTANT GLOVE:	☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:
☐ FACE SHIELD			☐ OTHER:

REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☐ OTHER:	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

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1 JOB STEPS	2 POTENTIAL HAZARDOUS CONDITIONS or UNSAFE PRACTICES	3 SAFE PROCEDURES and PREVENTATIVE MEASURES
		• If on pavement or concrete sweep up loose sand, dirt or rock • Wear slip resistant steel toed boots. • Keep foot wear clean of mud and other debris. • Setup areas away from snow and ice. • If ice is present wear yak-traks on boots.
	• Insects and animals	• Look around area before setting up for the presence of bee nests and cob webs. • Do not disturb – leave them alone. • If stray dogs are present go indoors or the cab of the truck and wait for it to leave. Call animal control. • If you encounter bees or poisonous spiders leave the area and call the Project Manager. • Keep hands and feet out of areas you can not see.
	• Back Injuries	• Use proper lifting procedures – avoid lifting with the back and twisting. • Do not lift over 50 pounds without assistance.
	• Hand Injuries	• Wear work gloves – leather or craftsman while setting up. • Watch hand placement – always know where your hands are at. • Do not place your hand in direct path of a tool or between two objects.
	• Heavy Equipment	• Spotters must be used at all times when heavy equipment is being operated. • All onsite personnel must wear safety reflective vest. • Operator must follow spotters hand signals and remove hands from controls when not working. • Site personnel should only approach the spotter • Backup alarm is required on heavy equipment.

JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Site Setup		**08/02/16**
PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 3 of 4

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ OTHER:
☐ HARD HAT	☐ COTTON, LEATHER, OR CRAFTSMAN GLOVES	☐ SUPPLIED AIR RESPIRATOR	☐ OTHER:
☐ SAFETY TOED BOOTS	☐ CHEMICAL RESISTANT GLOVE:	☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:
☐ FACE SHIELD			☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☐ OTHER:	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

STOP WORK

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1 JOB STEPS	2 POTENTIAL HAZARDOUS CONDITIONS or UNSAFE PRACTICES	3 SAFE PROCEDURES and PREVENTATIVE MEASURES
Underground Utility Locate	• Vehicles	• Wear traffic reflective vest. • A spotter should walk with the utility locator looking for hazards whenever the locator is looking down.
	• Weather	• Prevent heat and cold illnesses by: drinking water frequently and moderately; rest frequently; wear light colored clothing; eat light meals. • Adjust work schedule to avoid temperature extremes. • Sunscreen • Layer clothing to adjust to changing environmental temperatures • Avoid drinks with caffeine (coffee, tea, or soda) or alcohol. • Use the buddy system (work in pairs).
	• Slips, trips and falls	• Wear slip resistant steel toed boots with ankle support. • Keep foot wear clean of mud and other debris. • If ice is present wear yak-traks on boots.
	• Insects and animals	• Look around area before setting up for the presence of bee nests and cob webs. • Do not disturb – leave them alone. • If stray dogs are present go indoors or the cab of the truck and wait for it to leave. Call animal control. • If you encounter bees or poisonous spiders leave the area and call the Project Manager. • Keep hands and feet out of areas you can not see.

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT

JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Site Setup		**08/02/16**

PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 4 of 4

☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ OTHER:
☐ HARD HAT	☐ COTTON, LEATHER, OR CRAFTSMAN GLOVES	☐ SUPPLIED AIR RESPIRATOR	☐ OTHER:
☐ SAFETY TOED BOOTS		☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ CHEMICAL RESISTANT GLOVE:		☐ OTHER:
☐ FACE SHIELD	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:

REQUIRED TOOLS/EQUIPMENT/SUPPLIES

☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☐ OTHER:	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

STOP WORK

ATC and Subcontractor employees must stop work and contact off-site senior personnel when a change in condition, process, or job phase develops on the project site that is not addressed by this JSA or within the project specific HASP. The JSA should be modified with new steps, hazards, and safe procedures agreed upon by all ATC and Subcontractor employees at the project site and approved by off-site senior personnel. Documentation of the modification and review by all affected personnel must take place.

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JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Field Work Observation and Note Taking		**08/02/2016**
PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 1 of 2

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST ☐ HARD HAT ☐ SAFETY TOED BOOTS ☐ SAFETY GLASSES ☐ FACE SHIELD	☐ LONG PANTS ☐ GLOVE _____ ☐ CHEMICAL RESISTANT GLOVE: ☐ HEARING PROTECTION	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED AIR RESPIRATOR ☐ CHEMICAL RESISTANT CLOTHING: ☐ GOGGLES	☐ GLOVE _____ ☐ GLOVE _____ ☐ GLOVE _____ ☐ OTHER: ☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER ☐ BUG REPELLENT ☐ TRAFFIC CONTROL DEVICES ☐ LADDER	☐ RATCHET WITH EXTENSION ☐ WELL MAGNET ☐ AIR MONITORING **SELECT FROM LIST** ☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER: ☐ OTHER: ☐ OTHER: ☐ OTHER:	☐ OTHER: ☐ OTHER: ☐ OTHER: ☐ OTHER:

STOP WORK

Employees must stop work and contact off-site senior personnel when a change in condition, process, or job phase develops on the project site that is not addressed by this JSA or within the project specific HASP. The JSA should be modified with new steps, hazards, and safe procedures agreed upon by all ATC and Subcontractor employees at the project site and approved by off-site senior personnel. Documentation of the modification and review by all affected personnel must take place.

1 JOB STEPS	2 POTENTIAL HAZARDOUS CONDITIONS or UNSAFE PRACTICES	3 SAFE PROCEDURES and PREVENTATIVE MEASURES
Walking around the Site for observing and noting health and safety along with miscellaneous data collection assistance.	Traffic and Movement of Equipment	• Glove - _____. • Communicate your intentions to others involved. • Make sure they understand where and what you will be doing before you do it.
	Adjusting Safety Cones and Tape	• Glove - _____. • Communicate your intentions to others involved. • Make sure they understand where and what you will be doing before you do it.
	Slips, Trips and Fall Hazards	• Have field staff maintain housekeeping. • Have field staff set up work zone with enough room for staging of equipment and supplies such that there are aisle ways for walking and working.
	Hand Injuries	• Glove - _____.
	Noise	• Wear hearing protection.
	Hazardous Atmosphere	• Operate in a well ventilated area. • Stand upwind while observing. • Have field staff use a PID or FID to monitor the area for potential hazardous atmosphere.

JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Field Work Observation and Note Taking		**08/02/2016**

PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 2 of 2

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ GLOVE _____
☐ HARD HAT	☐ GLOVE _____	☐ SUPPLIED AIR RESPIRATOR	☐ GLOVE _____
☐ SAFETY TOED BOOTS	☐ CHEMICAL RESISTANT GLOVE:	☐ CHEMICAL RESISTANT	☐ GLOVE _____
☐ SAFETY GLASSES	☐ HEARING PROTECTION	CLOTHING:	☐ OTHER:
☐ FACE SHIELD		☐ GOGGLES	☐ OTHER:

REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☐ OTHER:	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

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JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Drum Handling		**08/02/16**
PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 1 of 5

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ GLOVE _____
☐ HARD HAT	☒ GLOVE _LEATHER_____	☐ SUPPLIED AIR RESPIRATOR	☐ GLOVE _____
☐ SAFETY TOED BOOTS	☐ CHEMICAL RESISTANT GLOVE:	☐ CHEMICAL RESISTANT	☐ GLOVE _____
☐ SAFETY GLASSES	☐ HEARING PROTECTION	CLOTHING:	☐ OTHER:
☐ FACE SHIELD		☐ GOGGLES	☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☒ OTHER: Drum Dolly	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
☐ LADDER	☐ LOCKOUT/TAGOUT EQUIPMENT	☐ OTHER:	☐ OTHER:

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1 JOB STEPS	2 POTENTIAL HAZARDOUS CONDITIONS or UNSAFE PRACTICES	3 SAFE PROCEDURES and PREVENTATIVE MEASURES
Storage of Drum Dolly	Tripping Hazard, Tip-Over Hazard	• If dolly is to be stored in upright position, and has "Kick Stand", use the kick stand to keep dolly in upright position or keep it attached to a standing drum. • If dolly is to be stored in horizontal position, turn the dolly over so that the forks (drum cleats) are in contact with the ground and not sticking out into a work space. • If temporarily storing dolly in horizontal (on the wheels) position, ensure that the forks are protected against workers hitting them. • Where possible, store the dolly out of the immediate work area to minimize chance for dolly being tipped over or tripped over. • Ensure that all employees are aware of storage considerations.
Drum Handling (Empty Drums)	Overexertion Injuries (lifting or moving drums	• When moving drums, use the drum dolly. • Secure assistance as needed for heavier drums (even if empty).
	Eye Injuries (dust, dirt, or metal particles kicked up as result of moving drums or unfastening lids and sealing rings)	• Use safety eyewear with side shields. • Be observant of materials on top of lids before opening them.
	Hand Injuries (pinch points or cuts due to sharp metal edges or burrs)	• Glove _leather_____when handling drums. • Use safe position with hands (do not place between drums and fixed objects, including other drums). • If others are helping with drums, ensure that their hands are also in safe position before moving drums. • Anticipate possible metal burrs on drum lids or sealing rings, and on metal bolt fasteners.

JSA JOB SAFETY ANALYSIS

DESCRIPTION OF JOB:	REVISION DATE:	JSA CREATED ON:
Drum Handling		**08/02/16**

PREPARED BY: Ben Chevlen	REVIEWED BY:	APPROVED BY:	PAGE: 2 of 5

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST	☐ LONG PANTS	☐ AIR PURIFYING RESPIRATOR	☐ GLOVE _____
☐ HARD HAT	☒ GLOVE _LEATHER_____	☐ SUPPLIED AIR RESPIRATOR	☐ GLOVE _____
☐ SAFETY TOED BOOTS	☐ CHEMICAL RESISTANT GLOVE:	☐ CHEMICAL RESISTANT	☐ GLOVE _____
☐ SAFETY GLASSES	☐ HEARING PROTECTION	CLOTHING:	☐ OTHER:
☐ FACE SHIELD		☐ GOGGLES	☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☒ OTHER: Drum Dolly	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
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1 JOB STEPS	2 POTENTIAL HAZARDOUS CONDITIONS or UNSAFE PRACTICES	3 SAFE PROCEDURES and PREVENTATIVE MEASURES
		• Use the proper tool for removing lid rings.
	Tripping Hazards (drum lids, sealing rings)	• When removing drum lids and sealing rings for visual drum inspections, do NOT create tripping hazards by placing lids or rings in walkways.
	Foot/Ankle Injuries (drums or dolly parts striking ankles or feet)	• Use safety footwear (steel-toed shoes or boots) when handling drums and drum dolly • Ensure feet are in safe position when lowering drums to floor or removing dolly from under drums.
Drum Dolly Use	Hand, Eye, or Foot Injuries	• Refer to PPE requirements from above.
	Overexertion Injuries	• When moving drum dolly, roll it on its wheels (rather than attempting to lift and carry it). • Only use a 4 wheeled drum dolly.
	Finger Injuries (cuts or pinches)	• When attempting to attach dolly to the drum, watch placement of fingers to avoid pinch points between dolly and drum and between two drums. • Carefully place forks of dolly under the bottom of the drum – ensure forks are fully inserted under the drum. • Affix the securing hook over the edge of the drum top.
	Bumping Into Other Employees, Trip Hazards	• When drum is secured by forks at the bottom and securing hook at the top, check behind you to ensure you still have adequate room, no pedestrian or other traffic, and no obstructions in your path of travel. • Gently rock the drum back toward you until wheels are fully engaged with travel surface. • Slowly roll the dolly and drum to the desired position. • Tip the drum back into vertical position and reverse steps for temporary

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MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT			
☐ REFLECTIVE VEST ☐ HARD HAT ☐ SAFETY TOED BOOTS ☐ SAFETY GLASSES ☐ FACE SHIELD	☐ LONG PANTS ☒ GLOVE _LEATHER_____ ☐ CHEMICAL RESISTANT GLOVE: ☐ HEARING PROTECTION	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED AIR RESPIRATOR ☐ CHEMICAL RESISTANT CLOTHING: ☐ GOGGLES	☐ GLOVE _____ ☐ GLOVE _____ ☐ GLOVE _____ ☐ OTHER: ☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER ☐ BUG REPELLENT ☐ TRAFFIC CONTROL DEVICES ☐ LADDER	☐ RATCHET WITH EXTENSION ☐ WELL MAGNET ☐ AIR MONITORING **SELECT FROM LIST** ☐ LOCKOUT/TAGOUT EQUIPMENT	☒ OTHER: Drum Dolly ☐ OTHER: ☐ OTHER: ☐ OTHER:	☐ OTHER: ☐ OTHER: ☐ OTHER: ☐ OTHER:

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		storage of dolly.
Moving Drums (Pathways)	Uneven Surfaces (can cause drum and dolly to tip over, or sink into terrain)	• Check entire path that drum and dolly must travel. • If surface is not designed for wheeled traffic, make arrangements for temporary plates (plywood or similar) to allow safe movement of dolly. • If surface is uneven, unpaved, or otherwise challenging, consider other methods of improvement. • Where needed, use a "Spotter" to ensure no pedestrians or motorized vehicles enter pathway.
	Weight of Drums (creating an overexertion hazard)	• For full drums, utilize helper to minimize the chance for sprains or strains. • Do NOT attempt to lift full drums – let the dolly do the work.
Spotting Drum at End Location	Foot, Finger & Overexertion Injuries (pinch points, foot crush potential, sprains and strains)	• Ensure that space where drum will be placed is adequate for drum. • If other objects (or other drums) are in area, keep hands out of pinch points between drums (or other objects). • When righting the drum at its destination, use 2 persons where needed. • Keep feet out from under the drum and dolly at all times. • Unhooks the securing hook from the drum lid area. • Carefully slide the forks out from under the drum. Do not attempt to simply "yank" the forks out from under the drum, as dolly could slip back and strike employee's shins, ankles, or feet. • If drum needs to be moved slowly into final position, watch fingers and pinch points. • Use "Buddy System" to gradually shift drum position and ensure both parties are in communication of what each will do and to keep fingers out

JSA JOB SAFETY ANALYSIS

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☐ FACE SHIELD		☐ GOGGLES	☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
☐ DRINKING WATER	☐ RATCHET WITH EXTENSION	☒ OTHER: Drum Dolly	☐ OTHER:
☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
☐ TRAFFIC CONTROL DEVICES	☐ AIR MONITORING **SELECT FROM LIST**	☐ OTHER:	☐ OTHER:
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		of pinch points. • When drum is removed from dolly, use steps outlined for temporary (or longer storage) of dolly.

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☐ BUG REPELLENT	☐ WELL MAGNET	☐ OTHER:	☐ OTHER:
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☐ HARD HAT	☐ COTTON, LEATHER, OR CRAFTSMAN GLOVES	☐ SUPPLIED AIR RESPIRATOR	☐ OTHER:
☐ SAFETY TOED BOOTS	☒ CHEMICAL RESISTANT GLOVE: **Nitrile**	☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:
☐ FACE SHIELD			☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
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☐ SAFETY TOED BOOTS	☒ CHEMICAL RESISTANT GLOVE: **Nitrile**	☐ CHEMICAL RESISTANT CLOTHING:	☐ OTHER:
☐ SAFETY GLASSES	☐ HEARING PROTECTION	☐ GOGGLES	☐ OTHER:
☐ FACE SHIELD			☐ OTHER:
REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
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REQUIRED TOOLS/EQUIPMENT/SUPPLIES			
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APPENDIX B
Chemical Hazard Information

Last Revision Date: 1/25/2012

SECTION 1 - CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Catalog Number:	S-13586M1
Description:	Toxaphene (TM)
Product Type:	Solution
Other Names:	Camphechlor (TM)/Chlorinated camphene

Supplied by CHEM SERVICE, Inc. PO BOX 599, WEST CHESTER, PA 19381 (610)-692-3026
EMERGENCY PHONE: 1-610-692-3026

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS:	8001-35-2
Description:	Toxaphene (TM) Solution
Concentration:	100ug/mL in Methanol
EINECS No:	232-283-3
Hazard Symbols:	T, N

SECTION 3 - HAZARDS IDENTIFICATION

Contact lenses should not be worn in the laboratory.
All chemicals should be considered hazardous – Avoid direct physical contact!

For the solvent: Methanol

Health Risks: May be fatal if absorbed through the skin! Repeated exposure to vapors and/or dust can cause eye injury. May be fatal if inhaled! Can cause cardiovascular system injury. Exposure can cause liver damage. Exposure can cause kidney damage. May be fatal or cause blindness if swallowed. Can cause gastro-intestinal disturbances. Can cause convulsions.

CA Proposition 65: Data Not Available

For the minor component: Toxaphene (TM)

This chemical is considered to be a CARCINOGEN by the state of California.

SECTION 4 - FIRST AID MEASURES

An antidote is a substance intended to counteract the effect of a poison. It should be administered only by a physician or trained emergency personnel. Medical advice can be obtained from a POISON CONTROL CENTER.

For the solvent: Methanol

First Aid: In case of contact: Flush eyes continuously with water for 15-20 minutes. Flush skin with water for 15-20 minutes. If patient has stopped breathing administer artificial respiration. If patient is in cardiac arrest administer CPR. Continue life supporting measures until medical assistance has arrived. Do not wear shoes or clothing until absolutely free of all chemical odors. Get medical attention if necessary. If no burns have occurred-use soap and water to cleanse skin. If inhaled remove patient to fresh air. Administer oxygen if patient is having difficulty breathing. If swallowed do not induce vomiting.

SECTION 5 - FIRE AND EXPLOSION DATA

For the solvent: Methanol

Flash Point: 11°C This is a flammable chemical.
Extinguishing Media: Carbon dioxide or dry chemical powder. DO NOT USE WATER!

Upper Explosion Limit: 36%
Lower Explosion Limit: 6.0%
Autoignition Temperature: 464°C

NFPA Scale: 0 - Least, 1 - Slight, 2 - Moderate, 3 - High, 4 - Severe
NFPA Hazard Rating: Health: 1. Reactivity: 0. Flammability: 3. Special: No Data.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spills or leaks: Evacuate area. Wear appropriate OSHA regulated equipment. Ventilate area. Absorb on vermiculite or similar material. Sweep up and place in an appropriate container. Hold for disposal.

Wash contaminated surfaces to remove any residues.
Remove contaminated clothing and wash before reuse.

SECTION 7 - HANDLING AND STORAGE

Handling:
This chemical should be handled only in a hood. Eye shields should be worn. Use appropriate OSHA/MSHA approved safety equipment.
Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation.
Wash thoroughly after handling.

Storage:
Store in a cool dry place. Store only with compatible chemicals. Keep tightly closed.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

For the solvent: Methanol

OSHA PEL (TWA):	200 ppm (260 mg/m3)
ACGIH TLV (TWA):	200 ppm (262 mg/m3)
ACGIH TLV (STEL):	Data Not Available

Personal Protective Equipment

Eyes: Wear Safety Glasses.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 requirements must be followed whenever workplace conditions warrant the use of a respirator.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

For the solvent: Methanol

Color:	Colorless
Phase:	Liquid
Melting Point:	-98°C
Boiling Point:	64.6°C
Specific Gravity:	0.791g/mL
Vapor Density:	1.11
Vapor Pressure:	130.3 hPa @ 20°C
Solubility in Water:	Completely miscible.
Odor:	Data Not Available
Evaporation Rate (Butyl acetate=1):	Data Not Available
Molecular Weight:	32.05
Molecular Formula:	CH4O

SECTION 10 - STABILITY AND REACTIVITY

For the solvent: Methanol

Flammable. Reacts with Acid halides and anhydrides. Incompatible with strong acids. Incompatible with strong reducing agents. Incompatible with strong oxidizing agents. Decomposition liberates toxic fumes. Hygroscopic. Incompatible with active metals (e.g. Sodium).

SECTION 11 - TOXICOLOGY INFORMATION

The primary hazards for this solution are predominantly from the solvent.

For the solvent: Methanol

RTECS:	PC1400000
Oral Rat or Mouse LD50:	5628 mg/kg
Dermal Rat or Mouse LD50:	N/A mg/kg
Rat or Mouse LC50 :	64000 ppm/8H

Carcinogenicity

OSHA: No IARC: No NTP: No ACGIH: No A4 NIOSH: No Other: No

For the minor component: Toxaphene (TM)

The LD50 for the minor component:

Description	*LD50*
Toxaphene (TM)	40 mg/kg

Carcinogenicity:

OSHA: No IARC: Yes NTP: Yes CARC: No ACGIH: No NIOSH: Yes

This chemical is considered to be a CARCINOGEN by the state of California.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	Not Available
Environmental Fate:	Not Available

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose in accordance with Federal, State and Local regulations.

SECTION 14 - TRANSPORTATION INFORMATION

UN Number: UN1230
Class: 3
Packing Group: II
Proper Shipping Name: Methanol

SECTION 15 - REGULATORY INFORMATION

For the solvent: Methanol

European Labeling in Accordance with EC Directives
Hazard Symbols: T F

Risk Phrases: -R11: Highly Flammable.
-R23/25: Toxic by inhalation, and if swallowed.

Safety Phrases: -S16: Keep away from sources of ignition - No smoking.
-S2: Keep out of reach of children
-S24:.Avoid contact with the skin
-S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
-S7: Keep container tightly closed

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SECTION 16 - OTHER INFORMATION

The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded MSDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

Persons not specifically and properly trained should not handle this chemical or its container. This product is furnished FOR LABORATORY USE ONLY! Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticide products, food additives or as household chemicals.

This Material Safety Data Sheet (MSDS) is intended only for use with Chem Service, Inc. products and should not be relied on for use with materials from any other supplier even if the chemical name(s) on the product are identical! Whenever using an MSDS for a solution or mixture the user should refer to the MSDS for every component of the solution or mixture. Chem Service warrants that this MSDS is based upon the most current information available to Chem Service at the time it was last revised. THIS WARRANTY IS EXCLUSIVE, AND CHEM SERVICE, INC. MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. This MSDS is provided gratis and CHEM SERVICE, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR CONTINGENT DAMAGES.

This product is furnished FOR LABORATORY USE ONLY!

MATERIAL SAFETY DATA SHEET

Date Printed: 28.07.2016
Date Updated: 31.05.2012
Version 1.6

Section 1 - Product and Company Information

Product Name	METHOXYCHLOR
Product Number	M1501
Brand	SIGMA
Company	Sigma-Aldrich
Address	3050 Spruce Street SAINT LOUIS MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
METHOXYCHLOR	72-43-5	Yes

Formula	C16H15Cl3O2
Synonyms	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis(4-methoxy- * 2,2-Bis(p-anisyl)-1,1,1-trichloroethane * 1,1-Bis(p-methoxyphenyl)-2,2,2-trichloroethane * 2,2-Bis(p-methoxyphenyl)-1,1,1-trichloroethane * Dianisyltrichlorethane * 2,2-Di-p-anisyl-1,1,1-trichloroethane * Dimethoxy-DDT * p,p'-Dimethoxydiphenyltrichloroethane * 2,2-Di-(p-methoxyphenyl)-1,1,1-trichloroethane * Di(p-methoxyphenyl)-trichloromethyl methane * DMDT * p,p'-Dwumetoksydwufenylotrojchloroetan (Polish) * ENT 1,716 * Ethane, 2,2-bis(p-anisyl)-1,1,1-trichloro- * Higalmetox * Marlate * Methoxcide * Methoxychlor (ACGIH:OSHA) * p,p'-Methoxychlor * Methoxychlor 2 EC * Methoxy-DDT * Metoksychlor (Polish) * Metox * Mezox K * Moxie * NCI-C00497 * OMS 466 * RCRA waste number U247 * 1,1,1-Trichlor-2,2-bis(4-methoxy-phenyl)-aethan (German) * 1,1,1-Trichloro-2,2-bis(p-anisyl)ethane * 1,1'-(2,2,2-Trichloroethylidene)bis(4-methoxybenzene) * 1,1,1-Trichloro-2,2-bis(p-methoxyphenyl)ethane * 1,1,1-Trichloro-2,2-bis(4-methoxyphenyl)ethane * 2,2,2-Trichloro-1,1-bis(4-methoxyphenyl)ethane * 1,1,1-Trichloro-2,2-di(4-methoxyphenyl)ethane * 4,4-(2,2,2-Trichloroethylidene)dianisole
RTECS Number:	KJ3675000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful.
Harmful by inhalation, in contact with skin and if swallowed.
Limited evidence of a carcinogenic effect.
Possible mutagen. Reproductive hazard. Target organ(s): Nerves. Kidneys.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

EYE EXPOSURE

Assure adequate flushing of the eyes by separating the eyelids with fingers.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

EXPOSURE HAZARD(S)

Material: Harmful solid.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Avoid inhalation. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT
Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling. Wash contaminated clothing before reuse.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	10 MG/M3
USA	MSHA Standard-air	TWA	10 MG/M3
USA	OSHA.	PEL	8H TWA 15 MG/M3, TOTAL DUST
New Zealand	OEL		
Remarks: check ACGIH TLV			
USA	NIOSH		(0.07 MG/M3 LOQ)

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	10 MG/M3
Poland		NDSCh	-
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance — Physical State: Solid

Property	Value	At Temperature or Pressure
Molecular Weight	345,6600 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	86,000. - 88,000 °C.	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	

Surface Tension	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas.

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Multiple Routes: May cause irritation. Harmful if swallowed, inhaled, or absorbed through skin.

TARGET ORGAN(S) OR SYSTEM(S)

Kidneys. Central nervous system.

TOXICITY DATA

Oral
Human
6430,000000 mg/kg
LDLO

Oral
Rat
1855,000000 mg/kg
LD50
Remarks: Behavioral:Excitement. Behavioral:Convulsions or effect on seizure threshold. Behavioral:Ataxia.

Skin
Rat
> 6000,000000 mg/kg
LD50

Oral
Mouse
510,000000 mg/kg
LD50
Remarks: Behavioral:Convulsions or effect on seizure threshold. Behavioral:Ataxia. Behavioral:Excitement.

Oral
Rabbit

> 6000,000000 mg/kg
LD50

Skin
Rabbit
> 6000,000000 mg/kg
LD50

Intraperitoneal
Hamster
500 MG/KG
LD50

Oral
Duck
> 2000,000000 mg/kg
LD50

CHRONIC EXPOSURE - CARCINOGEN

Species: Rat
Route of Application: Oral
Dose: 18200 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic:Carcinogenic by RTECS criteria. Tumorigenic Effects: Prostate tumors.

Species: Mouse
Route of Application: Oral
Dose: 56700 MG/KG
Exposure Time: 90W
Frequency: C
Result: Tumorigenic:Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Tumorigenic Effects: Testicular tumors.

Species: Dog
Route of Application: Oral
Dose: 383 GM/KG
Exposure Time: 3Y
Frequency: C
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors.

Species: Rat
Route of Application: Oral
Dose: 41 GM/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Liver:Multiple effects. Lungs, Thorax, or Respiration:Other changes.

Species: Mouse
Route of Application: Oral
Dose: 62622 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Liver:Tumors. Tumorigenic:Equivocal tumorigenic agent by

RTECS criteria.

Species: Rat
Route of Application: Oral
Dose: 80 GM/KG
Exposure Time: 2Y
Frequency: C
Result: Liver:Tumors. Tumorigenic:Carcinogenic by RTECS criteria. Tumorigenic Effects: 0varian tumors.

Species: Rat
Route of Application: Oral
Dose: 72800 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Liver:Tumors. Tumorigenic:Carcinogenic by RTECS criteria.

Species: Rat
Route of Application: Oral
Dose: 87360 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic:Carcinogenic by RTECS criteria. Liver:Tumors.

Species: Rat
Route of Application: Oral
Dose: 10920 MG/KG
Exposure Time: 1Y
Frequency: C
Result: Blood:Lymphomas including Hodgkin's disease.
Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.

Species: Rat
Route of Application: Oral
Dose: 45500 MG/KG
Exposure Time: 1Y
Frequency: C
Result: Blood:Lymphomas including Hodgkin's disease.
Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.

IARC CARCINOGEN LIST

Rating: Group 3

NTP CARCINOGEN LIST

Rating: No evidence.
Species: Mouse/rat
Route: Feed

ACGIH CARCINOGEN LIST

Rating: A4

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 2 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse
Dose: 3 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetal death.

CHRONIC EXPOSURE - MUTAGEN

Species: Rat
Dose: 150 UMOL/L
Cell Type: liver
Mutation test: DNA damage

Species: Rat
Route: Oral
Dose: 28 GM/KG
Exposure Time: 10W
Mutation test: sperm

Species: Mouse
Dose: 10 MG/L (+S9)
Cell Type: lymphocyte
Mutation test: Mutation in microorganisms

Species: Mouse
Dose: 2 MG/L
Cell Type: fibroblast
Mutation test: Morphological transformation.

Species: Mouse
Route: Oral
Dose: 6 MG/KG
Exposure Time: 50D
Mutation test: Cytogenetic analysis

Species: Hamster
Dose: 10 MG/L
Cell Type: Embryo
Mutation test: Morphological transformation.

Species: Hamster
Route: Intraperitoneal
Dose: 50 MG/KG
Mutation test: Cytogenetic analysis

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD
Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Species: Rat
Dose: 66 GM/KG
Route of Application: Oral
Exposure Time: (33D MALE)
Result: Paternal Effects: Testes, epididymis, sperm duct.
Paternal Effects: Prostate, seminal vessicle, Cowper's gland, accessory glands.

Species: Rat
Dose: 2 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat
Dose: 4250 MG/KG
Route of Application: Oral
Exposure Time: (42D PRE-21D POST)
Result: Effects on Newborn: Physical. Maternal Effects: Ovaries, fallopian tubes. Effects on Newborn: Delayed effects.

Species: Rat
Dose: 10625 MG/KG
Route of Application: Oral
Exposure Time: (42D PRE-21D POST)
Result: Effects on Fertility: Mating performance (e.g., # sperm positive females per # females mated; # copulations per # estrus cycles). Maternal Effects: Uterus, cervix, vagina. Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated).

Species: Rat
Dose: 7 GM/KG
Route of Application: Unreported
Exposure Time: (70D MALE)
Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count).

Species: Rat
Dose: 2100 MG/KG
Route of Application: Unreported
Exposure Time: (21D PRE)
Result: Maternal Effects: Oogenesis.

Species: Rat
Dose: 9100 MG/KG
Route of Application: Unreported
Exposure Time: (70D MALE/21D PRE)
Result: Effects on Fertility: Mating performance (e.g., # sperm positive females per # females mated; # copulations per # estrus cycles).

Species: Mouse
Dose: 1 GM/KG
Route of Application: Oral
Exposure Time: (20D PREG)
Result: Maternal Effects: Ovaries, fallopian tubes.

Species: Mouse
Dose: 900 MG/KG
Route of Application: Oral
Exposure Time: (6-8D PREG)
Result: Maternal Effects: Uterus, cervix, vagina.

Species: Mouse
Dose: 2 GM/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Maternal Effects: Parturition.

Species: Mouse
Dose: 800 MG/KG
Route of Application: Intraperitoneal
Exposure Time: (1D PREG)
Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse
Dose: 99 MG/KG
Route of Application: Subcutaneous
Exposure Time: (5-7D PREG)
Result: Effects on Newborn: Behavioral. Effects on Newborn: Biochemical and metabolic.

Species: Rabbit
Dose: 330 MG/KG
Route of Application: Oral
Exposure Time: (6-27D PREG)
Result: Maternal Effects: Other effects. Specific Developmental Abnormalities: Musculoskeletal system.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.
UN#: 3077
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 20/21/22-40
Risk Statements: Harmful by inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect.
S: 7-23-36/37/39-45
Safety Statements: Keep container tightly closed. Do not breathe fumes. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Harmful.
Risk Statements: Harmful by inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect.
Safety Statements: Keep container tightly closed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Do not breathe fumes. Wear suitable protective clothing, gloves, and eye/face protection.
US Statements: Possible mutagen. Reproductive hazard. Target organ(s): Nerves. Kidneys.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: Yes
NOTES: This product is subject to SARA section 313 reporting requirements.

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Toxic compound, do not ingest or inhale. Avoid all contact with this material.**	

Section I. Chemical Product and Company Identification

Chemical Name **Dieldrin**

Catalog Number	H0059
Synonym	Alvit 55
Chemical Formula	$C_{12}H_8Cl_6O$
CAS Number	60-57-1

Supplier
TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

In case of Emergency Call
Chemtrec®
(800) 424-9300 (U.S.)
(703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Dieldrin	60-57-1	---------	Not available.	Rat LD_{50} (oral) 383 mg/kg

Section III. Hazards Identification

Acute Health Effects
Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects
CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section IV. First Aid Measures

Eye Contact
Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.

Skin Contact
If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.

Inhalation
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

Ingestion
INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.

Combustion Products
These products are toxic carbon oxides (CO, CO_2), halogenated compounds.
WARNING: Highly toxic HCl gas is produced during combustion.

Fire Hazards
No specific information is available regarding the flammability of this compound in the presence of various materials.

Explosion Hazards
Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.
No additional information is available regarding the risks of explosion.

Continued on Next Page

Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO_2, water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Toxic solid. Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information	TOXIC. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. DO NOT breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Avoid contact with skin and eyes. Always store away from incompatible compounds such as oxidizing agents.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Orange-tan powder.	Solubility	Not available.
Specific Gravity	Not available.		
Molecular Weight	380.91	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	Not available.
Melting Point	143 to 144°C (289.4 to 291.2°F)	Vapor Density	13.2 (Air = 1)
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Highly reactive with oxidizing agents.

Section XI. Toxicological Information

RTECS Number	IO1750000
Routes of Exposure	Eye contact. Inhalation. Ingestion.
Toxicity Data	Rat LD_{50} (oral) 383 mg/kg
Chronic Toxic Effects	**CARCINOGENIC EFFECTS** : Not available. **MUTAGENIC EFFECTS** : Not available. **TERATOGENIC EFFECTS** : Not available. **DEVELOPMENTAL TOXICITY**: Not available. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Acute Toxic Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Continued on Next Page

Printed 2/24/2005.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Not available.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.

Section XIV. Transport Information

DOT Classification	DOT CLASS 6.1: Toxic material.
PIN Number	UN2761
Proper Shipping Name	Organochlorine pesticides, solid, toxic
Packing Group (PG)	II
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This product is **NOT** on the EPA Toxic Substances Control Act (TSCA) inventory. The following notices are required by 40 CFR 720.36 (C) for those products not on the inventory list: (i) These products are supplied solely for use in research and development by or under the supervision of a technically qualified individual as defined in 40 CFR 720.0 et sec. (ii) The health risks of these products have not been fully determined. Any information that is or becomes available will be supplied on an MSDS sheet.
WHMIS Classification (Canada)	WHMIS CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
EINECS Number (EEC)	200-484-5
EEC Risk Statements	R25- Toxic if swallowed. R27/28- Very toxic in contact with skin and if swallowed.
Japanese Regulatory Data	Not available.

Section XVI. Other Information

Version 1.0
Validated on 5/28/1997.
Printed 2/24/2005.

Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.

Date of Issue:
28 May 2015

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

RM Number: 8469
RM Name: 4,4'-DDT
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Reference Material (RM) is intended for use in the evaluation of procedures and working standards in used in the measurement of dichlorodiphenyltrichloroethane (4,4'-DDT) in environmental samples. RM 8469 is provided as a primary reference compound of measured purity for 4,4'-DDT. A unit of RM 8469 consists of one vial containing approximately 100 mg of 4,4'-DDT.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard: Not classified.

Health Hazard:		
	Acute Toxicity, Oral, Dermal	Category 3
	Carcinogenicity	Category 2
	STOT, Repeated exposure	Category 1

Label Elements

Symbol

Signal Word

DANGER

Hazard Statement(s):

H301+H311	Toxic if swallowed or in contact with skin.
H351	Suspected of causing cancer.
H372	Causes damage to organs <central nervous system> through prolonged or repeated exposure <ingestion>.

Precautionary Statement(s):

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves, protective clothing, and eye protection.
P301+P310	If on skin: Wash with plenty of water.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.

P301+P310 If swallowed: Immediately call a doctor.
P330 Rinse mouth.
P312 Call a doctor.

P405 Store locked up.

P501 Dispose of contents and container according to local regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: 4,4'-DDT

Other Designations: DDT; *p,p*'-DDT; 1,1'-(2,2,2-trichlroroethylidene)bis(4-chlorobenzene); dicophane; 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane; alpha,alpha-bis(p-chlorophenyl)-beta,beta,beta-trichloroethane; pentachlorin; RCRA U061; $C_{14}H_9Cl_5$.

Components listed below are in compliance with OSHA's 29 CFR 1910.1200.

Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
4,4'-DDT	50-29-3	200-024-3	99.8

4. FIRST AID MEASURES

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin Contact: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye Contact: Flush eyes with water for at least 15 minutes. Then get immediate medical attention.

Ingestion: If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to unconscious or convulsive person.

Most Important Symptoms/Effects, Acute and Delayed: Organochlorine pesticides cause liver and kidney damage.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Slight fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:
Suitable: Regular dry chemical, water, and regular foam.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 2 Fire = 1 Reactivity = 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Do not touch spilled material. Notify safety personnel of spills. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Isolate hazard area and deny entry. Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

7. HANDLING AND STORAGE

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances (See Section 10, "Stability and Reactivity").

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

ACGIH (TLV): 1 mg/m^3 (TWA)

NIOSH (REL): 0.5 mg/m^3 (TWA)
500 mg/m^3 (IDLH)

OSHA (PEL): 1 mg/m^3 (TWA)
Prevent or reduce skin absorption.

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:	**4,4'-DDT**
Appearance (physical state, color, etc.):	white crystalline solid
Molecular Formula:	$C_{14}H_9Cl_5$
Molar Mass (g/mol):	354.49
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point:	107 °C to 109 °C (224.6 °F to 228.2 °F)
Specific Gravity (water=1):	1.56 at 15 °C
Vapor Pressure (mmHg):	not available
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	insoluble in water (0.12 ppm at 25 °C), soluble in acetone, ether, pyridines, kerosene, benzene, carbon tetrachloride, dioxane, chloroform, and organic solvents
Partition coefficient (n-octanol/water):	not available
Particle Size:	not available

Thermal Stability Properties:	**4,4' DDT**
Autoignition Temperature (ºC):	not available
Thermal Decomposition (ºC):	not available
Initial boiling point and boiling range (ºC):	260 °C (500 °F)
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (ºC):	not available
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid heat, flames, sparks and other sources of ignition. Keep out of water supplies and sewers.

Incompatible Materials: Bases, combustible materials, metal salts, metals, and oxidizing materials.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce chlorides and oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Nausea, vomiting, diarrhea, stomach pain, and headache.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Same as ingestion if sufficient amounts are absorbed through the lungs.

Skin Contact: Same as ingestion if sufficient amounts are absorbed through the skin.

Eye Contact: May cause eye irritation.

Ingestion: Oral ingestion of food is the primary source of exposure for the general population. Acute and chronic ingestion was cause nausea, vomiting, diarrhea, stomach pain, headache, dizziness, disorientation, tingling sensation, kidney damage, liver damage, convulsions, coma, and death. 4,4'-DDT may cross the placenta and can be excreted in breast milk.

Numerical Measures of Toxicity:

Acute Toxicity: Category 3, Oral, Dermal
Rat, Oral LD50: 87 mg/kg
Rabbit, Dermal LD50: 300 mg/kg

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye Damage/Irritation: Not classified.
Human, Eye: 423 mg/m^3 for 1 h day for 6 d (irritation)

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Category 2

Listed as a Carcinogen/Potential Carcinogen X Yes _____ No
4,4'-DDT is listed by IARC as Group 2B (possibly carcinogenic to humans) and by NTP as *Reasonably Anticipated To Be A Human Carcinogen*. It is not listed by OSHA as a carcinogen/potential carcinogen.

Tumorigenic effects: Rat, Oral TD: 438 mg/kg (2 years)
Mutagenic effects: Human, 200 µg/L (72 h)

Reproductive Toxicity: Not classified; no data available.
Rat, Oral, TDLo: 430 mg/kg (pregnant 1 d to 21 d, 21 d).

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Category 1, prolonged or repeated exposure may damage the central nervous system.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data:

Fish Toxicity: Rainbow trout (*Oncorhynchus mykiss*) LC50 [static]: 1.25 µg/L to 3.59 µg/L (96 h)
Invertebrate: Water flea (*Daphnia magna*) LC50 [static]: 0.000 46 mg/L to 0.001 mg/L (48 h)

Persistence and Degradability: No data available.

Bioaccumulative Potential: BCF 1.17 species: fish.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U061.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: UN2761, Organochlorine pesticide, solid, n.o.s. (4,4'-DDT); Hazard class 6.1, PG III, Excepted Quantity: E1.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): 1 lb (0.454 kg) final RQ.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	Yes.
CHRONIC HEALTH:	Yes.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:
California Proposition 65: WARNING! This product contains a chemical (4,4'-DDT) known to the state of California to cause cancer and reproductive/developmental effects.

U.S. TSCA Inventory: Listed.

TSCA 12(b), Export Notification: Section 5, 0.1 % de minimus concentration.

Canadian Regulations:
WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 28 May 2015

Sources: ChemADVISOR, Inc., SDS *Dichlorodiphenyltrichloroethane*, 20 March 2015.

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The reference values for this material are given in the NIST Report of Investigation.

Users of this RM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.

Date of Issue:
12 May 2015

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

RM Number: 8467
RM Name: 4,4'-DDE
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Reference Material (RM) is intended for use in the evaluation of procedures and working standards in environmental samples. RM 8467 is provided as a primary reference compound of measured purity for 1,1'-(dichloroethenylidene) bis[4-chlorobenzene] (4,4'-DDE). A unit of RM 8467 consists of one vial containing approximately 100 mg of 4,4'-DDE.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard: Not classified.
Health Hazard: Acute Toxicity, Oral — Category 4
Carcinogen — Category 2

Label Elements
Symbol

Signal Word
WARNING

Hazard Statement(s):

H301	Harmful if swallowed.
H351	Suspected of causing cancer.

Precautionary Statement(s):

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves, protective clothing, and eye protection.
P301 + P312	If swallowed: call a doctor if you feel unwell.
P330	Rinse mouth.
P308 + P313	If exposed or concerned: Get medical attention.
P405	Store locked up.
P501	Dispose of contents and container according to local regulations.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. Composition and Information on Hazardous Ingredients

Substance: 4,4'-DDE

Other Designations: 1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene; dichlorodiphenyldichloroethylene; NCI-C00555; 2,2-bis(4-chlorophenyl)-1,1-dichloroethylene; Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)-; $C_{14}H_8Cl_4$.

Components listed below are in compliance with OSHA's 29 CFR 1910.1200.

Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
4,4'-DDE	72-55-9	200-784-6	99.8

4. First Aid Measures

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin Contact: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye Contact: Flush eyes with water for at least 15 minutes. Then get immediate medical attention.

Ingestion: Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

Most Important Symptoms/Effects, Acute and Delayed: Organochlorine pesticides cause liver and kidney damage.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. Fire Fighting Measures

Fire and Explosion Hazards: Slight fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:
Suitable: Regular dry chemical, carbon dioxide, water, and regular foam.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 1 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Do not touch spilled material. Notify safety personnel of spills. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Isolate hazard area and deny entry. Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

7. HANDLING AND STORAGE

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances (See Section 10, "Stability and Reactivity").

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: No occupational exposure limits have been established for 4,4'-DDE.

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:	**4,4'-DDE**
Appearance (physical state, color, etc.):	white crystalline solid
Molecular Formula:	$C_{14}H_8Cl_4$
Molar Mass (g/mol):	318.03
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point:	88 °C to 90 °C (191 °F to 194 °F)
Specific Gravity (water=1):	not available
Vapor Pressure (mmHg):	6.0×10^{-6}
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	insoluble in water (0.12 ppm at 25 °C), ethanol, acetone, dichloromethane, fats, and organic solvents
Partition coefficient (n-octanol/water):	not available
Particle Size:	not available
Thermal Stability Properties:	
Autoignition Temperature (ºC):	not available
Thermal Decomposition (ºC):	not available
Initial boiling point and boiling range (ºC):	not available
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (ºC):	not available
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid heat, flames, sparks and other sources of ignition. Keep out of water supplies and sewers.

Incompatible Materials: Bases, combustible materials, metal salts, metals, and oxidizing materials.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Nausea, vomiting, diarrhea, stomach pain, and headache.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Same as ingestion if sufficient amounts are absorbed through the lungs.

Skin Contact: Same as ingestion if sufficient amounts are absorbed through the skin.

Eye Contact: No information available.

Ingestion: Oral ingestion of food is the primary source of exposure for the general population. Acute and chronic ingestion may cause nausea, vomiting, diarrhea, stomach pain, headache, dizziness, disorientation, tingling sensation, kidney damage, liver damage, convulsions, coma, and death. 4,4' DDE may cross the placenta and can be excreted in breast milk.

Numerical Measures of Toxicity:

Acute Toxicity: Category 4, Oral
Rat, Oral LD50: 850 mg/kg

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye Damage/Eye Irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Category 2

Listed as a Carcinogen/Potential Carcinogen X Yes _____ No
4,4'-DDE is listed by IARC as Group 2B (possibly carcinogenic to humans). It is not listed by NTP or OSHA as a carcinogen/potential carcinogen.

Tumorigenic effects: Mouse, Oral TD: 17 g/kg (78 weeks)
Mutagenic effects: Hamster, 20 mg/L

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data:

Fish Toxicity: Rainbow trout (*Oncorhynchus mykiss*) LC50 [static]: > 87 µg/L (24 h)
Bluegill (*Lepomis macrochirus*) LC50 [static]: 240 µg/L (96 h)

Persistence and Degradability: No data available.

Bioaccumulative Potential: BCF values of 27,500 to 81,000.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: This material is not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): 1 lb (0.454 kg) final RQ

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	No.
CHRONIC HEALTH:	Yes.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:

California Proposition 65: WARNING! This product contains a chemical (4,4'-DDE) known to the state of California to cause cancer and reproductive/developmental effects.

U.S. TSCA Inventory: Listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:

WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 12 May 2015

Sources: ChemADVISOR, Inc., SDS *4,4'-DDE*, 20 March 2015.

Hazardous Substances Data Bank (HSDB), National Library of Medicine's TOXNET system, *DDE CAS No. 72-55-9*; available at http://toxnet.nlm.nih.gov (accessed May 2015).

U.S. Environmental Protection Agency (EPA), Technology Transfer Network Air Toxics Web Site, DDE; available at http://www.epa.gov/ttnatw01/hlthef/dde.html (accessed May 2015).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The reference values for this material are given in the NIST Report of Investigation.

Users of this RM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.

Date of Issue:
05 May 2015

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

SRM Number: 3068
SRM Name: Total Chlordane in Methanol
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is intended primarily for calibrating chromatographic instrumentation used for the determination of the certified mixture. Because of its miscibility with water, SRM 3068 can also be used to fortify aqueous samples with known amounts of chlordane. A unit of SRM 3068 consists of five 2-milliliter ampoules, each containing approximately 1.2 mL of technical chlordane in methanol.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard:	Flammable Liquid	Category 2
Health Hazard:	Acute Toxicity, Oral	Category 3
	Acute Toxicity, Inhalation	Category 3
	Acute Toxicity, Dermal	Category 3
	STOT - Single Exposure	Category 1

Label Elements

Symbol

Signal Word

Danger

Hazard Statement(s)

H225	Highly flammable liquid and vapor.
H301+H311+H331	Toxic if swallowed, in contact with skin or if inhaled.
H370	Causes damage to eyes, kidney, liver, heart, and central nervous system.

Precautionary Statement(s)

P210	Keep away from heat, sparks, open flames, and hot surfaces. — No smoking.
P241	Use explosion-proof electrical, ventilating, lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust, fumes, mists, vapors, or spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, and eye protection.

P301+P310	If swallowed: Immediately call a doctor.
P330	Rinse mouth.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P308+P311	If exposed or concerned: Call a doctor.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents and container according to local regulations.

Hazards Not Otherwise Classified: None.

Ingredients(s) with Unknown Acute Toxicity: None.

3. Composition and Information on Hazardous Ingredients

Substance: Methanol

Other Designations: Methyl alcohol; wood alcohol; methyl hydroxide; wood spirit; wood naphtha.

The health and safety information included in this SDS is for methanol, the main component. This material, a mixture of methanol containing trace amounts of chlordane (Chemical Abstracts Registry Number 12789-03-6) has not been tested as a whole. The concentration of chlordane in is below the reportable limits for hazardous components (1 %) and/or carcinogens (0.1 %), as required by OSHA, 29 CFR 1910.1200, for SDS information. For the actual values, see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Methanol	67-56-1	200-659-6	>99.9

4. First Aid Measures

Description of First Aid Measures

Inhalation: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin Contact: Rinse affected skin with water for at least 15 minutes, then wash thoroughly with soap or mild detergent and water. If skin irritation persists, seek medical aid and bring the container or label.

Eye Contact: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion: If a large amount is swallowed, get medical attention.

Most Important Symptoms/Effects, Acute and Delayed: Skin irritation, eye irritation, central nervous system depression, and nerve damage. May cause blindness.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek immediate medical attention.

5. Fire Fighting Measures

Fire and Explosion Hazards: Severe fire hazard. Vapor/air mixtures are explosive above the flash point. Vapors or gases may ignite at distant ignition sources and flash back. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media

Suitable: Regular dry chemical, carbon dioxide, water, or alcohol-resistant foam.

Unsuitable: None listed.

Specific Hazards Arising from the Chemical: Not applicable.

Special Protective Equipment and Precautions for Fire-Fighters: Move container from fire area if it can be done without personal risk. Avoid inhalation of material or combustion by-products. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 2 Fire = 3 Reactivity = 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection". Keep out of waters supplies and sewers.

Methods and Materials for Containment and Clean up: Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk, with water spray to reduce vapors. Absorb spilled material with sand or non-combustible material and collect in appropriate container for disposal.

7. HANDLING AND STORAGE

Safe Handling Precautions: Handle glass ampoules with care. See Section 8, "Exposure Controls and Personal Protection".

Storage and Incompatible Materials: Store in a well-ventilated area. Keep separated from incompatible substances (See Section 10, "Stability and Reactivity").

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Methanol:

OSHA (PEL):	260 mg/m^3; 200 ppm TWA
ACGIH (TLV):	200 ppm TWA 250 ppm STEL Skin – potential significant contribution to overall exposure by the cutaneous route.
NIOSH (REL):	260 mg/m^3; 200 ppm TWA 325 mg/m^3; 250 ppm STEL 6000 ppm IDLH Potential for dermal absorption.

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection Measures: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye Protection: Splash resistant safety goggles and emergency eyewash are recommended.

Skin and Body Protection: Chemical resistant clothing and gloves are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties	Methanol (>99.9 % of this SRM)
Molar Mass (g/mol)	32.04
Molecular Formula	CH_3OH
Appearance (physical state, color, etc.)	clear, colorless liquid
Odor	alcohol odor
Odor threshold	100 ppm
pH	not available
Evaporation rate (butyl acetate = 1)	4.6
Melting point/freezing point	–94 °C (–137 °F)
Relative Density as Specific Gravity (water = 1)	0.7914
Density	not available
Vapor Pressure	97.25 mmHg at 20 °C
Vapor Density (air = 1)	1.11
Viscosity	0.59 cP at 20 °C
Solubilities	soluble in water solvent: ether, benzene, acetone, chloroform, ethanol, ketones, organic solvents
Partition coefficient (n-octanol/water)	not available
Thermal Stability Properties	
Autoignition Temperature	385 °C (725 °F)
Thermal Decomposition	not available
Initial boiling point and boiling range	65 °C (149 °F)
Explosive Limits, LEL (Volume %)	6
Explosive Limits, UEL (Volume %)	36
Flash Point (Closed Cup)	11 °C (51.8 °F)
Flammability (solid, gas)	not applicable

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: Not applicable.

Conditions to Avoid: Avoid heat, flames, sparks, and other sources of ignition. Minimize contact with material. Avoid inhalation of material or combustion by-products. Keep out of water supplies and sewers.

Incompatible Materials: Halo carbons, combustible materials, metals, oxidizing materials, halogens, metal carbide, bases, acids, and amines.

Hazardous Decomposition: Oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Skin irritation, eye irritation, central nervous system depression, and nerve damage. May cause blindness.

Potential Health Effects (Acute, Chronic, and Delayed)

Inhalation: Acute and chronic exposure may cause irritation, cough, ringing in the ears, constipation, headache, drowsiness, dizziness, tingling sensation, pain in extremities, tremors, loss of coordination, blood disorders, and nerve damage. Chronic exposure may also cause sensitivity to light, changes in blood pressure, digestive issues, difficulty breathing, irregular heartbeat, visual disturbances, blindness, bluish skin color, lung congestion, heart damage, kidney damage, liver damage, reproductive effects, effects on the brain, convulsions, unconsciousness, and coma.

Skin Contact: Acute and chronic exposure may result in irritation, absorption may occur, headache, drowsiness, loss of coordination, blood disorders, and nerve damage.

Eye Contact: Acute and chronic exposure may cause irritation; acute may cause eye damage.

Ingestion: Acute and chronic exposure may cause the same effects as listed for inhalation.

Numerical Measures of Toxicity

Acute Toxicity: Category 3 for Oral, Inhalation, and Dermal.

Methanol: Human, Oral, LDLo: 143 mg/kg
Rat, Oral, LD50: 5628 mg/kg
Rat, Inhalation, LC50: 83.2 mg/L (4 h); 145 000 ppm (1 h); 64 000 ppm (4 h)
Rabbit, Dermal, LD50: 15 800 mg/kg

Skin Corrosion/Irritation: Not classified.

Methanol: Rabbit, Skin: 20 mg (24 h) moderate

Serious Eye Damage/Eye Irritation: Not classified.

Methanol: Rabbit, Eyes: 100 mg (24 h) moderate; 40 mg moderate

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen ____ **Yes** X **No**

Methanol is not listed by IARC, NTP, or OSHA as a carcinogen/potential carcinogen.

Methanol: Tumorigenic: Rat, Inhalation, TCLo: 1000 ppm (2 years)
Mutagenic: Mouse, Oral TD: 1 g/kg (cytogenetic analysis)
Rat, Oral TD: 10 µmol/kg (DNA damage)
Human, lymphocyte TC: 300 mmol/L (DNA inhibition)

Reproductive Toxicity: Not classified.

Methanol: Rat Inhalation TCLo: 5000 ppm (pregnant 7 d to 17 d)
Rat Oral TDLo: 6000 mg/kg (pregnant 15 d to 17 d)

Specific Target Organ Toxicity, Single Exposure: Category 1, Causes damage to central nervous system.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data

Methanol:

Fish, Bluegill, (*Lepomis macrochirus*), LC50: 13 500 mg/L to 17 600 mg/L (96 h) flow-through
Fish, Fathead minnow (*Pimephales promelas*), LC50: 28 200 mg/ L (96 h) flow-through
Fish, Fathead minnow (*Pimephales promelas*), LC50: >100 mg/L (96 h) static

Persistence and Degradability: No data available.

Bioaccumulative Potential: <10 species: fish.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with all applicable federal, state, and local regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U154.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: UN1230, Methanol, Hazard Class 3, 6.1, Packing Group II.

15. REGULATORY INFORMATION

U.S. Regulations

CERCLA Sections 102a/103 (40 CFR 302.4): 5000 lbs (2270 kg) final RQ.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): 1.0 % de minimis concentrations.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	Yes
CHRONIC HEALTH:	Yes
FIRE:	Yes
REACTIVE:	No
PRESSURE:	No

State Regulations: California Proposition 65: WARNING! This product contains a chemical (methanol) known to the state of California to cause reproductive/developmental effects.

U.S. TSCA Inventory: Methanol is listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations: WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 05 May 2015

Sources: ChemADVISOR, Inc., SDS *Methyl Alcohol*, 20 March 2015.

CDC, NIOSH, *Methanol, RTECS# PC1400000, CAS No. 67-56-1*; available at http://www.cdc.gov/niosh-rtecs/PC155CC0.html (accessed May 2015).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration	STEL	Short Term Exposure Limit
LD50	Median Lethal Dose or Lethal Dose, 50 %	STOT	Specific Target Organ Toxicity
LEL	Lower Explosive Limit	TLV	Threshold Limit Value
MSDS	Material Safety Data Sheet	TPQ	Threshold Planning Quantity
NFPA	National Fire Protection Association	TSCA	Toxic Substances Control Act
NIOSH	National Institute for Occupational Safety and Health	TWA	Time Weighted Average
NIST	National Institute of Standards and Technology	UEL	Upper Explosive Limit
n.o.s.	Not Otherwise Specified	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX C
List of Approved Amendments/changes
HASP Acknowledgement/Agreement Form
Visitors Log

HEALTH AND SAFETY PLAN (HASP)
List of Approved Amendments/Changes

Client Site Name: Doris/Patterson Proposed Elementary and Middle Schools

PRINT NAME	SIGNATURE	COMPANY	DATE

HEALTH AND SAFETY PLAN (HASP)
Acknowledgement/Agreement Form

(All Site Workers Must Sign)

Client Site Name: Doris/Patterson Proposed Elementary and Middle Schools

I acknowledge I have reviewed a copy of the Health and Safety Plan for this project, understand it, and agree to comply with all of its provisions.

PRINT NAME	SIGNATURE	COMPANY	DATE

HEALTH AND SAFETY PLAN (HASP) Visitors Log

Client Site Name: Doris/Patterson Proposed Elementary and Middle Schools

PRINT NAME	SIGNATURE	COMPANY	DATE

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

June 14, 2017

Ms. Lisa Cline
Deputy Superintendent
Business and Fiscal Services
1051 South A Street
Oxnard, California 93030

APPROVAL OF SOIL MANAGEMENT PLAN – PROPOSED NEW ELEMENTARY AND MIDDLE SCHOOLS, SOUTHEAST CORNER OF DORIS AVENUE AND PATTERSON ROAD, OXNARD, CALIFORNIA (SITE CODE: 304663)

Dear Ms. Cline:

The Department of Toxic Substances Control (DTSC) reviewed the Revised Soil Management Plan (SMP) prepared by ATC Group Services LLC on behalf of the Oxnard School District (District), dated May 17, 2017 and received electronically on May 22, 2017. The Revised SMP was prepared in response to DTSC comments on the draft version forwarded in a letter dated May 12, 2017. The SMP summarizes the background and environmental investigations, and presents measures to mitigate potential risks to human health and the environment in the event of future construction and/or land improvement activities at the proposed new elementary and middle schools site (Site).

According to the Preliminary Endangerment Assessment (PEA) report, dated April 14, 2017, the proposed 25-acre school site is located at the southeast corner of Doris Avenue and Patterson Road in the City of Oxnard, California. According to the Phase I Environmental Site Assessment, the area was used for agriculture from 1940 to the present. A closed Leaking Underground Storage Tank (LUST) site is located approximately 2,000 feet east of the site, which received regulatory closure in 1998. A plugged and inactive oil well is located approximately 475 feet south of the Site. The Site is bordered by residential development on the north, and agricultural land on the east, west, and north. To evaluate the impact from residual agricultural chemicals and the off-site oil well, the Site was investigated for organochlorine pesticides (OCPs) and metals in soil, and methane and hydrogen sulfide in soil gas.

Based on information presented in the PEA, toxaphene was the only constituent detected at concentrations in excess of the risk screening levels. Risk screening evaluation, using school-based scenario, indicates that the Site does not pose a significant risk to students and staff and is suitable for use as a school. Risk screening, using residential-based scenario, indicates potential risk to future residents. The PEA Report recommends a land use covenant (LUC) to limit the Site's future use to non-residential purposes, along with SMP. DTSC approved the PEA on May 4, 2017.

DTSC comments have been adequately addressed and the SMP is hereby approved. If site conditions differ from those presented in the approved SMP or PEA, additional measures may be necessary. Please notify DTSC within 48 hours if contaminated soil is encountered during construction.

If you have any questions regarding this project, please contact Xihong Scarlett Zhai, Project Manager, at (714) 484-5316 or by e-mail at Xihong.Zhai@dtsc.ca.gov, or contact me at (714) 484-5368 or by e-mail at Shahir.Haddad@dtsc.ca.gov.

Sincerely,

Shahir Haddad, P.E.
Supervising Engineer
Brownfields Restoration and School Evaluation Branch
Brownfields and Environmental Restoration Program

kl/xsz/sh

cc: See next page.

cc: (via e-mail)

Patricia Raphael Garcia
Planning Associate
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praphael@cfwinc.com

Mr. Ben Chevlen, P.G.
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Mr. Joe Hwong
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Brownfields Restoration and School Evaluation Branch Reading File

G PHASE I ENVIRONMENTAL SITE ASSESSMENT

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants

PHASE I
ENVIRONMENTAL SITE ASSESSMENT
DORIS PATTERSON NEW ACADEMY SITE ACQUISITION
OXNARD SCHOOL DISTRICT
OXNARD, CALIFORNIA

PREPARED FOR:
Ms. Lisa Williams
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

March 27, 2015
Project No. 209348001

March 27, 2015
Project No. 209348001

Ms. Lisa Williams
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

Subject: Phase I Environmental Site Assessment
Doris Patterson New Academy Site Acquisition
Oxnard School District
Oxnard, California

Dear Ms. Williams:

In general accordance with your authorization dated February 20, 2015 and the scope of services outlined in our Proposal No. P-16466 dated June 18, 2014. Ninyo & Moore has performed a Phase I Environmental Site Assessment of the above-referenced site. The attached report presents our methodology, findings, opinions, and conclusions regarding the environmental conditions at the site. We appreciate the opportunity to be of service to you on this project.

We appreciate the opportunity to be of continued service to you on this project.

Sincerely,
NINYO & MOORE

Patrick Cullip
Senior Staff Engineer

Summer Hansen-Rooks
Project Environmental Scientist

John Jay Roberts, PG, CEG
Senior Geologist

PROFESSIONAL GEOLOGIST No. 3489
JOHN JAY ROBERTS
CERTIFIED ENGINEERING GEOLOGIST No 1019
EXPIRATION DATE 10/31/16
STATE OF CALIFORNIA

PJC/SJH/JJR/lr/sc

Distribution: (1) Addressee (via e-mail)

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Appendices

EXECUTIVE SUMMARY

Ninyo & Moore conducted a Phase I Environmental Site Assessment (ESA) of the property at the southeast corner of the intersection of Doris Avenue and North Patterson Road, in the city of Oxnard, California (site; Figure 1). Ninyo & Moore was contracted by LSA Associates, Inc. (LSA) to conduct this assessment in general accordance with our proposal dated February 20, 2015. Historical research, document review, and site assessment activities were conducted in February and March 2015. The Oxnard School District (District) is considering acquisition of the site for a school. Therefore, this Phase I ESA includes the evaluation of additional possible conditions in accordance with Sections 17210-17213 and 17251 of the California Education Code (CEC); Title 5, Sections 14010, 14011, and 14012 of the California Code of Regulations; Assembly Bill (AB) 2644 and with the California Department of Education's (CDE) School Site Selection and Approval Guide (CDE, 2000).

In general, the following items were noted:

- The site is at the southeast corner of the intersection of Doris Avenue and North Patterson Road, in the city of Oxnard, California, and is identified as Ventura County Assessors' Parcel Number (APN) 183-0-070-090. The site is currently owned by the Joan Henson Margaret M Anderson Ralph Borchard Jr Trustee. The site is occupied by Borchard Ranch, and is used for agricultural purposes. The site consists of a rectangular-shaped parcel totaling approximately 20 acres.

- Historical records reviewed by Ninyo & Moore indicated the site was agricultural land from at least 1938 to the time of this report. Due to the agricultural land use, the site was likely applied with commercial pesticides and/or herbicides. This represents a recognized environmental condition (REC) for the site.

- Hazardous substances, underground storage tanks (USTs), aboveground storage tanks (ASTs), evidence of releases, and other environmental issues were not identified on the site during the site reconnaissance.

- The site was not listed on searched environmental databases.

- To date, the key site manager, Southern California Edison, Southern California Gas Company, the County of Ventura, and the City of Oxnard have not yet responded to our requests to review records or acquire information for the site. The user questionnaire was not returned to us at the time of this publication. These are considered data gaps. If information

from these agencies alters the conclusions and recommendations of this report, an addendum will be prepared.

- Based on the completion of the Vapor Encroachment Screening Matrix, it is unlikely that a vapor encroachment condition currently exists beneath the site.
- Potential off-site sources of environmental concern were not identified in the immediate site vicinity.

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-13 of the 20-acre property on the southeast corner of the intersection of Doris Avenue and North Patterson Road, in the city of Oxnard, California, the property. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of RECs in connection with the property except for the following:

- The current and historic agricultural land use of the site represents a REC.

Ninyo & Moore recommends a subsurface investigation to evaluate the REC.

1. INTRODUCTION

Ninyo & Moore conducted a Phase I Environmental Site Assessment (ESA) of the 20-acre property southeast of the intersection of Doris Avenue and North Patterson Road, in the city of Oxnard, California (site; Figure 1). Ninyo & Moore was contracted by LSA Associates, Inc. (LSA) to conduct this assessment in general accordance with their authorization dated February 20, 2015 and our proposal dated June 18, 2014. The following sections identify the purpose, the involved parties, the scope of services, and the limitations and exceptions associated with this Phase I ESA.

1.1. Purpose

The objective of the Phase I ESA is to evaluate, in general accordance with the process described in ASTM International (ASTM) Practice E1527-13, recognized environmental conditions (RECs), which are defined by ASTM as "the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

The Oxnard School District (District) is considering acquisition of the site for a school. Therefore, this Phase I ESA includes the evaluation of additional possible conditions in accordance with Sections 17210-17213 and 17251 of the California Education Code (CEC); Title 5, Sections 14010, 14011, and 14012 of the California Code of Regulations; Assembly Bill (AB) 2644 and with the California Department of Education's (CDE) School Site Selection and Approval Guide (CDE, 2000).

As defined in ASTM E1527-13, de minimis conditions are not considered RECs. A de minimis condition is defined as "a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

Identification of RECs fall into three categories: existing RECs (as defined above); Historical RECs (HRECs); or Controlled RECs (CRECs).

- HREC – A HREC is defined as "a past release of any hazardous substance or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations [AULs], institutional controls, or engineering controls)."

- CREC – A CREC is defined as "recognized environmental conditions resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, AULs, institutional controls, or engineering controls)."

1.2. Involved Parties

Mr. Patrick Cullip of Ninyo & Moore conducted the site reconnaissance on March 13, 2015. Mr. Cullip also performed regulatory inquiries, historical research, document review, and completed the report. Ms. Summer Hansen-Rooks of Ninyo & Moore performed project oversight and quality review. Mr. John Jay Roberts of Ninyo & Moore conducted the senior quality review for this project. Resumes of professionals that conducted this Phase I ESA are presented in Appendix G. The Phase I ESA was prepared for LSA.

1.3. Scope of Services

Ninyo & Moore's scope of services for this Phase I ESA included the following:

- Review of available federal, state, and local regulatory agency database for the site and for properties located within the ASTM International (ASTM) recommended search radius of the site. The purpose of this review is to evaluate possible environmental impacts to the subject site. Databases will identify locations of known hazardous waste sites, landfills, and leaking underground storage tanks, permitted facilities that utilize aboveground or underground storage tanks, and facilities that used, stored, or disposed hazardous materials.

- Conduct interviews with the property owner and/or manager(s) and contiguous property owners, as available, regarding the environmental status of the site.

- Perform a site and vicinity reconnaissance to visually identify areas of possibly contaminated surficial soil or surface water, improperly stored hazardous materials,

suspect asbestos-containing materials, suspect lead-based paint, possible sources of polychlorinated biphenyls, and possible risk of contamination from activities at the site and adjacent or nearby properties.

- Perform a site vicinity reconnaissance from public right-of-way for aboveground storage tanks, including propane tanks within 1,500 feet of the site.

- Request the local Air Quality Management District to evaluate properties within ¼ mile of the site for possible activities that may reasonably be anticipated to have hazardous air emissions.

- Request the State Fire Marshal's office to evaluate the possible presence of underground hazardous materials-conveying pipelines within 1,500 feet of the site.

- Review the city utility maps for information on high pressure natural gas lines and electric transmission lines on or within 1,500 feet of the site.

- Meet with and/or review files from appropriate state and local regulatory agencies having files or information relative to the site. Requests were made to the Ventura County Department of Health Services, the local Air Quality Management District, the Ventura County Fire Department, the Los Angeles Regional Water Quality Control Board, and the DTSC.

- Review readily available historical resources, including, aerial photographs, city directories, and fire insurance maps of the site and vicinity.

- Review the site specific and regional geology and hydrogeology. Specific information that were obtained includes depth to groundwater, groundwater gradient and flow direction, and regional groundwater quality. This type of information is used to evaluate the likelihood that off-site sources of hazardous materials have impacted the soil and groundwater beneath the site.

- Review available land title reports and maps provided by the District pertaining to the site.

- Review readily available maps and reports pertaining to the environmental condition of the site.

- Review topographic maps for railroads within 1,500 of the site.

- Identify the presence of freeways and other busy corridors within 500 feet of the site.

- Identify the presence of airport facilities or airport master plan facilities within two nautical miles of the site.

- Prepare a Phase I ESA report documenting findings and providing opinions and recommendations regarding possible environmental impacts at the site. Report language will be such as to satisfy ASTM, All Appropriate Inquiries (AAI), and CDE requirements.

1.4. Limitations and Exceptions

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report.

This document is intended to be used only in its entirety. No portion of the document, by it-self, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information or has questions regarding the content, interpretations presented, or completeness of this document.

The findings, opinions, and conclusions are based on an analysis of the observed site conditions and the referenced literature. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject property or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control. Ninyo & Moore cannot warrant or guarantee that not finding indicators of any particular hazardous material means that this particular hazardous material or any other hazardous materials do not exist on the site. Additional research, including invasive testing, can reduce the uncertainty, but no techniques now commonly employed can eliminate the uncertainty altogether.

1.5. Special Terms and Conditions

This study did not include an evaluation of geotechnical conditions or potential geologic hazards. In addition, as indicated in Section 13.1.5 of ASTM E 1527-13, the following, which is not intended to be all inclusive, represents out-of-scope items with respect to a

Phase I ESA and, therefore, were not addressed: asbestos-containing materials, lead-based paint, lead in drinking water, regulatory compliance, cultural and historic risk, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents and mold. Furthermore, Ninyo & Moore did not address interpretations of zoning regulations, building code requirements, or property title issues.

1.6. User Reliance

This report may be relied upon by, and is intended exclusively for LSA. Any use or reuse of the findings, opinions, and/or conclusions of this report by parties other than these is undertaken at said parties' sole risk.

1.7. Physical Limitations

Physical limitations were not encountered during the site reconnaissance.

1.8. Data Gaps

To date, the key site manager, Southern California Edison (SCE), Southern California Gas Company (SCGC), County of Ventura, and City of Oxnard have not yet responded to our requests to review files or acquire information for the site. The user questionnaire was not returned to us at the time of this publication. If information from these agencies alters the conclusions and recommendations of this report, an addendum will be prepared.

2. SITE DESCRIPTION

The following sections describe the location of the site, general characteristics and current uses of the site, the structures present at the site, the occupants of the site, the heating and cooling systems utilized in the site buildings, the sewage disposal system, and the potable water provider for the site. The current uses of adjacent properties are also described. A site location map is presented as Figure 1. An aerial photograph depicting the site and vicinity is presented as Figure 2. Photographs of the site taken during the site reconnaissance are presented in Appendix A.

2.1. Location and Description

The site is southeast of the intersection of Doris Avenue and North Patterson Road, in the city of Oxnard, California, and is identified as a portion of Ventura County Assessor's Parcel Number (APN) 183-0-070-090. According to the EDR Environmental LienSearch™ report (EDR, 2015a), the current legal owner of the property is the "Joan Henson Margaret M Anderson Ralph Borchard Jr Trustee."

2.2. General Site Characteristics

The site consists of a rectangular-shaped parcel totaling approximately 20 acres.

2.2.1. Site Description

The site is developed with an agricultural field.

2.2.2. Occupants

The site is occupied by Mr. Scott Hiji, a tenant, who uses the site for agricultural purposes. Structures were not observed within the boundaries of the subject site at the time of the reconnaissance.

2.2.3. Roads

As shown on Figure 2, the site is bound to the north by Doris Avenue and to the west by North Patterson Road. Dirt access roads border the site to the south and east. Roads were not observed on the site at the time of the site reconnaissance.

2.2.4. Heating and Cooling Systems

Heating and cooling systems were not observed on the site at the time of the site reconnaissance. Heating and cooling in the site vicinity are powered by natural gas and electricity, which are supplied to the site vicinity by the SCGC and SCE, respectively.

2.2.5. Sewage Disposal/Septic Systems

Sewage disposal in the site vicinity is serviced by the City of Oxnard.

2.2.6. Potable Water

Water is provided to the site by the City of Oxnard.

2.3. Adjoining Properties

Table 1 lists the properties adjoining the site and associated land use. The general site surrounding includes commercial and residential properties. Based on the nature of the adjacent properties and observations made during our site reconnaissance, it is unlikely that these properties have impacted the environmental integrity of the site.

Table 1 – Adjoining Properties

Location	Current Occupant(s)
North	Doris Avenue, beyond which are residential properties
South	Dirt access road, beyond which is agricultural land
East	Agricultural land
West	North Patterson Road, beyond which is agricultural land

3. USER PROVIDED INFORMATION

The following sections summarize information provided by the user to assist the environmental professional in identifying the possibility of RECs in connection with the site, and to fulfill the user's responsibilities in accordance with Section 6 of ASTM Practice E 1527-13. The user questionnaire was submitted for completion but not returned to us at the time of this publication. This is considered a data gap.

3.1. Current Title Information

Title records were not provided to Ninyo & Moore by the user.

3.2. Environmental Liens or Activity and Use Limitations (AULs)

An environmental liens search was completed by EDR dated February 25, 2015. According to the EDR Environmental LienSearch™ report, environmental liens or other AULs were not found for the site address. A copy of the EDR Environmental LienSearch™ report is included in Appendix C.

3.3. Specialized Knowledge

Specialized knowledge regarding the site was not provided to Ninyo & Moore.

3.4. Commonly Known or Reasonably Ascertainable Information

Commonly known or reasonably ascertainable information pertaining to the site that is material to RECs in connection with the site was not noted by Ninyo & Moore, or communicated to us in writing, in person, or during phone conversations for purposes of this assessment.

3.5. Valuation Reduction for Environmental Issues

Information regarding valuation reduction for environmental issues was not provided to Ninyo & Moore.

3.6. Other User Provided Information

Other information regarding the environmental condition of the site was not provided to Ninyo & Moore.

4. PHYSICAL SETTING

The following sections include discussions of topographic, geologic, hydrogeologic conditions, and wetlands characterization in the vicinity of the site, based upon our document review and our visual reconnaissance of the site and adjacent areas.

4.1. Topographic Conditions

Based on a review of the US Geological Survey (USGS), 7.5-Minute Topographic Quadrangle Map Series, Oxnard, California, 1949 photorevised 1967, the site is situated at an elevation of approximately 40 to 45 feet above mean sea level (USGS, 1949).

4.2. Geologic and Soil Conditions

According to the EDR Radius Map Report (Section 6), the stratigraphic units underlying the site are Cenozoic era, Quaternary system, and Quaternary series in a stratified sequence. The dominant soil class at the site is of the Camarillo component with a loam texture. The soil is classified as a Class C hydrologic group with slow infiltration rates due to soil layers

impeding downward movement of water, or soils with moderately fine or fine textures. Soil classifications include loam from 0 to 24 inches (silts and clays), stratified sandy loam to sandy clay loam from 24 to 50 inches (silts and clays), and fine sand from 50 to 79 inches (sands and silty sands).

4.3. Site Hydrology

The following sections discuss the site hydrology in terms of surface water and groundwater.

4.3.1. Surface Waters

There are three freshwater ponds approximately 0.90 mile north of the site at the River Ridge Golf Club. Other natural surface water bodies, including ponds, streams, or other bodies of water, were not present within one mile of the site.

4.3.2. Wetlands

Based on information obtained from the U.S. Fish and Wildlife Service webpage (http://www.fws.gov/wetlands/data/Mapper.html), there are several wetlands bordering agricultural properties within one mile of the site. Wetlands were not present on the site.

4.3.3. Groundwater

Groundwater information for the site was not readily available. According to the State Water Resources Control Board (SWRCB) GeoTracker website (geotracker.swrcb.ca.gov), groundwater monitoring was conducted at the former Fremont Cleaners at 690 North Ventura Road, approximately 0.60 mile east and up to cross-gradient of the site. Depth to groundwater ranged from 14.5 to 19.7 feet below ground surface (bgs) in the shallow zone and 37.8 to 38.8 feet bgs in the deeper zone in January 2015. The groundwater gradient was determined to flow to the northwest (Turner Maclane, Inc., 2015).

Groundwater levels can fluctuate due to seasonal variations, groundwater withdrawal or injection, and other factors.

4.3.4. Radon

Based on the results of a California statewide radon survey conducted in 2010 by the California Department of Health Services, the possibility that high levels of radon exist at the site is considered to be low. Radon concentrations at, or above, 4 picocuries per liter (pCi/l) are considered to be of environmental concern to Cal-EPA and EPA. Based on the statewide survey, 38 tests for radon were analyzed within the zip code in which the site is located (93030). One test returned results with radon concentrations of 4 pCi/l or higher. Radon testing was not performed at the site and was beyond the scope of services for this Phase I ESA.

5. HISTORICAL USE INFORMATION

Ninyo & Moore conducted a historical record search for both the site and surrounding areas. This review included one or more of the following sources that were found to be both reasonably ascertainable and useful for the purposes of this Phase I ESA: historical aerial photographs, historical fire insurance maps, historical city directories, building permits, topographic maps, and zoning/land use records. The following table lists the historical data types reviewed for this Phase I ESA, their source, their respective dates, and data failures encountered during our review, if any.

Source

Data Type	Data Type	Source Dates	Data Limitation
Historical Aerial Photographs	EDR Historical Aerial Decade Package	1938-2012	None
Certified Sanborn Fire Insurance Maps	EDR Certified Sanborn Report	None Available	None
City Directories	EDR City Directory Abstract	1926-2013	No listings for the site.
Building records	County of Ventura	N/A	N/A
Topographic Maps	EDR Historical Topographic Map Report	1904-1967	None
Note: EDR – Environmental Data Resources, Inc. N/A – Not Applicable			

Historical records reviewed by Ninyo & Moore indicated the site was agricultural land from at least 1938 to 2012.

Although one or more of the sources listed above provided limited information with regards to the historical use of the site, the information gathered from the sources reviewed as a whole is adequate to develop a history of the previous uses of the site and the surrounding area in accordance with Section 8.3 of ASTM Practice E 1527-13.

5.1. Historical Aerial Photographs

Historical aerial photographs dated 1938 to 2012 were provided by EDR. Table 2 presents a summary of our review. Historical aerial photographs are provided in Appendix D.

Table 2 – Aerial Photograph Review

Photograph Date	Subject Property	Site Vicinity	
1938	The site appeared developed as agricultural land.	North	Doris Avenue appeared, beyond which was agricultural land. Residential structures appeared northeast of the site.
		South	Agricultural land.
		East	
		West	North Patterson Road appeared, beyond which was agricultural land.
1947	The site appeared similar to that observed in the 1938 aerial photograph.	North	The site vicinity appeared similar to that observed in the 1938 aerial photograph.
		South	
		East	
		West	
1953	The site appeared similar to that observed in the 1947 aerial photograph.	North	The site vicinity appeared similar to that observed in the 1947 aerial photograph.
		South	Oxnard Airport appeared developed.
		East	The site vicinity appeared similar to that observed in the 1947 aerial photograph.
		West	
1959, 1967	The site appeared similar to that observed in the 1953 aerial photograph.	North	The site vicinity appeared similar to that observed in the 1953 aerial photograph.
		South	
		East	
		West	
1977	The site appeared similar to that observed in the 1953 aerial photograph.	North	The residential structures northeast of the site appeared as vacant land.
		South	The site vicinity appeared similar to that observed in the 1953 aerial photograph.
		East	
		West	
1985	The site appeared similar to that observed in the 1977 aerial photograph.	North	Residential properties appeared.
		South	The site vicinity appeared similar to that observed in the 1977 aerial photograph.
		East	
		West	

Table 2 – Aerial Photograph Review

Photograph Date	Subject Property	Site Vicinity	
1994	The site appeared similar to that observed in the 1985 aerial photograph.	North	Additional residential properties.
		South	The site vicinity appeared similar to that observed in the 1985 aerial photograph.
		East	
		West	
2005, 2009, 2010	The site appeared similar to that observed in the 1994 aerial photograph.	North	The site vicinity appeared similar to that observed in the 1994 aerial photograph.
		South	
		East	
		West	
2012	The site appeared similar to that observed during the time of the site reconnaissance.	North	The site vicinity appeared similar to that observed during the time of the site reconnaissance.
		South	
		East	
		West	

Based on Ninyo & Moore's review of historical aerial photographs, the site was agricultural land from at least 1938 to 2012. Due to the agricultural land use, the site was likely applied with commercial pesticides and/or herbicides. This represents a REC for the site.

Historical aerial photographs showing the site prior to its development in 1938 were not readily available. However, based on Ninyo & Moore's experience, it is probable the site was either vacant or agricultural land prior to its historical use. Therefore, Ninyo & Moore does not consider this data gap significant and did not impact Ninyo & Moore's ability to identify RECs at the site.

5.2. Sanborn Fire Insurance Rate Maps

Ninyo & Moore requested Sanborn Fire Insurance Rate Maps from EDR. According to EDR, Sanborn maps do not exist for the site vicinity. The Sanborn Map Report can be found in Appendix D.

5.3. Oil and Gas Maps

According to the State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) Well Finder website, active or abandoned oil wells are not present on the site. Several oil wells are present within a 1-mile radius of the site. The nearest oil well, "Richfield-Doheny Ox. Airport" 1, is a plugged and inactive active oil well

approximately 475 feet south and up to cross-gradient of the site. The site lies within the boundaries of the Montalvo, West oil field. The wells identified within a mile of the site do not represent a REC or indicator of a REC for the site. The Montalvo, West oil field is further discussed in Section 7.20.

5.4. City Directories

Ninyo & Moore reviewed the EDR Historical City Directory Abstract which included information from select historical city directories for the years 1926 through 2013. The site was not listed in city directories. City directories are provided in Appendix D.

5.5. Historical Chain-of-Ownership Records

A historical chain-of-ownership report was not provided by the client for review by Ninyo & Moore for this Phase I ESA.

5.6. Building Permits

A request was sent to the City of Oxnard Building and Engineering Services (BES) on March 12, 2015 for building permits associated with the site APN. The BES referred Ninyo & Moore to the County of Ventura, stating the site is not under their jurisdiction. A request was sent to the County of Ventura on March 24, 2015 for building permit records. To date, the County of Ventura has not responded to our request to review building records. This is considered a data gap. If information from the County of Ventura alters the conclusions and recommendations of this report, an addendum will be prepared.

5.7. Historical Topographic Maps

Historical topographic maps were provided by EDR and dated 1904, 1910, 1947, 1951, and 1949 photorevised 1967. Structures were not depicted on the site in the historical topographic maps reviewed. North Patterson Road appeared developed by 1904, and Doris Avenue appeared developed by 1947. A copy of the EDR Historical Topographic Map Report is included in Appendix D.

5.8. Previous Report and Documents

A Phase I ESA of the property, prepared by Cardno ATC and dated March 5, 2014, was provided by the client to Ninyo & Moore for review. According to the report, the site was used historically and currently (at the time of their report) for agricultural use. Cardno ATC identified the past use of pesticides as a REC "based on the fact that future development of the property includes a planned school site." Significant data gaps were not identified. Cardno ATC recommended a subsurface investigation to sample for pesticides and arsenic at the site.

6. ENVIRONMENTAL DATABASE REPORT REVIEW

EDR performed a computerized environmental information database search on February 24, 2015 (Appendix E). The EDR report included federal, state, and local databases. The following paragraphs describe the databases that contain noted properties of environmental concern, and include a discussion of the regulatory status of the facilities and potential environmental impact to the subject site. According to GeoTracker, groundwater in the site vicinity is estimated from 14.5 to 19.7 feet below ground surface (bgs) in the shallow zone and 37.8 to 38.8 feet bgs in the deeper zone. Groundwater in the site vicinity is expected to flow generally to the northwest.

6.1. National Priorities List (NPL): Distance Searched – 1 mile

The NPL is the EPA database of uncontrolled or abandoned hazardous waste properties listed for priority remedial actions under the Superfund program.

Neither the site nor properties located within the searched distance were listed on this database.

6.2. Proposed and Delisted National Priorities List (NPL): Distance Searched – ½ mile

The Proposed NPL database lists properties that are currently being evaluated for priority remedial actions for the Superfund program. The Delisted NPL database includes properties that are deleted from the NPL database based upon the National Oil and Hazardous

Substances Pollution Contingency Plan. This deletion takes place after no further response to the NPL is appropriate.

Neither the site nor properties located within the searched distance were listed on either database.

6.3. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List: Distance Searched – ½ mile

The CERCLIS database contains properties which are either proposed or on the NPL and properties which are in the screening and assessment phase for possible inclusion on the NPL.

Neither the site nor properties located within the searched distance were listed on this database.

6.4. CERCLIS/No Further Remedial Action Planned (NFRAP) List: Distance Searched – ½ mile

CERCLIS sites designated as NFRAP have been removed from the CERCLIS database following an initial investigation where no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

Neither the site nor properties located within the searched distance were listed on this database.

6.5. Corrective Action Report (CORRACTS): Distance Searched – 1 mile

The EPA maintains this database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing corrective action. A corrective action order is issued when a release of hazardous waste or constituents into the environment from a RCRA facility has occurred.

Neither the site nor properties located within the searched distance were listed on this database.

6.6. Resource Conservation and Recovery Act (RCRA) Treatment, Storage and Disposal (TSD) Facilities List: Distance Searched – ½ mile

The RCRA TSD database is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste.

Neither the site nor properties located within the searched distance were listed on this database.

6.7. Resource Conservation and Recovery Act (RCRA) Generators List: Site and Adjacent Properties.

This list identifies sites that generate hazardous waste as defined by RCRA. Inclusion on this list is for permitting purposes and is not indicative of a release.

The site and adjacent properties were not listed on this database.

6.8. Emergency Response Notification System (ERNS) List: Distance Searched – Site

The ERNS database contains information of reported releases of oil and hazardous substances and is maintained by the EPA.

The site was not listed on this database.

6.9. United States Engineering Controls: Distance Searched – ½ mile

This database is an EPA listing of sites with engineering controls in place, such as various forms of caps, building foundations, liners, and treatment methods intended to eliminate pathways for regulated substances to enter environmental media or affect human health.

Neither the site nor properties located within the searched distance were listed on this database.

6.10. United States Institutional Controls: Distance Searched – ½ mile

This database is an EPA listing of sites with institutional controls in place, such as administrative measures, groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements, intended to prevent exposure to contaminants remaining on site.

Neither the site nor properties located within the searched distance were listed on this database.

6.11. State Sites: Distance Searched – 1 mile

The State Sites database consists of potential or confirmed hazardous substance release properties. This database is identified as the California EnviroStor Database.

The site was not listed on this database. The following six facilities were listed on this database within the searched distance.

Facility and Address	Distance/ Direction from Site	Groundwater Gradient (General for Vicinity Flow)	Regulatory Status	Completed Date	Environ-mental Concern (Y/N)
Standard Pacific of Ventura 2550 West Gonzales Road	0.76 mile north	Down to cross-gradient	No Further Action	10/03/1996	N
Northwest Elementary Gonzales Road/Patterson Road	0.76 mile north	Down to cross-gradient	No Further Action	03/06/2001	N
Oxnard ILS OTR MK AX Not listed	0.93 mile northeast	Cross-gradient	Inactive – Needs Evaluation	07/01/2005	N
Oxnard Cont Sch Not listed	0.43 mile southeast	Up-gradient	Inactive – Needs Evaluation	07/01/2005	N
Condor Helicopters & Aviation 2899 West 5th Street	0.56 mile south	Up to cross-gradient	Refer: Other Agency	08/15/1995	N
Wingfield 5th Street/Patterson Road	0.57 mile south	Up to cross-gradient	No Further Action	06/01/2005	N

Based on the distance, direction, and/or their current regulatory status, it is unlikely that activities at these facilities have impacted the environmental integrity of the site. Therefore,

Ninyo & Moore concluded these listings do not represent a REC or indicator of a REC for the site.

6.12. Solid Waste Landfill Sites (SWL): Distance Searched – ½ mile

The SWL database consists of open and closed solid waste disposal facilities and transfer stations. The data comes from the Integrated Waste Management Unit Database.

Neither the site nor properties located within the searched distance were listed on this database.

6.13. State Leaking Underground Storage Tank (LUST) Lists: Distance Searched – ½ mile

Databases of the LUST information system are maintained by the California State Regional Water Quality Control Boards (RWQCBs).

The site was not listed on this database. Coachella City Yard in Coachella, California was listed on the database as 0.23 mile south-southeast of the site. However, the city of Coachella is approximately 180 miles east of the site. This is considered a reporting error and is therefore not included in our review. The following four facilities (listed as six separate facilities by EDR) were listed on this database within the searched distance.

Facility, Address, Facility ID Number	Distance/ Direction from Site	Groundwater Gradient (General for Vicinity Flow)	Case Number	Regulatory Status	Closure Date (if applicable)	Environmental Concern (Y/N)
F.A. Borchard & Sons 1618 Doris Avenue	0.37 mile east	Up to cross-gradient	T0611100208	Case Closed	02/09/1998	N
Ven Oaks Plumbing 131 Mallard Way	0.45 mile southeast	Up-gradient	T0611100185	Case Closed	05/10/2006	N
Proodos Properties Inc. 2200 Teal Club Road	0.20 mile south-southeast	Up to cross-gradient	T0611100975	Case Closed	03/28/1996	N
V-Oxnard Airport Fuel Farm 2889 5th Street	0.23 mile south-southeast	Up to cross-gradient	T0611100567	Case Closed	01/10/2001	N
			T0611100354	Case Closed	03/09/2012	
Notes: ID – Identification N/A – Not Applicable						

Based on the distance and current regulatory status, it is unlikely activities at these facilities have impacted the environmental integrity of the site.

6.14. Underground Storage Tank (UST) Registration List: Distance Searched – ¼ mile (Site and Adjacent)

UST records are provided by the SWRCB's Hazardous Substance Storage Container Database and the SWRCB Facility Inventory Database (FID). Inclusion of facilities on this list does not necessarily indicate a release.

The site and adjacent properties were not listed on this database. Although not adjacent, three facilities within the searched distance were listed on this database. The database included identification numbers, latitude, longitude, and/or permitting agency. Information regarding the capacity or contents of the UST was not provided. Based on this information, these facilities would not be a REC or indicator of a REC for the site.

6.15. Permitted Aboveground Storage Tank (AST) List: Distance Searched – ¼ mile

According to EDR, AST records are provided by the SWRCB. Inclusion of facilities on this list does not necessarily indicate a release.

The site and adjacent properties were not listed on this database.

6.16. Voluntary Cleanup Program Sites: Distance Searched – ½ mile

This database is a California Environmental Protection Agency (Cal-EPA) listing of properties involved in the voluntary remediation program.

Neither the site nor properties located within the searched distance were listed on this database.

6.17. Brownfields: Distance Searched – ½ mile

This database is a Department of Toxic Substances Control (DTSC) tracking system of California Brownfields sites.

Neither the site nor properties located within the searched distance were listed on this database.

6.18. Indian Reservation: Distance Searched – 1 mile

USGS map layer portrays Indian administered land within the United States with an area equal to or greater than 640 acres.

Indian reservation land was not found within the searched distance.

6.19. Indian Leaking Underground Storage Tank (LUST): Distance Searched – ½ mile

This is a database maintained by the EPA of LUSTs on Indian land in Arizona, California, New Mexico, and Nevada.

Neither the site nor properties located within the searched distance were listed on this database.

6.20. Indian Underground Storage Tank (UST): Distance Searched – ¼ mile

This is a database maintained by the EPA of USTs on Indian land.

Neither the site nor properties located within the searched distance were listed on this database.

6.21. Drycleaners: Distance Searched – ¼ mile

EDR provided a list of drycleaner related facilities that have EPA identification numbers. These facilities with certain Standard Industrial Classification codes: power laundries, family and commercial; garment pressing and cleaners' agents; linen supply; coin-operated laundries and cleaning; dry cleaning plants except rugs; carpet and upholstery cleaning; industrial launderers; laundry and garment services.

Neither the site nor properties located within the searched distance were listed on this database.

7. SITE RECONNAISSANCE

On March 13, 2015, Mr. Patrick Cullip of Ninyo & Moore conducted the site reconnaissance. The reconnaissance involved visual observations of the site and adjoining properties. Photographs taken during the site reconnaissance will be included in Appendix A in the final version of this report.

7.1. Use and Storage of Hazardous Substances and Petroleum Products

Use and storage of hazardous substances and petroleum products were not observed during the site reconnaissance.

7.2. Storage and Disposal of Hazardous Waste

Storage and disposal of hazardous waste was not observed during the site reconnaissance.

7.3. Evidence of Releases

Evidence of releases was not observed during the site reconnaissance.

7.4. Aboveground Storage Tanks (ASTs) and Underground Storage Tanks (USTs)

Evidence of USTs (e.g., fill pipes, vent pipes, and emergency power generators) or ASTs was not observed on the site during the site reconnaissance.

One 1,000-gallon and two 500-gallon ASTs labeled as containing phosphoric acid, potassium chloride, and nitrogen were adjacent to the south of the site (Figure 2). The 1,000 gallon AST was empty. One of the 500 gallon ASTs was approximately half full; the other was a mobile 500 gallon AST (on wheels) that was approximately one-fifth full. Secondary containment was not observed for the ASTs. A pumping station was observed adjacent to the ASTs.

7.5. Polychlorinated Biphenyls

Historically PCBs, a group of hazardous substances and suspected human carcinogens, were widely used as an additive in cooling oils for electrical components. The manufacture of PCB containing equipment was discontinued in 1979. Typical sources of PCBs include electrical transformers. The three pole-mounted transformers were observed off site at the

pumping station. Power lines run along the southern border of the site from Patterson Road to the pumping station, where they end. Power lines also run north along the west edge of the site along Patterson Road, and extend underground before reaching Doris Avenue.

7.6. Wastewater Systems

Wastewater systems were not observed on the site during the site reconnaissance.

7.7. Stormwater Systems

Stormwater systems were not observed during the time of the site reconnaissance.

7.8. Wells

On-site wells were not observed during the site reconnaissance.

7.9. Surface/Subsurface Structures

Surface structures or evidence of subsurface structures (e.g., sumps, vaults, oil/water separators, and other surface impoundments) were not observed on the site.

7.10. On-Site Records

On-site records were not made available for Ninyo & Moore to review.

7.11. Controlled Substances Production

Evidence of controlled substance production, such as methamphetamine laboratories, was not noted within or adjacent to the boundaries of the site.

7.12. High-Voltage Electrical Transmission Lines

In accordance with Title 5, Section 14010 of the California Code of Regulations, the property line of a new school site should be at least the following distance from the edge of respective power line easements: (1) 100 feet for a 50-133 kilovolt (kV) line, (2) 150 feet for a 220-230 kV line, and (3) 350 feet for a 500-550 kV line.

Ninyo & Moore requested information from SCE on March 6, 2015 regarding overhead and underground electrical lines with the specified distances from the site. To date, Ninyo & Moore has not received a response from SCE. This is considered a data gap.

7.13. Underground Pipelines

Ninyo & Moore requested information regarding underground petroleum, natural gas, and water lines located within 1,500 feet of the site from the City of Oxnard (March 12, 2015), Office of the State Fire Marshal (SFM, February 24, 2015), and Public Utilities Commission (March 3, 2015). Ninyo & Moore also reviewed the National Pipeline Mapping System (NPMS, https://www.npms.phmsa.dot.gov). According to the SFM, "there are no pipelines jurisdictional to the State Fire Marshal in the area." According to the City of Oxnard Public Works Department, requests for utility information should be sent to the individual companies, as per state guidelines.

7.13.1. Natural Gas Pipelines

According to the NPMS, a natural gas line is beneath Teal Club Road, approximately 1,000 feet south of the site. Additional information regarding the pipeline was not available. Ninyo & Moore reviewed the SCGC website (http://www.socalgas.com/safety/pipeline-maps/ventura.shtml) for additional information. The pipeline along Teal Club Road was listed as a high pressure distribution line: "pipelines that operate at pressures above 60 pounds per square inch (psi) and deliver gas in smaller volumes to the lower pressure distribution system." Ninyo & Moore requested additional from the SCGC on March 5, 2015. To date, the SCGC has not yet responded to our request. This is considered a data gap.

7.13.2. Petroleum Pipelines

According to the NPMS, hazardous liquid pipelines are not within 1,500 feet of the site.

7.13.3. Water Pipelines

Ninyo & Moore requested information from the City of Oxnard on March 12, 2015 regarding high-pressure water pipelines within 1,500 feet of the site. To date, the City of Oxnard has not yet responded to our request. This is considered a data gap.

7.14. Railroad Tracks

During the site reconnaissance, railroad tracks were not observed within or adjacent to the site. According to the USGS, Oxnard Quadrangle topographic map, railroad tracks are not present within 1,500 feet of the site.

7.15. Airports

According to Google Earth, the Oxnard Airport and its nearest runway are approximately 0.3 nautical mile south of the site.

7.16. Reservoirs/Water Storage Tanks

Large water tanks/reservoirs were not observed on or near the site during the site reconnaissance. Ninyo & Moore requested information from the City of Oxnard on March 12, 2015 regarding large water tanks/reservoirs within 1,500 feet of the site. To date, the City of Oxnard has not yet responded to our request. This is considered a data gap.

7.17. Asbestos and Lead-Based Paint (LBP)

Evidence of structures was neither observed on the site during the site reconnaissance nor indicated by our historical research. Therefore, it is unlikely asbestos and LBP are present on the site.

7.18. Suspected Pesticides in Soil

Based on the current and historic site use as agricultural land, the suspected presence of pesticides and metals from agricultural usage in shallow soil would be considered a REC.

7.19. Lead in Drinking Water

According to the Consumer Confidence Report, 2013 Annual Water Quality Report for City of Oxnard Water Customers (City of Oxnard, 2014), concentrations of lead in the drinking water were not exceeded.

7.20. Methane

Evidence of possible sources of methane gas (e.g., landfills, dump sites, oil wells, etc.) was not observed at the site during the site reconnaissance. The site is within the administrative boundaries of the Montalvo, West oil field.

7.21. Other Environmental Issues

Other environmental issues were not noted on the site during our reconnaissance.

8. ENVIRONMENTAL REGULATORY AGENCY INQUIRIES

Based on the site reconnaissance, historical research, and environmental database review, information regarding the site and relevant surrounding properties requests for records were made to local government agencies and, if available, reviewed by Ninyo & Moore. Based on information obtained from local government agencies, it was judged that interviews of regulatory officials would not provide additional meaningful information to the Phase I ESA.

8.1. Regional Water Quality Control Board (RWQCB)

Ninyo & Moore made requests to the SLIC, Well Investigation Program and UST units of the Los Angeles RWQCB on February 24, 2015 to review records that may be available for the site APN. According to the RWQCB, they are unable to search by APN and could not process the request.

8.2. California Department of Toxic Substances Control (DTSC)

Ninyo & Moore made a request to the DTSC – Chatsworth office on February 24, 2015 to review records that may be available for the site APN. According to the DTSC – Chatsworth office, no such records exist for the site.

8.3. Ventura County Air Pollution Control District (VCAPCD)

Ninyo & Moore reviewed VCAPCD's Facility Information System (FIS) website (http://www.vcapcd.org/FIS.htm) for information regarding the site. According to the website, the site and properties within 0.25 mile of the site were not listed on the database.

Ninyo & Moore requested information from the VCAPCD on March 2, 2015 regarding odor, dust, and pesticide issues at the site. According to the VCAPCD, one complaint was on record in the general area of the site (Doris Avenue and Teal Club Road) for dust in July 2009. The VCAPCD referred Ninyo & Moore to the California Department of Pesticide Regulation (CDPR) for issues relating to pesticide use.

8.4. California Department of Pesticide Regulation (CDPR)

Ninyo & Moore requested information on pesticide issues and application rates for the area surrounding the site from the CDPR on March 3, 2015. The CDPR referred Ninyo & Moore to the Ventura County Agricultural Commissioner (VCAC).

8.5. Ventura County Agricultural Commissioner (VCAC)

Ninyo & Moore requested information on pesticide issues and application rates for the area surrounding the site on March 9, 2015. According to the VCAC records, the site APN was listed as Borchard Ranch under Hiji Bros. Inc. The site APN had been used to produce celery, lettuce, beans (unspecified), cabbage, and strawberries from 2006 to 2014. The VCAC records included several insecticides, fungicides, and herbicides used at the site APN, with quantities ranging from less than one gallon (various chemicals) to 10,163 gallons (Botran 5F). Adjacent properties used similar types of insecticides, fungicides, and herbicides. The use of pesticides at the site represents a REC.

8.6. Ventura County Department of Environmental Health (VCDEH)

Ninyo & Moore reviewed the Ventura County Department of Environmental Health (VCDEH) website (http://www.ventura.org/rma/envhealth/cupa) for information regarding LUST cases, ASTs, and hazardous waste for the site and surrounding properties. The intersection northwest of the site (Doris Avenue and North Patterson Road) was listed on the Hazardous Materials Release Report Database. According to the database, an unknown quantity of wastewater was discharged from a recreational vehicle on the side of the road on August 2, 2013. The specific location of the discharge was not identified. This information is not indicative of a REC. Adjacent properties were not listed on the VCDEH databases.

8.7. Oxnard Fire Department (OFD)

Ninyo & Moore made a request to the Oxnard Fire Department (OFD) on February 24, 2015 to review records that may be available for the site. According to the OFD, records are filed by address. Therefore, records were not available for the site.

9. VAPOR MIGRATION

Ninyo & Moore conducted a preliminary vapor encroachment screen (pVES) for potential chemicals of concern (COCs) that may migrate as vapors onto the site as a result of contaminated soil and/or groundwater near the site. The purpose of the pVES is to identify a vapor encroachment condition (VEC), which is the presence or likely presence of COC vapors in subsurface soils at the site caused by the release of vapors from contaminated soil or groundwater either on or near the site. The potential for VECs beneath the site was evaluated using a Vapor Encroachment Screening Matrix (VESM). The VESM included performing a Search Distance Test to identify if there are any known or suspect contaminated sites surrounding or up-gradient of the site within specific search radii, a COC Test (for those known or suspect contaminated sites identified within the Search Distance Test) to evaluate whether or not COCs are likely to be present, and a Critical Distance Test to evaluate whether or not COCs in a contaminated plume may be within the critical distance of the site (100 feet for non-petroleum contaminants, and 30 feet for petroleum hydrocarbon contaminants). Based on the site and surrounding properties, Ninyo & Moore determined it is unlikely a VEC currently exists beneath the site. A copy of the VESM is included in Appendix F.

10. INTERVIEW

Based on information obtained from local government agencies, it was judged that interviews of regulatory officials would not provide additional meaningful information to the Phase I ESA. Mr. Hiji, the key site manager, was not available for an interview during the site reconnaissance. Ninyo & Moore requested an interview with Mr. Hiji via telephone. To date, Mr. Hiji has not responded to our request. This is considered a data gap.

11. FINDINGS, OPINIONS, AND CONCLUSIONS

Based upon the results of this Phase I ESA, the following findings, opinions, and conclusions are provided.

11.1. Findings and Opinions

The following presents a summary of findings and opinions associated with this Phase I ESA performed for the site, including known or suspect RECs, historical RECs and de minimis environmental conditions (i.e., conditions that generally do not present a material risk of harm to public health or the environment):

- The site is at the southeast corner of the intersection of Doris Avenue and North Patterson Road, in the city of Oxnard, California, and is identified as APN 183-0-070-090. The site is currently owned by the Joan Henson Margaret M Anderson Ralph Borchard Jr Trustee. The site is occupied by Borchard Ranch, and is used for agricultural purposes. The site consists of a rectangular-shaped parcel totaling approximately 20 acres.

- Historical records reviewed by Ninyo & Moore indicated the site was agricultural land from at least 1938 to the time of this report. Due to the agricultural land use, the site was likely applied with commercial pesticides and/or herbicides. This represents a REC for the site.

- Hazardous substances, USTs, ASTs, evidence of releases, and other environmental issues were not identified on the site during the site reconnaissance.

- The site was not listed on environmental databases searched by EDR.

- To date, the key site manager, SCE, SCGC, the County of Ventura, and the City of Oxnard have not yet responded to our requests to review records or acquire information for the site. The user questionnaire was not returned to us at the time of this publication. These are considered data gaps. If information from these agencies alters the conclusions and recommendations of this report, an addendum will be prepared.

- Based on the completion of the VESM, it is unlikely that a VEC currently exists beneath the site.

- Potential off-site sources of environmental concern were not identified in the immediate site vicinity.

11.2. Conclusions

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-13 of the 20-acre property on the southeast corner of the intersection of Doris Avenue and North Patterson Road, in the city of Oxnard, California, the property. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of RECs in connection with the property except for the following:

- The current and historic agricultural land use of the site represents a REC.

Ninyo & Moore recommends a subsurface investigation to evaluate the REC.

12. ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined by §312.10 of 40 Code of Federal Regulations (CFR) 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the AAI in conformance with the standards and practices set forth in 40 CFR Part 312.

John Jay Roberts, PG, CEG
Senior Geologist

March 27, 2015
Date

13. REFERENCES

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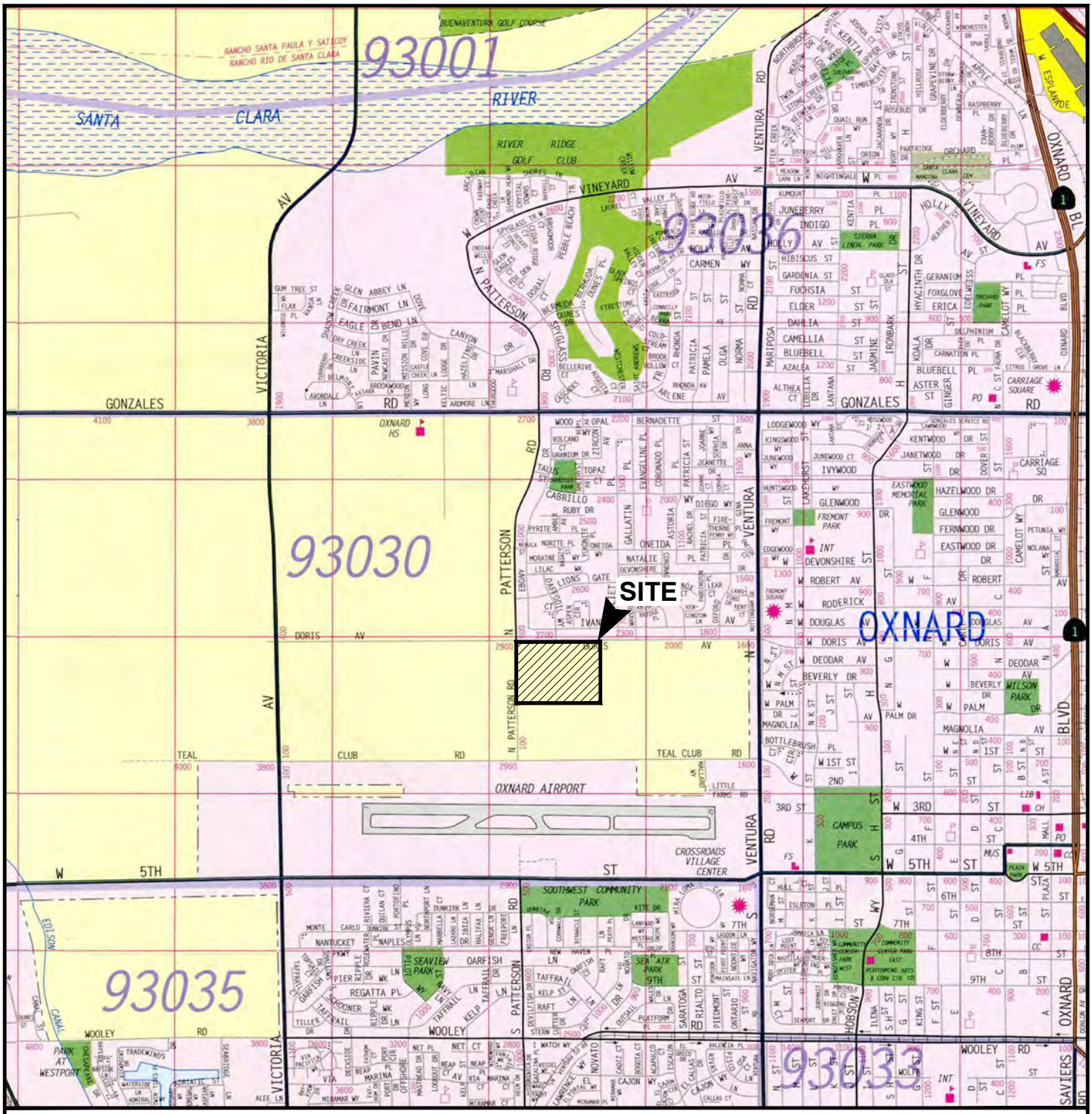

REFERENCE: 2007 THOMAS GUIDE FOR VENTURA COUNTY, STREET GUIDE AND DIRECTORY.

N

SCALE IN FEET

0 2,400 4,800

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore	SITE LOCATION	FIGURE
PROJECT NO. 209348001 / DATE 3/15	SOUTHEAST CORNER OF INTERSECTION OF DORIS AVENUE AND PATTERSON ROAD OXNARD, CALIFORNIA	1

209348001_SL.dwg 14:01:13 03/13/2015 GK

REFERENCE: GOOGLE EARTH AERIAL PHOTO, 2015.

N

SCALE IN FEET

0 400 800

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
	SITE BOUNDARY
T	POLE MOUNTED TRANSFORMER

Ninyo & Moore		SITE PLAN	FIGURE
PROJECT NO.	DATE	SOUTHEAST CORNER OF INTERSECTION OF DORIS AVENUE AND PATTERSON ROAD OXNARD, CALIFORNIA	2
209348001	3/15		

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APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

Photograph 1: **Looking south at the site.**

Photograph 2: **Looking east at the site.**

Photograph 3: **View of power lines on the western portion of the site.**

Photograph 4: **View of dirt access road and power lines adjacent to the south of the site.**

Photograph 5: **View of pole-mounted transformers and pumping station adjacent to the south of the site.**

Photograph 6: **View of pumping station adjacent to the south of the site.**

Photograph 7: **View of 1,000-gallon empty AST and two 500-gallon ASTs (one mobile unit) labeled as containing phosphoric acid, potassium chloride, and nitrogen.**

Photograph 8: **Looking north away from the site at Doris Avenue, beyond which are residential properties.**

Photograph 9: **Looking east away from the site at agricultural land.**

Photograph 10: **Looking south away from the site at a dirt access road, beyond which is agricultural land.**

Photograph 11: **Looking west away from the site at North Patterson Road, beyond which is agricultural land.**

APPENDIX B

USER PROVIDED INFORMATION

PHASE I ENVIRONMENTAL SITE ASSESSMENT
OF

PROPOSED NEW ACADEMY SITE
DORIS AVENUE AND NORTH PATTERSON ROAD
OXNARD, CALIFORNIA 93030

CARDNO ATC PROJECT NO. 052.45457.0002

MARCH 5, 2014

Prepared by:

Cardno ATC
25 Cupania Circle
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Phone: (323) 517-9780
Fax: (323) 517-9781

Prepared for:

Oxnard School District
1501 South A Street
Oxnard, California 93030

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 General Information

Project Information:
Proposed New Academy Site

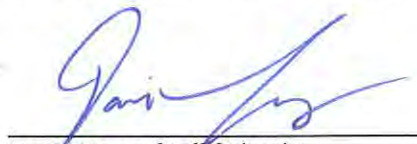
Site Information:
Proposed New Academy Site
Doris Avenue and North Patterson Road
Oxnard, California 93030
Ventura County

Consultant Information:
Cardno ATC
25 Cupania Circle
Monterey Park, California 91755

Site Access Contact:
Robert "Scott" Burkett
Senior Program Executive
Caldwell Flores Winters, Inc.

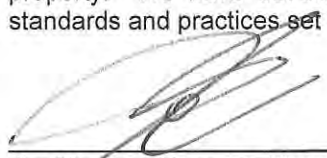
Telephone: (323) 517-9780
Fax: (323) 517-9781
Reconnaissance Date: January 2, 2014
Site Assessor: Davis Tang
Senior Reviewer: Dawn Merrill
Environmental Professional: Jim Madden

Client Information:
Oxnard School District
1501 South A Street
Oxnard, California 93030



Davis Tang, Staff Scientist
Site Assessor / Report Author

Environmental Professional Statement:
I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in § 312.10 part of 40 CFR 312. We have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Jim Madden, Program Manager / Professional Geologist
Environmental Professional / Senior Reviewer

1.2 Findings and Conclusions Summary

Cardno ATC has performed this Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of ASTM Standard Practice E 1527-05. Any exceptions to, or deletions from, this practice are described in Section 2.0 of this report. This assessment has revealed evidence of *recognized environmental conditions* in connection with the property as follows.

FINDINGS AND CONCLUSIONS SUMMARY							
Report Section		Further Action?	De Minimis Condition	Recognized Environmental Condition (REC)	Historical REC (HREC)	ASTM Non-Scope Condition	Description
4.0	**User Provided Information**	No					
5.1.1	**Federal Database Findings**	No					
5.1.2	**State and Tribal Database Findings**	No					
5.1.3	**Local Environmental Record Sources**	No					
5.3	**Historical Records Sources**	**Yes**		**x**			**See Note 1**
6.2	**Hazardous Substance Use, Storage and Disposal**	No					
6.3	**Underground Storage Tanks**	No					
6.4	**Aboveground Storage Tanks**	No					
6.5	**Other Petroleum Products**	No					
6.6	**Polychlorinated Biphenyls (PCBs)**	No					
6.7	**Unidentified Substance Containers**	No					
6.8	**Nonhazardous Solid Waste**	No					
6.9	**Wastewater**	No					
6.10	**Waste Pits, Ponds and Lagoons**	No					
6.11	**Sumps**	No					
6.12	**Septic Systems**	No					
6.13	**Stormwater Management System**	No					
6.14	**Wells**	No					
7.0	**Interviews**	No					
8.1	**Asbestos-Containing Material (ACM)**	No					
8.2	**Radon**	No					
8.3	**Lead in Drinking Water**	No					
8.4	**Lead-Based Paint (LBP)**	No					
8.5	**Mold Screening**	No					
8.6	**Additional User Requested Conditions**	No					

Note 1: Historical and current use of the property has included agriculture. Agricultural uses may potentially represent an environmental concern, as the use of pesticides on the property may result in residual pesticides in surface soils. Based on the fact that future development of the property includes a planned school site, the past use of pesticides is considered *recognized environmental conditions* in association with the property.

1.3 Significant Data Gap Summary

Data gaps may have been encountered during the performance of this Phase I ESA and are discussed within the section of the report where they were encountered. However, according to ASTM Standard Practice E 1527-05, data gaps are only significant if "other information and/or professional experience raise reasonable concerns involving the data gap." The following is a summary of *significant data gaps* identified in this report.

SIGNIFICANT DATA GAP SUMMARY		
Report Section		**Description**
3.5	**Current Uses of Adjoining Properties**	No *significant data gap* identified.
4.2	**Environmental Liens or Activity and Use Limitations (AULs)**	No *significant data gap* identified.
5.1	**Standard Environmental Records**	No *significant data gap* identified.
5.2	**Physical Setting Sources**	No *significant data gap* identified.
5.3	**Historical Records Sources**	No *significant data gap* identified.
6.1	**Methodology and Limiting Conditions**	No *significant data gap* identified.
7.0	**Interviews**	No *significant data gap* identified.

1.4 Recommendations

Based on information collected from the Phase I ESA, Cardno ATC recommends that a subsurface investigation be conducted to sample for pesticides and arsenic at the property.

2.0 INTRODUCTION

2.1 Purpose

The purpose of this Phase I ESA was to identify *recognized environmental conditions* and certain potential environmental conditions outside the scope of ASTM Standard Practice E 1527-05 in connection with the property at the time of the site reconnaissance. This report documents the findings, opinions and conclusions of the Phase I ESA.

2.2 Scope

This Phase I ESA was conducted in general accordance with the ASTM Standard Practice E 1527-05, consistent with a level of care and skill ordinarily practiced by the environmental consulting profession currently providing similar services under similar circumstances. Significant additions, deletions or exceptions to ASTM Standard Practice E 1527-05 are noted below or in the corresponding sections of this report. The scope of this assessment included an evaluation of the following:

- Physical setting characteristics of the property through a review of referenced sources such as topographic maps and geologic, soils and hydrologic reports.

- Usage of the property, adjoining properties and surrounding area through a review of referenced historical sources such as land title records, fire insurance maps, city directories, aerial photographs, prior reports and interviews.

- Observations and interviews regarding current property usage and conditions including: the use, treatment, storage, disposal or generation of hazardous substances, petroleum products, hazardous wastes, nonhazardous solid wastes and wastewater.

- Usage of adjoining and surrounding area properties and the likely impact of known or suspected releases of hazardous substances or petroleum products from those properties on the property.

- Information in referenced environmental agency databases and local environmental records, within the specified approximate minimum search distance from the property.

The scope of the assessment also included consideration of the following environmental issues or conditions that are beyond the scope of ASTM Standard Practice E 1527-05:

- The scope of work for the Mold Screening was intended to be consistent with ASTM E 2418-06: Standard Guide for Readily Observable Mold and Conditions Conducive to Mold in Commercial Buildings: Baseline Survey Process. The scope of work, including potential deviations from the Standard Guide, is described as follows. The interview was limited to at least one knowledgeable person from property management or engineering staff. The document review was limited to only those relevant documents made readily available to Cardno ATC in a timely manner. The Mold Screening did not include destructive methods of observation. No sampling or laboratory analyses were conducted. The Mold Screening service as described herein was limited in scope and by the time and cost considerations typically associated with performing a Phase I ESA. No method can guarantee that a hazard will be discovered if evidence of the hazard is not encountered within the performance of the Mold Screening as authorized and that opinions and conclusions must, out of necessity, be extrapolated from limited information and discrete, non-continuous data points. Unidentified mold or other microbial conditions may exist on the property.

- Visual observation of suspect asbestos-containing materials (ACM), consisting of providing an opinion on the condition of suspect ACM on the property based upon visual observation during the site reconnaissance. No sampling of suspect ACM was conducted.

- Radon document review, consisting of the review of published radon data with regard to the potential for elevated levels of radon gas in the surrounding area of the property. No radon sampling was conducted.

- Lead in Drinking Water Data review, consisting of contacting the water supplier for information regarding whether or not the potable water provided to the property meets the drinking water standards for lead.

- Visual observation of suspect lead-based paint (LBP), consisting of providing an opinion on the potential for suspect LBP based on the construction date of buildings on the property and visual observation of the condition of suspect LBP.

- Wetlands document review, consisting of a review of a current National Wetlands Inventory map of the surrounding area to note if the property is identified as having a wetland.

- Flood plain document review, consisting of a review of a reasonably ascertainable flood plain map of the surrounding area to note if the property is identified as being located within a flood plain.

2.3 Significant Assumption

The assumptions in this report were not considered as having significant impact on the determination of *recognized environmental conditions* associated with the property.

2.4 Limitations and Exceptions

Cardno ATC has prepared this Phase I ESA report using reasonable efforts to identify *recognized environmental conditions* associated with hazardous substances or petroleum products at the property. Findings contained within this report are based on information collected from observations made on the day(s) of the site reconnaissance and from reasonably ascertainable information obtained from certain public agencies and other referenced sources.

The ASTM Standard Practice E 1527-05 recognizes inherent limitations for Phase I ESAs, including, but not limited to:

- *Uncertainty Not Eliminated* – A Phase I ESA cannot completely eliminate uncertainty regarding the potential for *recognized environmental conditions* in connection with any property.

- *Not Exhaustive* – A Phase I ESA is not an exhaustive investigation of the property and environmental conditions on such property.

- *Past Uses of the Property* – Phase I requirements only require review of standard historical sources at five year intervals. Therefore, past uses of property at less than five year intervals may not be discovered.

Users of this report may refer to ASTM Standard Practice E 1527-05 for further information regarding these and other limitations. This report is not definitive and should not be assumed to be a complete and/or specific definition of all conditions above or below grade. Current subsurface conditions may differ from the conditions determined by surface observations, interviews and reviews of historical sources. The

most reliable method of evaluating subsurface conditions is through intrusive techniques, which are beyond the scope of this report. Information in this report is not intended to be used as a construction document and should not be used for demolition, renovation, or other property construction purposes. Any use of this report by any party, beyond the scope and intent of the original parties, shall be at the sole risk and expense of such user.

Cardno ATC makes no representation or warranty that the past or current operations at the property are, or have been, in compliance with all applicable federal, state and local laws, regulations and codes. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated. Regardless of the findings stated in this report, Cardno ATC is not responsible for consequences or conditions arising from facts not fully disclosed to Cardno ATC during the assessment.

An independent data research company provided the government agency database referenced in this report. Information on surrounding area properties was requested for approximate minimum search distances and is assumed to be correct and complete unless obviously contradicted by Cardno ATC's observations or other credible referenced sources reviewed during the assessment. Cardno ATC shall not be liable for any such database firm's failure to make relevant files or documents properly available, to properly index files, or otherwise to fail to maintain or produce accurate or complete records.

Cardno ATC makes no warranty, guarantee or certification regarding the quality, accuracy or reliability of any prior report provided to Cardno ATC and discussed in this Phase I ESA report. Cardno ATC expressly disclaims any and all liability for any errors or omissions contained in any prior reports provided to Cardno ATC and discussed in this Phase I ESA report.

Cardno ATC used reasonable efforts to identify evidence of aboveground and underground storage tanks and ancillary equipment on the property during the assessment. "Reasonable efforts" were limited to observation of accessible areas, review of referenced public records and interviews. These reasonable efforts may not identify subsurface equipment or evidence hidden from view by things including, but not limited to, snow cover, paving, construction activities, stored materials and landscaping.

Any estimates of costs or quantities in this report are approximations for commercial real estate transaction due diligence purposes and are based on the findings, opinions and conclusions of this assessment, which are limited by the scope of the assessment, schedule demands, cost constraints, accessibility limitations and other factors associated with performing the Phase I ESA. Subsequent determinations of costs or quantities may vary from the estimates in this report. The estimated costs or quantities in this report are not intended to be used for financial disclosure related to the Financial Accounting Standards Board (FASB) Statement No. 143, FASB Interpretation No. 47, Sarbanes/Oxley Act or any United States Securities and Exchange Commission reporting obligations, and may not be used for such purposes in any form without the express written permission of Cardno ATC.

Cardno ATC is not a professional title insurance or land surveyor firm and makes no guarantee, express or implied, that any land title records acquired or reviewed in this report, or any physical descriptions or depictions of the property in this report, represent a comprehensive definition or precise delineation of property ownership or boundaries.

The Environmental Professional Statement in Section 1.1 of this report does not "certify" the findings contained in this report and is not a legal opinion of such *Environmental Professional*. The *Environmental Professional* Statement is intended to document Cardno ATC's opinion that an individual meeting the qualifications of an Environmental Professional was involved in the performance of the assessment and that the activities performed by, or under the supervision of, the *Environmental Professional* were performed in conformance with the standards and practices set forth in 40 CFR Part 312 per the methodology in ASTM Standard Practice E 1527-05 and the scope of work for this assessment.

Per ASTM Standard Practice E 1527-05, Section 6, User Responsibilities, the User of this assessment has specific obligations for performing tasks during this assessment that will help identify the possibility of *recognized environmental conditions* in connection with the property. Failure by the User to fully comply with the requirements may impact their ability to use this report to help qualify for *Landowner Liability Protections* (LLPs) under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Cardno ATC makes no representations or warranties regarding a User's qualification for protection under any federal, state or local laws, rules or regulations.

In accordance with the ASTM Standard Practice E 1527-05, this report is presumed to be valid for a six month period. If the report is older than six months, the following information must be updated in order for the report to be valid: (1) regulatory review, (2) site visit, (3) interviews, (4) specialized knowledge and (5) environmental liens search. Reports older than one year may not meet the ASTM Standard Practice 1527-05 and therefore, the entire report must be updated to reflect current conditions and property-specific information.

Other limitations and exceptions that are specific to the scope of this report may be found in corresponding sections.

2.5 Special Terms and Conditions (User Reliance)

This report is for the use and benefit of, and may be relied upon by, The Oxnard School District, and any of its affiliates and their respective successors and assigns, in connection with a commercial real estate transaction involving the property. No third party is authorized to use this report for any purpose. Any use by or distribution of this report to third parties, without the express written consent of Cardno ATC, is at the sole risk and expense of such third party.

3.0 SITE DESCRIPTION

3.1 Location and Legal Description

The property is located at the intersection of Doris Avenue and North Patterson Road in Ventura County, Oxnard, California. According to information obtained from Mr. Robert "Scott" Burkett, Senior Program Executive with Caldwell Flores Winters, Inc., the 20 acre property is part of a larger 107.99 acre parcel which is identified with Ventura County's Assessor's Parcel Number (APN) 183-0-070-090. The legal description for the property is "Lots 133, 158, 159, 160, partly in the City of Oxnard, County of Ventura Book 8, Page 1." The Site Vicinity Map is located in Appendix A. The Site Plan is located in Appendix B. Site Photographs are provided in Appendix C.

3.2 Surrounding Area General Characteristics

The surrounding area consists of agricultural and residential uses. Doris Avenue borders the property to the north, beyond which are residences. North Patterson Road borders the property to the west, beyond which is agricultural land. The surrounding area to the east and south of the property is also agricultural land. The topography in the surrounding area and property is generally level with a slight slope to the west. Specific uses of the adjoining properties are presented in Section 3.5.

3.3 Current Use of the Property

The property is an approximately 20 acres, rectangular-shaped parcel of a larger 107.99 acre parcel. The property is currently utilized as agricultural land for lettuce with no onsite structures.

3.4 Description of Property Improvements

The following table provides general descriptions of the property improvements.

PROPERTY IMPROVEMENTS	
Size of Property (approximate)	20 acres (source: Ventura County Assessor Parcel Map)
General Topography of Property	Generally level with a slight slope to the west
Adjoining and/or Access/Egress Roads	Doris Avenue to the north and North Patterson Road to the west.
Paved or Concrete Areas (including parking)	None
Unimproved Areas	100%
Landscaped Areas	None
Surface Water	Irrigation ditches
Potable Water Source	City of Oxnard Public Works
Sanitary Sewer Utility	City of Oxnard
Storm Sewer Utility	City of Oxnard
Electrical Utility	None
Natural Gas Utility	None
Current Occupancy Status	100%
Unoccupied Buildings/Spaces/Structures	None
Number of Occupied Buildings	None
Building Name or General Building Description	N/A (Not Applicable, no buildings onsite)
Number of Floors	N/A
Total Square Feet of Space (approximate)	N/A
Construction Completion Date (year)	N/A
Construction Type	N/A
Interior Finishes Description	N/A
Exterior Finishes Description	N/A
Cooling System Type	N/A

PROPERTY IMPROVEMENTS	
Heating System Type	N/A
Emergency Power	None

3.5 Current Uses of Adjoining Properties

Current uses of the adjoining properties were observed to be as follows:

North- Adjacent to the north of the property, beyond Doris Avenue, is single-family residences.

East- Adjacent to the east of the property is agricultural land.

South- Adjacent to the south is agricultural land.

West- Adjacent to the west of the property, beyond North Patterson Road, is agricultural land.

None of the adjoining sites appeared on the regulatory databases. The review of adjoining sites did not reveal any environmental concerns.

4.0 USER PROVIDED INFORMATION

The following section summarizes information (if any) provided by The Oxnard School District (User) with regard to the Phase I ESA. Documentation may be found in Appendix D or where referenced in this report.

4.1 Title Records

The User provided no title records information.

4.2 Environmental Liens or Activity and Use Limitations (AULs)

User provided no information regarding property environmental liens or activity and use limitations. Cardno ATC contracted Environmental Data Resources, Inc. (EDR) to perform an environmental lien search for the property. According to EDR, no environmental liens or AULs (such as engineering controls, land use restrictions or institutional controls) were identified for the property. A copy of the EDR report, which includes the current deed and legal description, is included in Appendix G.

4.3 Specialized Knowledge or Experience of the User

The User provided no specialized knowledge regarding *recognized environmental conditions* associated with the property.

4.4 Significant Valuation Reduction for Environmental Issues

The User provided no information regarding a significant valuation reduction for environmental issues associated with the property.

4.5 Owner, Property Manager and Occupant Information

The User provided information identifying Mr. Scott Burkett as the property access contact.

4.6 Reason for Performing Phase I ESA

The Oxnard School District intends to obtain site approval from the California Department if Education for use as a school site, purchase/acquire the property, and developed a new middle school.

4.7 Other User Provided Documents

The User provided Cardno ATC with an area map of the property and the proposed school site plan. User provided documentation is included in Appendix D.

5.0 RECORDS REVIEW

5.1 Standard Environmental Records

The regulatory agency database report discussed in this section, provided by EDR of Milford, Connecticut, was reviewed for information regarding reported releases of hazardous substances and petroleum products on or near the property. Cardno ATC also reviewed the "unmappable" (also referred to as "orphan") listings within the database report, cross-referencing available address information and facility names. Unmappable sites are listings that could not be plotted with confidence, but are potentially in the general area of the property based on the partial street address, city, or zip code. Any unmappable site that was identified by Cardno ATC as being within the approximate minimum search distance from the property based on the site reconnaissance and/or cross-referencing to mapped listings, is included in the discussion within this section. The complete regulatory agency database report may be found in Appendix E.

The following is a summary of the findings of the database review.

SUMMARY OF FEDERAL, STATE AND TRIBAL DATABASE FINDINGS			
Regulatory Database	**Approx. Minimum Search Distance**	**Property Listed?**	**# Sites Listed**
Federal National Priority List (NPL)	1 mile	No	0
Federal Delisted NPL	½ mile	No	0
Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list	½ mile	No	0
Federal CERCLIS No Further Remedial Action Planned (NFRAP)	½ mile	No	0
Federal Resource Conservation and Recovery Act (RCRA), Corrective Action facilities (CORRACTS)	1 mile	No	0
Federal RCRIS non- CORRACTS Treatment, Storage, and Disposal Facilities (TSDF)	½ mile	No	0
Federal RCRA Generators	Property & Adjoining	No	0
Federal Institutional Control/Engineering Control Registry	Property	No	0
Federal Emergency Response Notification System (ERNS) list	Property	No	0
State and Tribal NPL – RESPONSE	1 mile	No	0
State and Tribal CERCLIS – ENVIROSTOR	½ mile	No	6
State and Tribal Landfill or Solid Waste Disposal Sites	½ mile	No	0
State and Tribal Leaking Underground Storage Tanks (LUST)	½ mile	No	7
California Spills, Leaks, and Incident Clean-Ups (CA SLIC)	½ mile	No	0
State and Tribal Registered Underground Storage Tanks (UST), Historical UST (HIST UST) list; California Facility Inventory Database (CA FID UST); and Statewide Environmental Evaluation and Planning System (SWEEPS UST)	Property & Adjoining	No	0
State and Tribal Institutional Control/Engineering Control Registry	Property	No	0
State and Tribal Voluntary Cleanup Site	½ mile	No	0
State and Tribal Brownfield Sites	½ mile	No	0
HAZNET	Property	No	0
Formerly Used Defense Sites (FUDS)	1 mile	No	1
Drycleaners	¼ mile	No	0
Hist Cleaners	¼ mile	No	0
Hist Auto Stations	¼ mile	No	0

5.1.1 Federal Agency Database Findings

The property parcel was not identified on the federal databases searched by EDR.

Based on distance, topography, assumed groundwater gradient, current regulatory status, and/or the absence of reported releases, none of the other sites listed in the federal agency databases are considered to represent a likely past, present or material threat of release on the property.

5.1.2 State and Tribal Database Findings

The property parcel was not identified on the state and tribal databases searched by EDR.

The following offsite listing(s) with a known or significant potential for release and impact on the property were identified in the state and tribal databases searched:

F.A. Borchard & Sons
1618 Doris Avenue
Oxnard, California
Databases: LUST, HIST UST, HIST CORTESE
Approximate Distance from the Property: 1,959 feet to the east
Assumed Groundwater Gradient: Cross-gradient
Regulatory Data Summary: This site is identified on the LUST database with a "Completed - Case Closed" status as of February 9, 1998. The details of the LUST case include groundwater contamination by leaking gasoline; the leak was first discovered on June 9, 1987. The site historically utilized one 550-gallon unleaded gasoline UST and one 3,000-gallon unleaded gasoline UST; the year the tanks were installed is not provided.
Discussion: Based on the regulatory closure status, the distance, and the cross-gradient hydrologic position relative to the property parcel, this site is not considered to represent a *recognized environmental condition* to the property.

Based on distance, topography, assumed groundwater gradient, current regulatory status, and/or the absence of reported releases, none of the other sites listed in the state and tribal databases are considered to represent a likely past, present or material threat of release on the property.

5.1.3 Local Environmental Records Sources

Ventura County Environmental Health (VCEH)

VCEH is the leading environmental health, USTs, and hazardous materials authority in Ventura County. Cardno ATC submitted an online request each for any environmental health, USTs, and hazardous materials records pertaining to the property to VCEH. According to VCEH, no environmental health, USTS, or hazardous materials records pertaining to the property exists.

Oxnard Fire Department (OFD)

Cardno ATC requested a review of any files pertaining to Underground Storage Tanks (USTs) or hazardous materials records for the property from the OFD's Certified Unified Program Agency (CUPA). At the time of writing this report, a response has not been received from the OFD's CUPA. Should Cardno ATC be provided with pertinent files in regard to the property, an addendum to the report will be issued.

California Department of Toxic Substances Control (DTSC)

According to the DTSC EnviroStor website, http://www.envirostor.dtsc.ca.gov/public, the DTSC has no files for the property.

Regional Water Quality Control Board (RWQCB)

According to the RWQCB GeoTracker website, http://geotracker.waterboards.ca.gov, the RWQCB has no records pertaining to the property.

Ventura County Air Pollution Control District (VCAPCD)

Cardno ATC submitted a facsimile request to the VCAPCD to review any available records pertaining to the property. At the time of writing this report, a response has not been received from the VCAPCD. Should Cardno ATC be provided with pertinent files in regard to the property, an addendum to the report will be issued.

City of Oxnard Zoning Information

Cardno ATC reviewed the City of Oxnard zoning map. According to the zoning map, the property is zoned RW2 for Multiple-Family Water Oriented. A copy of the zoning map is provided in Appendix L.

Electrical Utility Company

There are currently no electrical utilities at the property.

Water and Sewer Utility

Cardno ATC spoke with a representative from the City of Oxnard Public Works (OPW), the representative confirmed that the OPW currently provides potable water utilities to the property. Cardno ATC confirmed with the OPW's 2012 Consumer Confidence Report that the municipally supplied water meets or exceeds all drinking water standards, including those for lead. According to this report, the water provided to the City of Oxnard is imported from various areas such as Calleguas Municipal Water District (CMWD), United Water Conservation District (UWCD), and water produced locally by the City's wells. The City of Oxnard provides storm and sanitary sewer to the area; however, there is no storm or sanitary drains located on the property. A copy of the Consumer Confidence Report is included in Appendix L.

5.2 Physical Setting Sources

5.2.1 Topography

The property is located on the United States Geological Survey (USGS) 7.5-Minute Series Topographic Map, Oxnard Quadrangle, dated 1967. Based on Cardno ATC's review of this topographic map, the property is located approximately 44 feet above mean sea level (MSL). The topography of the property is generally level with a slight slope to the southwest. A copy of the topographic map is included in Appendix A.

5.2.2 Geology

According to the EDR Radius Map Report, the stratigraphic units underlying the property are Cenozoic era, Quaternary system, and Quaternary series in a stratified sequence. EDR obtains its geologic age and stratigraphic unit information from P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale, USGS Digital Data Series DDS - 11 (1994).

5.2.3 Soils

According to the EDR Radius Map Report, the dominant soil class at the property is of the Camarillo component with a loam texture. This type of soil is classified as a Class C hydrologic group with slow infiltration rates due to soil layers impeding downward movement of water, or soils with moderately fine or fine textures. Soils of this component are partially hydric, are poorly drained, and have a high corrosion potential for uncoated steel. The top 24 inches are of the loam texture class, 24-50 inches consists of stratified layers of sandy loam to sandy clay loam, and 50-79 inches are of a fine sand texture.

5.2.4 Hydrology

According to a 2013 semi-annual groundwater monitoring report from an ongoing cleanup site located approximately 0.7 miles to the east-northeast, groundwater is anticipated to range from 9.99 feet to 26.1 feet below ground surface (bgs) (Well No. MW-1). Groundwater flow direction is anticipated to flow to the north-northwest. Therefore, in assessing potential off-site environmental impacts, properties located directly southeast of the property are of primary concern. However, factors such as underground structures, seasonal fluctuations, soil and bedrock geology, production wells, and other factors beyond the scope of this study often locally influence actual groundwater flow direction. The actual groundwater flow direction under the property can only be accurately determined by installing groundwater monitoring wells, which is beyond the scope of this project.

5.2.5 Other Physical Setting Sources

Flood Plain Map

Cardno ATC reviewed a copy of the on-line Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Map Number #06111C0905E, dated January 20, 2010. According to the flood plain map, the property is not located within a 100-year floodplain. The property is located in flood Zone X, which designates areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. A copy of the flood plain map is provided in Appendix L.

Wetlands Map

According to information obtained from the United States Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) database, http://www.fws.gov/wetlands/Data/Mapper.html, no designated wetlands are depicted on the property. Based on visual observations during the site reconnaissance, no evidence of a natural wetlands area was observed. A copy of the web-generated map is included in Appendix L.

5.3 Historical Records Sources

The following table summarizes the findings of the research presented below pertaining to historical property and surrounding area uses.

HISTORICAL USE SUMMARY				
Period	**Identified Historical Uses**		**Source(s)**	**Intervals/Comments**
	Property	**Surrounding Area**		
Prior to 1940	Agricultural	Agricultural	Aerial Photographs Topographic Maps	No data gaps or concerns were identified.
1941-1960	Agricultural	Agricultural	Aerial Photographs Topographic Maps	No data gaps or concerns were identified.

HISTORICAL USE SUMMARY				
Period	**Identified Historical Uses**		**Source(s)**	**Intervals/Comments**
	Property	**Surrounding Area**		
1961-1980	Agricultural	Agricultural	Aerial Photographs Topographic Maps	No data gaps or concerns were identified.
1981 to 2001	Agricultural	Agricultural	Aerial Photographs	No data gaps or concerns were identified.
2002-present	Agricultural	Agricultural	Aerial Photographs	No data gaps or concerns were identified.

Historical and current use of the property has included agriculture. Agricultural uses may potentially represent an environmental concern, as the use of pesticides on the property may result in residual pesticides in surface soils. Based on the fact that future development of the property includes a planned school site, the past use of pesticides is considered *recognized environmental conditions* in association with the property.

5.3.1 Aerial Photographs

Cardno ATC reviewed available aerial photographs of the property and surrounding areas from EDR. Available aerial photographs ranged from 1927 to 2012. The following are descriptions and interpretations from the aerial photograph review.

AERIAL PHOTOGRAPH SUMMARY		
Year	**Scale**	**Comments**
1938 1947 1959 1964 1970 1977	1 inch = 500 feet	**Property**: The property appears to be agricultural and/or vacant land. **Surrounding Area**: The surrounding areas appear to be agricultural land.
1989 1994 2005 2009 2010 2012	1 inch = 500 feet	**Property**: The property appears to be agricultural and/or vacant land. **Surrounding Area**: The surrounding area to the north, beyond Doris Avenue, is developed with single-family residences. The surrounding areas to the east, south, and west (beyond North Patterson Road) are agricultural land.

Historical and current use of the property has included agriculture. Agricultural uses may potentially represent an environmental concern, as the use of pesticides on the property may result in residual pesticides in surface soils. Based on the fact that future development of the property includes a planned school site, the past use of pesticides is considered *recognized environmental conditions* in association with the property. Copies of reproducible aerial photographs are included in Appendix F.

5.3.2 Fire Insurance Maps

A search for fire insurance maps for the property and surrounding area was conducted by EDR. No such maps for the property were available. The “unmapped property” letter provided by EDR is included in Appendix G.

5.3.3 Property Tax Files

Cardno ATC reviewed reasonably ascertainable tax files at the Ventura County Assessor's Office for historical ownership information pertaining to the property as follows:

OWNERSHIP SUMMARY	
Owner	**Year**

OWNERSHIP SUMMARY	
Owner	**Year**
Borchard Family Trust	1954
Frances Joan Henson, Margaret Mary Anderson	1995
City of Oxnard	1997
Friedrich Disclamer Trust	1998
Ralph W. and Helen M. Borchard	2000
J & P Douglas Family Trust	2003

The review of tax files did not identify past uses indicating recognized environmental conditions at the property or surrounding area.

5.3.4 Recorded Land Title Records

The acquisition of recorded land title records was not required by the scope of work for the Phase I ESA.

5.3.5 Historical USGS Topographic Maps

Cardno ATC reviewed available historical USGS Topographic Quadrangles provided by EDR for information regarding past uses of the property. The topographic maps ranged from 1904 through 1967. Due to the scale and resolution of the maps, specific land uses cannot be determined for the 1904, 1910, and 1947 maps; however, it can be safely assumed specific uses include agricultural and/or vacant land. The 1951 and 1967 maps depict the property as agricultural and/or vacant land. The review of historical USGS Topographic Quadrangles did not identify past uses indicating *recognized environmental conditions* at the property or surrounding area. Documentation is included in Appendix G.

5.3.6 City Directories

Research regarding the availability of historical city directories was conducted by EDR for the years from 1926 to 2013. However, listings for the property and/or adjoining properties were not found. The review of city directories did not identify any *recognized environmental conditions* at the property or surrounding area. Documentation is included in Appendix G.

5.3.7 Building Department Records

Cardno ATC attempted to review historical building department records at the Oxnard Building and Engineering Department for information regarding past uses of the property. Building permits for the property do not exist as no building was constructed on the property.

5.3.8 Zoning/Land Use Records

Cardno ATC reviewed the City of Oxnard zoning map. According to the zoning map, the property is zoned RW2 for Multiple-Family Water Oriented. No historical use information was available for the property. The review of historical zoning/land use records did not identify past uses indicating *recognized environmental conditions* at the property or surrounding area. Documentation is included in Appendix G.

5.3.9 Prior Reports

No prior reports were made available for review.

5.3.10 Other Historical Sources

No other historical sources were reviewed.

6.0 SITE RECONNAISSANCE

The following is a summary of visual and/or physical observations of the property on the day of the site visit. Photographs can be found in Appendix C.

6.1 Methodology and Limiting Conditions

Mr. Davis Tang, Staff Scientist with Cardno ATC, conducted the site reconnaissance on January 2, 2014. Mr. Gordon Jenewein with Development Planning Service, Inc. and Mr. Scott Burkett, Senior Program Executive with Caldwell Flores Winters, Inc., was onsite during the site reconnaissance. The site reconnaissance consisted of visual and/or physical observations of: the property and improvements; adjoining sites as viewed from the property; and the surrounding area based on visual observations made during the trip to and from the property. Unimproved portions of the property (if any) were observed along the perimeter and in a general grid pattern in safely accessible areas, if accessible and possible.

6.2 Hazardous Substance Use, Storage, and Disposal

Cardno ATC did not observe the use, storage or disposal of hazardous substances on the property.

6.3 Underground Storage Tanks (USTs)

Cardno ATC did not observe evidence of USTs on the property.

6.4 Aboveground Storage Tanks (ASTs)

Cardno ATC did not observe evidence of ASTs on the property.

6.5 Other Petroleum Products

Cardno ATC did not observe evidence of the use, storage or disposal of other petroleum products on the property.

6.6 Polychlorinated Biphenyls (PCBs)

Cardno ATC did not observe evidence of the use, storage or disposal of PCB-containing transformers, hydraulic lifts, or other equipment on the property.

6.7 Unidentified Substance Containers

Cardno ATC did not observe the presence of unidentified substance containers on the property.

6.8 Nonhazardous Solid Waste

Cardno ATC did not observe evidence of the generation, storage or disposal of nonhazardous solid waste on the property.

6.9 Wastewater

Cardno ATC observed evidence of wastewater generated, treated or discharged (including sanitary sewage and stormwater) on the property or to adjoining properties as summarized below.

WASTEWATER SUMMARY TABLE			
Type of Wastewater	**Generation Process**	**Treatment System?**	**Discharged To?**
Stormwater	Routine operations	No	Unimproved areas

Based upon conditions observed and the nature of the wastewater generated and discharged (stormwater), Cardno ATC concludes that the generation of wastewater at the property does not represent a *recognized environmental condition* to the property.

6.10 Waste Pits, Ponds and Lagoons

Cardno ATC did not observe evidence of waste pits, ponds or lagoons on the property.

6.11 Drains and Sumps

Cardno ATC did not observe evidence of drains or sumps on the property.

6.12 Septic Systems

Cardno ATC did not observe evidence of a septic system on the property.

6.14 Wells

Cardno ATC did not observe evidence of wells on the property.

7.0 INTERVIEWS

The following persons were interviewed to obtain information regarding *recognized environmental conditions* in connection with the property:

INTERVIEW SUMMARY				
Role	**Name**	**Title/Company**	**Years Assoc. With Property**	**Interview Type**
Site Escort	Mr. Scott Burkett	Senior Program Executive / Caldwell Flores Winters, Inc.	Unknown	In Person
Site Escort	Mr. Gordon Jenewein	Development Planning Services, Inc.	Six	In Person

Not included in this listing are employees of city, county, or state government, who were contacted for the purpose of retrieving routine public information pertaining to the site, and who were not expected to possess first-hand knowledge regarding *recognized environmental conditions* at the property.

Pertinent information from the interviews is discussed in applicable sections of this report with details (including failed attempts to interview) documented on Record of Communication forms in Appendix J.

8.0 OTHER ENVIRONMENTAL CONDITIONS

8.1 Asbestos-Containing Materials (ACM)

Based on the scope of work for this ESA, sampling and analyses for ACM was not conducted. No buildings were present at the time of the site reconnaissance.

8.2 Radon

Radon is a naturally occurring colorless, odorless gas that is a by-product of the decay of radioactive materials potentially present in bedrock and soil. The EPA guidance action level for annual residential exposure to radon is 4.0 picoCuries per liter of air (pCi/L). The guidance action level is not a regulatory requirement for private owners of commercial real estate, but is commonly used for comparison purposes to suggest whether further action at a building may be prudent.

Cardno ATC's review of published radon data from EDR's Regulatory Database Report indicates that the property is located in EPA Zone 1, identified as an area of high propensity with regard to the potential for elevated levels of radon gas. According to EDR's Regulatory Database Report, of the 38 sites tested in Ventura County, the average radon concentration was 0.478 pCi/L, which is below the EPA guidance action level of 4.0 pCi/L. Based on these statistics, no additional radon investigations are recommended.

8.3 Lead in Drinking Water

Cardno ATC spoke with a representative from the City of Oxnard Public Works (OPW), the representative confirmed that the OPW currently provides potable water utilities to the property. Cardno ATC confirmed with the OPW's 2012 Consumer Confidence Report that the municipally supplied water meets or exceeds all drinking water standards, including those for lead. According to this report, the water provided to the City of Oxnard is imported from various areas such as Calleguas Municipal Water District (CMWD), United Water Conservation District (UWCD), and water produced locally by the City’s wells. Lead in drinking water testing was not conducted for this ESA.

8.4 Lead-Based Paint (LBP)

Consideration of LBP on painted surfaces was not included in the scope of work for this ESA.

8.5 Mold Screening

Cardno ATC conducted a limited screening survey for readily observable mold and conditions conducive to mold on the property. The screening consisted of limited interview, document review and physical observation. No buildings were present at the time of the site reconnaissance.

8.6 Additional User Requested Conditions

No additional User requested services were included in the scope of work for this ESA.

9.0 REFERENCES

ASTM International, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, ASTM Designation E 1527-05, November 2005.

ASTM International, *Standard Guide for Readily Observable Mold and Conditions Conducive to Mold in Commercial Buildings: Baseline Survey Process*, ASTM Designation E 2418-06, March 2006.

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Regional Water Quality Control Board, GeoTracker website, http://geotracker.swrcb.ca.gov.

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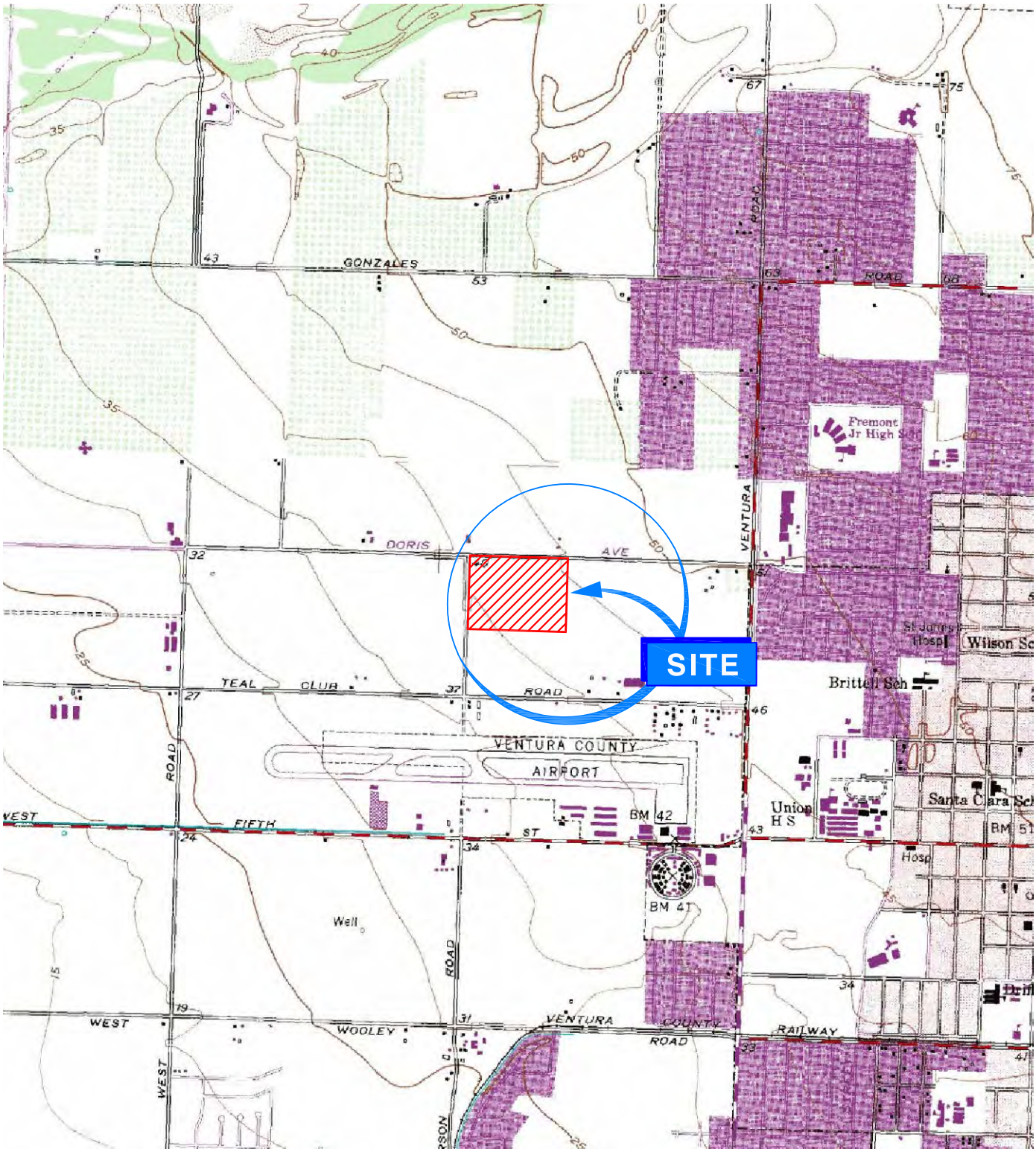
10.0 APPENDICES

Appendix A - Site Vicinity Map
Appendix B - Site Plan
Appendix C - Site Photographs
Appendix D - User Provided Documentation
Appendix E - Regulatory Database Report
Appendix F - Aerial Photographs
Appendix G - Historical Research Documentation
Appendix H - Prior Reports
Appendix I - Resumes
Appendix J - Records of Communication
Appendix K - Laboratory Reports
Appendix L - Other Supporting Documentation
Appendix M - Terminology

APPENDIX A

SITE VICINITY MAP



OXNARD, CALIFORNIA QUADRANGLE (PROVISIONAL EDITION 1967)

SCALE

0 .5 1

MILES

1:24,000

N

SITE VICINITY MAP

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED NEW ACADEMY SITE
DORIS AVENUE AND NORTH PATTERSON ROAD
OXNARD, CALIFORNIA

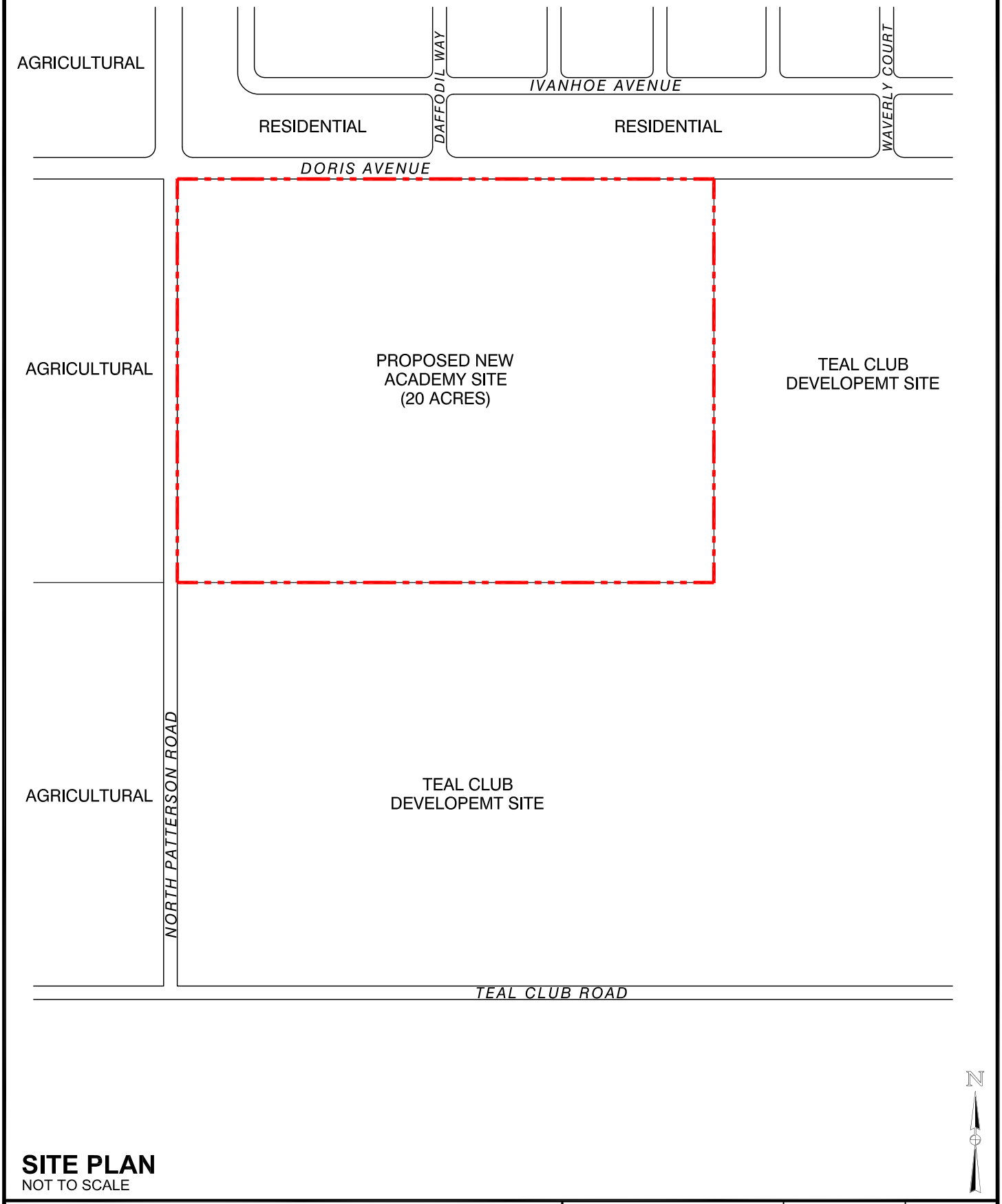
PROJECT NUMBER: 052.45457.0002	TASK NO.: 1	APPENDIX
REVIEW BY: D. TANG	DRAWN BY: DAW	A

Cardno ATC Shaping the Future
25 Cupania Circle
Monterey Park, CA 91755
Ph: (323) 517-9780 *** Fax: (323) 517-9781

FILE: W:\45457 Oxnard School District\0002 – Teal Club – Phase I ESA\Cad\1–45457.0002–Site Vicinity Map Oxnard.dwg

APPENDIX B

SITE PLAN



SITE PLAN

NOT TO SCALE

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED NEW ACADEMY SITE
DORIS AVENUE AND NORTH PATTERSON ROAD
OXNARD, CALIFORNIA

PROJECT NUMBER: 052.45457.0002	TASK NO.: 1	APPENDIX
REVIEW BY: D. TANG	DRAWN BY: DAW	B

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Ph: (323) 517-9780 *** Fax: (323) 517-9781

FILE: W:\45457 Oxnard School District\0002 – Teal Club – Phase I ESA\Cad\2–45457.0002–Site Plan Oxnard.dwg

APPENDIX C

SITE PHOTOGRAPHS

Photo 1: Looking southeast at the property from North Patterson Road.

Photo 2. Looking east at the property from North Patterson Road.

Photo 3: View of the north-adjacent single-family residences, beyond Doris Avenue.

Photo 4: View of east-adjacent agricultural field.

Photo 5: View of the south-adjacent agricultural field.

Photo 6: View of the west-adjacent agricultural field, beyond North Patterson Road.

APPENDIX D

USER PROVIDED DOCUMENTATION

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APPENDIX E

REGULATORY DATABASE REPORT

Proposed New Academy Site
200-399 DORIS AVE
Oxnard, CA 93030

Inquiry Number: 3820276.2s
December 30, 2013

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

200-399 DORIS AVE
OXNARD, CA 93030

COORDINATES

Latitude (North):	34.2071000 - 34° 12' 25.56''
Longitude (West):	119.2057000 - 119° 12' 20.52''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	296780.8
UTM Y (Meters):	3787123.8
Elevation:	44 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	34119-B2 OXNARD, CA
Most Recent Revision:	1967

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year:	2012
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

AST ---------- Aboveground Petroleum Storage Tank Facilities

INDIAN UST ---- Underground Storage Tanks on Indian Land
FEMA UST ---- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

VCP ---- Voluntary Cleanup Program Properties
INDIAN VCP ---- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ---- Open Dump Inventory
DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
WMUDS/SWAT ---- Waste Management Unit Database
SWRCY ---- Recycler Database
HAULERS ---- Registered Waste Tire Haulers Listing
INDIAN ODI ---- Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---- Clandestine Drug Labs
HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
Toxic Pits ---- Toxic Pits Cleanup Act Sites
CDL ---- Clandestine Drug Labs
US HIST CDL ---- National Clandestine Laboratory Register

Local Land Records

LIENS 2 ---- CERCLA Lien Information
LIENS ---- Environmental Liens Listing
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CHMIRS ---- California Hazardous Material Incident Report System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

DOT OPS ---- Incident and Accident Data
DOD ---- Department of Defense Sites
CONSENT ---- Superfund (CERCLA) Consent Decrees
ROD ---- Records Of Decision
UMTRA ---- Uranium Mill Tailings Sites
US MINES ---- Mines Master Index File

TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
NPDES	NPDES Permits Listing
UIC	UIC Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
VENTURA CO. BWT	Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
ENF	Enforcement Action Listing
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
PRP	Potentially Responsible Parties
US AIRS	Aerometric Information Retrieval System Facility Subsystem
MED WASTE VENTURA	Medical Waste Program List
Financial Assurance	Financial Assurance Information Listing
2020 COR ACTION	2020 Corrective Action Program List
LEAD SMELTERS	Lead Smelter Sites
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
US FIN ASSUR	Financial Assurance Information
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
COAL ASH DOE	Steam-Electric Plant Operation Data
MWMP	Medical Waste Management Program Listing
PROC	Certified Processors Database
EPA WATCH LIST	EPA WATCH LIST
WDS	Waste Discharge System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 11/06/2013 has revealed that there are 6 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
STANDARD PACIFIC OF VENTURA Status: No Further Action	***2550 W GONZALES RD***	***N 1/2 - 1 (0.754 mi.)***	***21***	***51***
NORTHWEST ELEMENTARY Status: No Further Action	***GONZALES ROAD/PATTERSON***	***N 1/2 - 1 (0.757 mi.)***	***22***	***55***
OXNARD ILS OTR MK AX Status: Inactive - Needs Evaluation		NE 1/2 - 1 (0.932 mi.)	E25	60

Lower Elevation	Address	Direction / Distance	Map ID	Page
OXNARD CONT SCH Status: Inactive - Needs Evaluation		SE 1/4 - 1/2 (0.430 mi.)	16	41
CONDOR HELICOPTERS & AVIATION Status: Refer: Other Agency	2899 WEST 5TH STREET	S 1/2 - 1 (0.559 mi.)	D18	47
WINGFIELD Status: No Further Action	***5TH STREET/PATTERSON RO***	***S 1/2 - 1 (0.571 mi.)***	***D19***	***49***

EXECUTIVE SUMMARY

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 10/16/2013 has revealed that there are 7 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
F.A. BORCHARD & SONS	***1618 DORIS AVE***	***E 1/4 - 1/2 (0.371 mi.)***	***C14***	***38***
F.A. BORCHARD & SONS	***1618 DORIS***	***E 1/4 - 1/2 (0.371 mi.)***	***C15***	***40***
Status: Completed - Case Closed				
VEN OAKS PLUMBING	***131 MALLARD WAY***	***SE 1/4 - 1/2 (0.448 mi.)***	***17***	***42***
Status: Completed - Case Closed				

Lower Elevation	Address	Direction / Distance	Map ID	Page
PROODOS PROPERTIES INC	2200 TEAL CLUB RD	SSE 1/8 - 1/4 (0.197 mi.)	B4	12
PROODOS PROPERTIES INC	***2200 TEAL CLUB ROAD***	***SSE 1/8 - 1/4 (0.197 mi.)***	***B7***	***15***
Status: Completed - Case Closed				
VCO OXNARD AIRPORT-HANGAR III	***2889 5TH ST***	***SSE 1/8 - 1/4 (0.235 mi.)***	***B10***	***20***
Status: Completed - Case Closed				
V-OXNARD AIRPORT FUEL FARM	***2889 5TH ST***	***SSE 1/8 - 1/4 (0.235 mi.)***	***B13***	***36***
Status: Completed - Case Closed				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 10/16/2013 has revealed that there are 3 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AVIATION MARINE SERVICES	2800 TEAL CLUB ROAD	S 1/8 - 1/4 (0.187 mi.)	A2	10
PROODOS PROPERTIES INC	***2200 TEAL CLUB ROAD***	***SSE 1/8 - 1/4 (0.197 mi.)***	***B7***	***15***
VENTURA COUNTY DEPARTMENT OF A	2889 FIFTH STREET	SSE 1/8 - 1/4 (0.235 mi.)	B11	34

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are

3 CA FID UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AVIATION MARINE SERVICES	***2800 TEAL CLUB RD***	***S 1/8 - 1/4 (0.187 mi.)***	***A1***	***8***
ROTOR AIDS	***2200 TEAL CLUB RD***	***SSE 1/8 - 1/4 (0.197 mi.)***	***B6***	***14***
VENTURA CO. OXNARD AIRPORT	***2889 W 5TH ST***	***SSE 1/8 - 1/4 (0.235 mi.)***	***B12***	***34***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ROTOR AIDS, INC.	2200 TEAL CLUB RD	SSE 1/8 - 1/4 (0.197 mi.)	B5	13
OXNARD AIR TRAFFIC CONTROL TWR	2889 W 5TH ST	SSE 1/8 - 1/4 (0.235 mi.)	B8	17
OXNARD AIRPORT	***2889 W 5TH ST***	***SSE 1/8 - 1/4 (0.235 mi.)***	***B9***	***18***

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 3 SWEEPS UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AVIATION MARINE SERVICES	***2800 TEAL CLUB RD***	***S 1/8 - 1/4 (0.187 mi.)***	***A1***	***8***
ROTOR AIDS	***2200 TEAL CLUB RD***	***SSE 1/8 - 1/4 (0.197 mi.)***	***B6***	***14***
VENTURA CO. OXNARD AIRPORT	***2889 W 5TH ST***	***SSE 1/8 - 1/4 (0.235 mi.)***	***B12***	***34***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 09/10/2013 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MID CONTINENT OF CA INC	***2834 TEAL CLUB RD***	***SSW 1/8 - 1/4 (0.187 mi.)***	***A3***	***10***

EXECUTIVE SUMMARY

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 12/31/2011 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
OXNARD ILS OUTER MARK ANNEX		NE 1/2 - 1 (0.929 mi.)	E24	59

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 5 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
F.A. BORCHARD & SONS	***1618 DORIS***	***E 1/4 - 1/2 (0.371 mi.)***	***C15***	***40***
VEN OAKS PLUMBING	***131 MALLARD WAY***	***SE 1/4 - 1/2 (0.448 mi.)***	***17***	***42***

Lower Elevation	Address	Direction / Distance	Map ID	Page
PROODOS PROPERTIES INC	***2200 TEAL CLUB ROAD***	***SSE 1/8 - 1/4 (0.197 mi.)***	***B7***	***15***
VCO OXNARD AIRPORT-HANGAR III	***2889 5TH ST***	***SSE 1/8 - 1/4 (0.235 mi.)***	***B10***	***20***
V-OXNARD AIRPORT FUEL FARM	***2889 5TH ST***	***SSE 1/8 - 1/4 (0.235 mi.)***	***B13***	***36***

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there are 3 Notify 65 sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GINA & IVYWOOD DR.	GINA & IVYWOOD DR.	NE 1/2 - 1 (0.697 mi.)	20	51
Not reported	1710 ARLENE	NNE 1/2 - 1 (0.872 mi.)	23	59

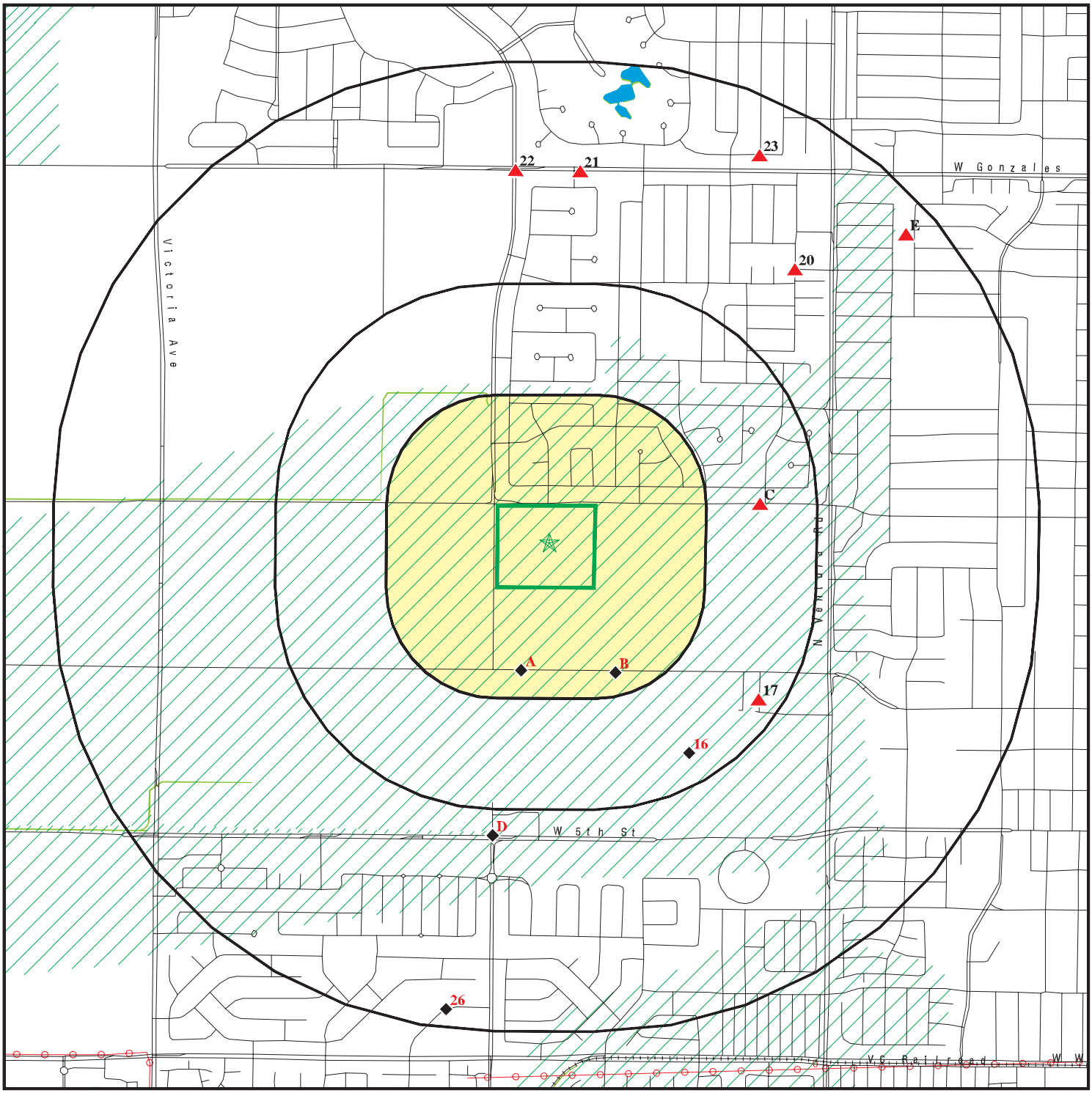
Lower Elevation	Address	Direction / Distance	Map ID	Page
APARTMENT COMPLEX	1040 KELP LANE	SSW 1/2 - 1 (0.957 mi.)	26	61

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 12 records.

Site Name	Database(s)
WALKER'S VENTURA SALVAGE CITY DUMP	CERC-NFRAP
DUNES SUBDIVISION	CERC-NFRAP
BAILARD LDFL	CERC-NFRAP
OXNARD 1962	SWF/LF
WAGON WHEEL AKA: SANTA CLARA (WAGO	SWF/LF
COTTAGES OXNARD TRACT 9450- APN #1	LUST
COTTAGES OXNARD TRACT 9450- APN #1	LUST
COMMANDER NAUMANN DRILL SITE	FINDS, EMI
DUNES SUBDIVISION SITE - OXNARD	FINDS
CITY OF OXNARD	SLIC
NAVARRO SITE	SLIC
COMMANDER NAUMANN DRILL SITE	EMI

OVERVIEW MAP - 3820276.2s



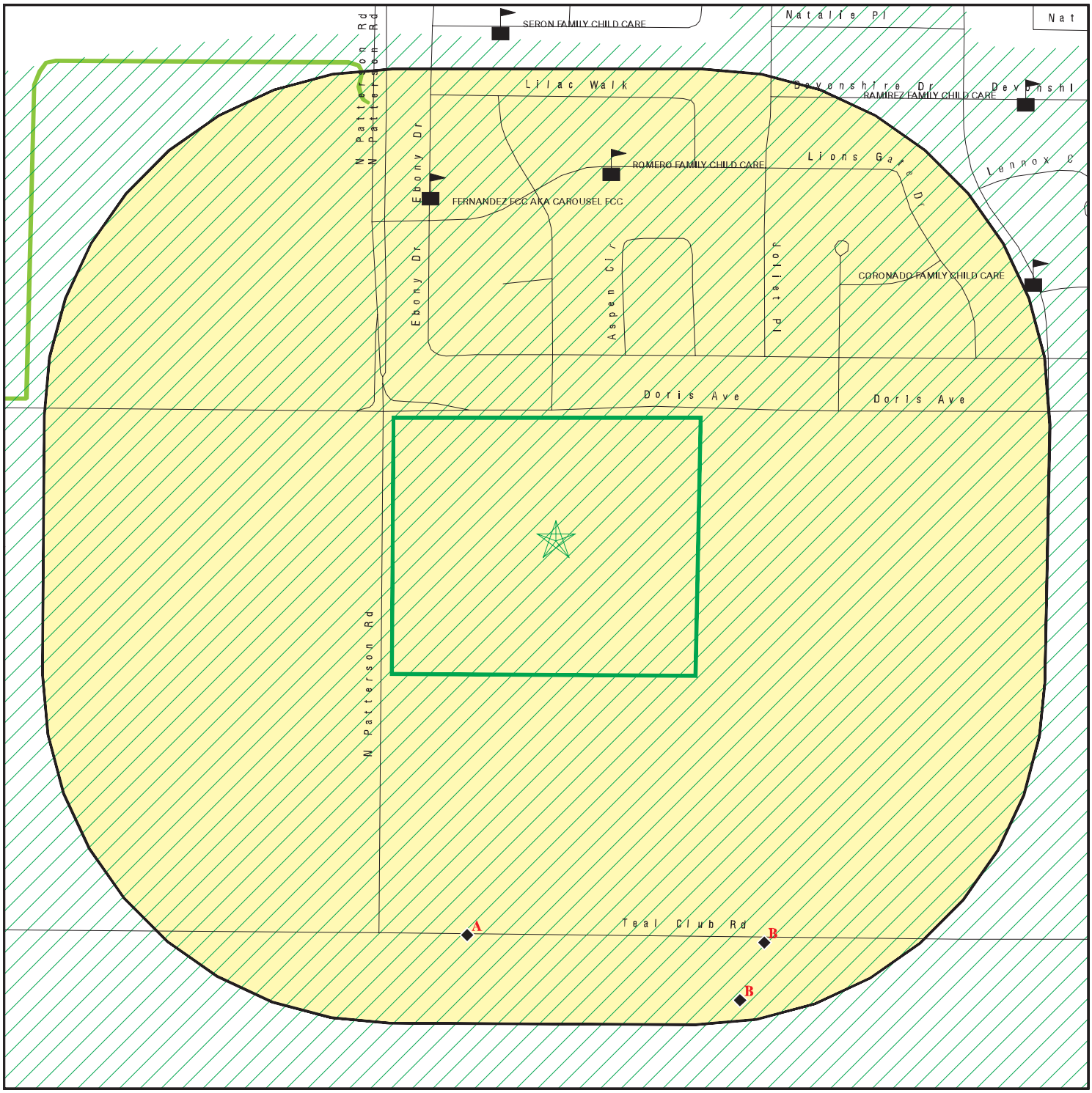
0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Proposed New Academy Site	CLIENT:	Cardno ATC #52
ADDRESS:	200-399 DORIS AVE Oxnard CA 93030	CONTACT:	Davis Tang
		INQUIRY #:	3820276.2s
LAT/LONG:	34.2071 / 119.2057	DATE:	December 30, 2013 3:12 pm

DETAIL MAP - 3820276.2s



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Proposed New Academy Site ADDRESS: 200-399 DORIS AVE Oxnard CA 93030 LAT/LONG: 34.2071 / 119.2057	CLIENT: Cardno ATC #52 CONTACT: Davis Tang INQUIRY #: 3820276.2s DATE: December 30, 2013 3:15 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	5	NR	6
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	4	3	NR	NR	7

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	3	NR	NR	NR	3
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	3	NR	NR	NR	3
HIST UST	0.250		0	3	NR	NR	NR	3
SWEEPS UST	0.250		0	3	NR	NR	NR	3
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	1	NR	1
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		0	3	2	NR	NR	5
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	0	3	NR	3
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
VENTURA CO. BWT	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
MED WASTE VENTURA	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MWMP	0.250		0	0	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
South
1/8-1/4
0.187 mi.
985 ft.

AVIATION MARINE SERVICES
2800 TEAL CLUB RD
OXNARD, CA 93030

Site 1 of 3 in cluster A

CA FID UST **U001966418**
SWEEPS UST **N/A**
ENF

Relative:
Lower

Actual:
39 ft.

CA FID UST:

Facility ID:	56002321
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	Not reported
Mail To:	Not reported
Mailing Address:	2800 TEAL CLUB RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	OXNARD 93030
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

SWEEPS UST:

Status:	Active
Comp Number:	1727
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-001727-000001
Actv Date:	Not reported
Capacity:	3000
Tank Use:	UNKNOWN
Stg:	P
Content:	Not reported
Number Of Tanks:	1

ENF:

Region:	4
Facility Id:	268643
Agency Name:	Tri-County Builders Supply
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	All other facilities
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.202991
Place Longitude:	-119.206611
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported

AVIATION MARINE SERVICES (Continued) **U001966418**

SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	AGT
Program Category1:	TANKS
Program Category2:	TANKS
# Of Programs:	1
WDID:	4CUPA000021
Reg Measure Id:	166963
Reg Measure Type:	Unregulated
Region:	4
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/20/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	238385
Region:	4
Order / Resolution Number:	SEL
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	09/07/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	09/07/2000

AVIATION MARINE SERVICES (Continued) **U001966418**

ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 4CUPA000021
Description:	Notice of Noncompliance sent 9/7/00 for failure to pay fees. Not reported
Program:	AGT
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

A2 **AVIATION MARINE SERVICES** **UST** **U002169445**
South **2800 TEAL CLUB ROAD** **N/A**
1/8-1/4 **OXNARD, CA**
0.187 mi.
985 ft. **Site 2 of 3 in cluster A**

Relative:
Lower

Actual:
39 ft.

VENTURA CO. UST:
Facility ID: D 1033
Facility Status: Inactive

A3 **MID CONTINENT OF CA INC** **RCRA NonGen / NLR** **1000108604**
SSW **2834 TEAL CLUB RD** **FINDS** **CAD095147385**
1/8-1/4 **OXNARD, CA 93030**
0.187 mi.
986 ft. **Site 3 of 3 in cluster A**

Relative:
Lower

Actual:
39 ft.

RCRA NonGen / NLR:

Date form received by agency:	11/12/1980
Facility name:	MID CONTINENT OF CA INC
Facility address:	2834 TEAL CLUB RD OXNARD, CA 93030
EPA ID:	CAD095147385
Mailing address:	PO BOX 489 OXNARD, CA 93030
Contact:	ENVIRONMENTAL MANAGER
Contact address:	2834 TEAL CLUB RD OXNARD, CA 93030
Contact country:	US
Contact telephone:	(805) 487-6365
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	WESTERN FARM SERVICE
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported

MID CONTINENT OF CA INC (Continued) **1000108604**

Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002664625

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

B4 **PROODOS PROPERTIES INC** **LUST** **S104164926**
SSE **2200 TEAL CLUB RD** **N/A**
1/8-1/4 **OXNARD, CA**
0.197 mi.
1042 ft. **Site 1 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-95076	
Status:	Case Closed	
Substance:	Jet Fuel	
Substance Quantity:	Not reported	
Local Case No:	95076	
Case Type:	Groundwater	
Abatement Method Used at the Site:		EDET
Global ID:	T0611100975	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	2/8/1995	
Date Leak First Reported:		2/8/1995
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	2/8/1995	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		3/28/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3068.352039583800951184164240 5
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		2/8/1995
Preliminary Site Assessment Began:		3/6/1995
Pollution Characterization Began:		3/6/1995
Remediation Plan Submitted:		11/6/1995
Remedial Action Underway:		11/6/1995
Post Remedial Action Monitoring Began:		1/2/1996
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	PROODOS PROPERTIES INC	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.2028686 / -1	
Local Agency Staff:	KCK	

PROODOS PROPERTIES INC (Continued) **S104164926**

Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 95076
Status: Case Closed

B5 **ROTOR AIDS, INC.** **HIST UST** **U001579850**
SSE **2200 TEAL CLUB RD** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.197 mi.
1042 ft. **Site 2 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

HIST UST:
Region: STATE
Facility ID: 00000019514
Facility Type: Other
Other Type: HELICOPTER CHARTER
Total Tanks: 0004
Contact Name: LOUIS J. LAUGHLIN
Telephone: 8059843860
Owner Name: EVERGREEN HELICOPTERS, INC.
Owner Address: 3850 THREE MILE LANE
Owner City,St,Zip: MCMINNVILLE, OR 97128

Tank Num: 001
Container Num: 1
Year Installed: 1980
Tank Capacity: 00001500
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: 3/6" inches
Leak Detection: Visual, Stock Inventor

Tank Num: 002
Container Num: JET
Year Installed: 1980
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/4 inches
Leak Detection: Visual, Stock Inventor

Tank Num: 003
Container Num: 100
Year Installed: 1980
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/4 inches
Leak Detection: Visual, Stock Inventor

ROTOR AIDS, INC. (Continued) **U001579850**

Tank Num: 004
Container Num: DIESEL
Year Installed: 1980
Tank Capacity: 00001500
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 3/16" inches
Leak Detection: Visual, Stock Inventor

B6 **ROTOR AIDS** **CA FID UST** **S101619941**
SSE **2200 TEAL CLUB RD** **SWEEPS UST** **N/A**
1/8-1/4 **OXNARD, CA**
0.197 mi.
1042 ft. **Site 3 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

CA FID UST:
Facility ID: 56004837
Regulated By: UTNKA
Regulated ID: 19514
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: 2200 TEAL CLUB RD
Mailing Address 2: Not reported
Mailing City,St,Zip: OXNARD
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

SWEEPS UST:
Status: Active
Comp Number: 16
Number: 9
Board Of Equalization: Not reported
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: Not reported
Swrcb Tank Id: 56-000-000016-000001
Actv Date: Not reported
Capacity: Not reported
Tank Use: UNKNOWN
Stg: P
Content: Not reported
Number Of Tanks: 4

Status: Active
Comp Number: 16
Number: 9
Board Of Equalization: Not reported
Referral Date: 09-30-92

ROTOR AIDS (Continued) **S101619941**

Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-000016-000002
Actv Date:	Not reported
Capacity:	Not reported
Tank Use:	UNKNOWN
Stg:	P
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	16
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-000016-000003
Actv Date:	Not reported
Capacity:	Not reported
Tank Use:	UNKNOWN
Stg:	P
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	16
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-000016-000004
Actv Date:	Not reported
Capacity:	Not reported
Tank Use:	UNKNOWN
Stg:	P
Content:	Not reported
Number Of Tanks:	Not reported

B7 **PROODOS PROPERTIES INC** **HIST CORTESE** **U002244258**
SSE **2200 TEAL CLUB ROAD** **LUST** **N/A**
1/8-1/4 **OXNARD, CA** **UST**
0.197 mi. **EMI**
1042 ft. **Site 4 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-95076

PROODOS PROPERTIES INC (Continued) **U002244258**

LUST:

Region:	STATE
Global Id:	T0611100975
Latitude:	34.202246
Longitude:	-119.203847
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/28/1996
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-95076
LOC Case Number:	95076
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Aviation
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100975
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100975
Status:	Completed - Case Closed
Status Date:	03/28/1996
Global Id:	T0611100975
Status:	Open - Case Begin Date
Status Date:	02/08/1995
Global Id:	T0611100975
Status:	Open - Remediation
Status Date:	11/06/1995
Global Id:	T0611100975
Status:	Open - Site Assessment
Status Date:	02/08/1995
Global Id:	T0611100975
Status:	Open - Site Assessment
Status Date:	03/06/1995
Global Id:	T0611100975
Status:	Open - Verification Monitoring
Status Date:	01/02/1996

Regulatory Activities:

PROODOS PROPERTIES INC (Continued) **U002244258**

Global Id: T0611100975
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Global Id: T0611100975
Action Type: RESPONSE
Date: 01/01/1997
Action: Correspondence

Global Id: T0611100975
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

VENTURA CO. UST:
Facility ID: D 1161
Facility Status: Inactive

EMI:

Year:	1987
County Code:	56
Air Basin:	SCC
Facility ID:	1134
Air District Name:	VEN
SIC Code:	4212
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

B8 **OXNARD AIR TRAFFIC CONTROL TWR** **HIST UST** **U001579815**
SSE **2889 W 5TH ST** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.235 mi.
1239 ft. **Site 5 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

HIST UST:

Region:	STATE
Facility ID:	00000059033
Facility Type:	Other
Other Type:	AIR TRAFFIC CONTROL
Total Tanks:	0001
Contact Name:	CHET ISGAR
Telephone:	8059841420
Owner Name:	FAA
Owner Address:	660 W. AVE. "J"
Owner City,St,Zip:	LANCASTER, CA 93534
Tank Num:	001

OXNARD AIR TRAFFIC CONTROL TWR (Continued) **U001579815**

Container Num: 1
Year Installed: 1960
Tank Capacity: 00000500
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

B9 **OXNARD AIRPORT** **NPDES** **U001579816**
SSE **2889 W 5TH ST** **HIST UST** **N/A**
1/8-1/4 **OXNARD, CA 93030** **WDS**
0.235 mi.
1239 ft. **Site 6 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4
Regulatory Measure Id:	192582
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 56I002776
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	04/02/1992
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Ventura Cnty Dept of Airports
Discharge Address:	555 Airport Way Ste B
Discharge City:	Camarillo
Discharge State:	California
Discharge Zip:	93010

HIST UST:

Region:	STATE
Facility ID:	00000056794
Facility Type:	Other
Other Type:	AIRPORT
Total Tanks:	0005
Contact Name:	T.B. IVERSEN
Telephone:	8053884201
Owner Name:	DEPARTMENT OF AIRPORTS
Owner Address:	800 SOUTH VICTORIA AVENUE
Owner City,St,Zip:	VENTURA, CA 93009
Tank Num:	001
Container Num:	W-1
Year Installed:	1976
Tank Capacity:	00000085
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Tank Construction:	Not reported
Leak Detection:	Visual, 10
Tank Num:	002

OXNARD AIRPORT (Continued) **U001579816**

Container Num: W-2
Year Installed: 1976
Tank Capacity: 00000400
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Tank Construction: Not reported
Leak Detection: Visual, 10

Tank Num: 003
Container Num: W-3
Year Installed: 1976
Tank Capacity: 00000100
Tank Used for: WASTE
Type of Fuel: WASTE OIL
Tank Construction: Not reported
Leak Detection: Visual, 10

Tank Num: 004
Container Num: A-1
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/4 inches
Leak Detection: Visual, 10

Tank Num: 005
Container Num: A-2
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: 06
Tank Construction: 1/4 inches
Leak Detection: Visual, 10

CA WDS:
Facility ID: 4 56I002776
Facility Type: Other - Does not fall into the category of Municipal/Domestic, Industrial, Agricultural or Solid Waste (Class I, II or III)
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 4
Facility Telephone: 8053884200
Facility Contact: Scott Smith/Christ Hastert
Agency Name: VENTURA CO DEPT OF AIRPORTS
Agency Address: Not reported
Agency City,St,Zip: 0
Agency Contact: Not reported
Agency Telephone: Not reported
Agency Type: County
SIC Code: 4581
SIC Code 2: 4512
Primary Waste: Stormwater Runoff
Primary Waste Type: Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD,

OXNARD AIRPORT (Continued) **U001579816**

Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Design Flow: 0
Baseline Flow: 0
Reclamation: No reclamation requirements associated with this facility.
POTW: The facility is not a POTW.
Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

B10 **VCO OXNARD AIRPORT-HANGAR III** **HIST CORTESE** **S101305808**
SSE **2889 5TH ST** **LUST** **N/A**
1/8-1/4 **OXNARD, CA** **ENF**
0.235 mi.
1239 ft. **Site 7 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-89169

Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-88114

LUST:
Region: STATE
Global Id: T0611100354
Latitude: 34.198155348667
Longitude: -119.199814796448
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/09/2012
Lead Agency: VENTURA COUNTY LOP
Case Worker: DBW
Local Agency: VENTURA COUNTY LOP
RB Case Number: 88114
LOC Case Number: 88114
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: BLANK

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100354
Contact Type:	Local Agency Caseworker
Contact Name:	DIANE B. WAHL
Organization Name:	VENTURA COUNTY LOP
Address:	800 S. VICTORIA AVE.
City:	VENTURA
Email:	diane.wahl@ventura.org
Phone Number:	8056545040

Global Id:	T0611100354
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100354
Status:	Completed - Case Closed
Status Date:	03/09/2012

Global Id:	T0611100354
Status:	Open - Case Begin Date
Status Date:	08/26/1988

Global Id:	T0611100354
Status:	Open - Remediation
Status Date:	06/07/2002

Global Id:	T0611100354
Status:	Open - Site Assessment
Status Date:	08/26/1988

Global Id:	T0611100354
Status:	Open - Site Assessment
Status Date:	10/05/1988

Global Id:	T0611100354
Status:	Open - Site Assessment
Status Date:	01/26/1990

Global Id:	T0611100354
Status:	Open - Verification Monitoring
Status Date:	06/22/2010

Regulatory Activities:

Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	06/23/2005
Action:	* No Action - #5

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	07/09/2007
Action:	Technical Correspondence / Assistance / Other - #21
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	05/23/2006
Action:	Technical Correspondence / Assistance / Other - #9
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	05/24/2006
Action:	Technical Correspondence / Assistance / Other - #10
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	10/30/2006
Action:	Technical Correspondence / Assistance / Other - #15
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	03/12/2012
Action:	Closure/No Further Action Letter
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	12/31/2009
Action:	Final Remedial Action Report / Corrective Action Report
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	07/29/2011
Action:	Monitoring Report - Semi-Annually
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	03/14/2011
Action:	Correspondence
Global Id:	T0611100354
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Soil Vapor Extraction (SVE)
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	12/31/2009
Action:	Well Installation Workplan
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	02/24/2011
Action:	Staff Letter
Global Id:	T0611100354
Action Type:	Other

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Date: 01/01/1950
Action: Leak Reported

Global Id: T0611100354
Action Type: RESPONSE
Date: 03/03/2011
Action: Correspondence

Global Id: T0611100354
Action Type: REMEDIATION
Date: 01/01/1950
Action: In Situ Physical/Chemical Treatment (other than SVE)

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 08/26/2008
Action: Meeting

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 06/15/2009
Action: Staff Letter

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 11/10/2009
Action: Staff Letter

Global Id: T0611100354
Action Type: RESPONSE
Date: 11/30/2006
Action: Other Workplan

Global Id: T0611100354
Action Type: RESPONSE
Date: 07/14/2011
Action: Other Report / Document

Global Id: T0611100354
Action Type: RESPONSE
Date: 12/16/2009
Action: Clean Up Fund - 5-Year Review Summary

Global Id: T0611100354
Action Type: RESPONSE
Date: 03/15/2012
Action: Well Destruction Report

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 12/06/2010
Action: Staff Letter

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 03/20/2006
Action: * Historical Enforcement - #8

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	11/30/2006
Action:	Technical Correspondence / Assistance / Other - #16
Global Id:	T0611100354
Action Type:	Other
Date:	01/01/1950
Action:	Leak Stopped
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	01/14/2011
Action:	Clean Up Fund - 5-Year Review Summary
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	10/20/2006
Action:	Other Workplan
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	08/30/2006
Action:	Technical Correspondence / Assistance / Other - #13
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	06/05/2006
Action:	Technical Correspondence / Assistance / Other - #11
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	05/22/2007
Action:	Technical Correspondence / Assistance / Other - #20
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	10/30/2008
Action:	Remedial Progress Report
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	07/17/2006
Action:	Other Report / Document
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	06/30/2010
Action:	Well Installation Report
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	05/16/2008
Action:	Other Report / Document
Global Id:	T0611100354
Action Type:	ENFORCEMENT

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Date: 09/10/2003
Action: File review - #2

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 10/05/2009
Action: Staff Letter

Global Id: T0611100354
Action Type: RESPONSE
Date: 01/30/2009
Action: Monitoring Report - Semi-Annually

Global Id: T0611100354
Action Type: RESPONSE
Date: 07/23/2007
Action: Other Report / Document

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 07/05/2006
Action: Technical Correspondence / Assistance / Other - #12

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 08/24/2010
Action: Staff Letter

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 07/22/2011
Action: Staff Letter

Global Id: T0611100354
Action Type: RESPONSE
Date: 10/31/2007
Action: Other Workplan

Global Id: T0611100354
Action Type: RESPONSE
Date: 02/15/2007
Action: CAP/RAP - Other Report

Global Id: T0611100354
Action Type: RESPONSE
Date: 06/19/2006
Action: Other Workplan

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 02/19/2008
Action: Technical Correspondence / Assistance / Other - #24

Global Id: T0611100354
Action Type: ENFORCEMENT
Date: 06/25/2008
Action: Meeting - #28

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	07/08/2008
Action:	File review
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	04/30/2010
Action:	Monitoring Report - Quarterly
Global Id:	T0611100354
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Pump & Treat (P&T) Groundwater
Global Id:	T0611100354
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Excavation
Global Id:	T0611100354
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Free Product Removal
Global Id:	T0611100354
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Excavation
Global Id:	T0611100354
Action Type:	REMEDIATION
Date:	01/01/1950
Action:	Excavation
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	05/01/2008
Action:	Technical Correspondence / Assistance / Other - #26
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	05/27/2008
Action:	* No Action - #27
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	11/14/2005
Action:	* Historical Enforcement - #7
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	01/23/2007
Action:	Technical Correspondence / Assistance / Other - #17
Global Id:	T0611100354
Action Type:	ENFORCEMENT

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Date:	02/22/2007
Action:	Technical Correspondence / Assistance / Other - #18
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	08/08/2007
Action:	Meeting - #22
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	09/04/2007
Action:	Technical Correspondence / Assistance / Other - #23
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	03/15/2007
Action:	Meeting - #19
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	04/22/2008
Action:	Technical Correspondence / Assistance / Other - #25
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	11/21/2011
Action:	Staff Letter
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	01/01/2017
Action:	File review
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	04/12/2010
Action:	Staff Letter
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	12/09/2005
Action:	Other Report / Document
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	07/14/2006
Action:	Other Report / Document
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	03/30/2005
Action:	* Historical Enforcement - #4
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	01/01/2005
Action:	* Historical Enforcement - #3

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	10/03/2006
Action:	Technical Correspondence / Assistance / Other - #14
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	09/03/2008
Action:	Staff Letter
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	08/26/1988
Action:	* Historical Enforcement - #1
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	07/28/2005
Action:	* Historical Enforcement - #6
Global Id:	T0611100354
Action Type:	ENFORCEMENT
Date:	07/18/2011
Action:	LOP Case Closure Summary to RB
Global Id:	T0611100354
Action Type:	Other
Date:	01/01/1950
Action:	Leak Discovery
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	04/06/2007
Action:	CAP/RAP - Feasibility Study Report
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	02/15/2005
Action:	Other Workplan
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	07/30/2008
Action:	Monitoring Report - Quarterly
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	07/30/2008
Action:	Remedial Progress Report
Global Id:	T0611100354
Action Type:	RESPONSE
Date:	10/29/2010
Action:	Monitoring Report - Quarterly
Region:	STATE

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Global Id:	T0611100567
Latitude:	34.1968603
Longitude:	-119.1360281
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	01/10/2001
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-89169
LOC Case Number:	89169
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100567
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100567
Status:	Completed - Case Closed
Status Date:	01/10/2001
Global Id:	T0611100567
Status:	Open - Case Begin Date
Status Date:	11/04/1989
Global Id:	T0611100567
Status:	Open - Site Assessment
Status Date:	11/04/1989
Global Id:	T0611100567
Status:	Open - Site Assessment
Status Date:	11/06/1989
Global Id:	T0611100567
Status:	Open - Site Assessment
Status Date:	10/20/1990

Regulatory Activities:

Global Id:	T0611100567
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported
Global Id:	T0611100567
Action Type:	ENFORCEMENT

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Date: 01/29/2001
Action: Closure/No Further Action Letter

Global Id: T0611100567
Action Type: ENFORCEMENT
Date: 11/06/1989
Action: * Historical Enforcement

Global Id: T0611100567
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-89169	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	89169	
Case Type:	Groundwater	
Abatement Method Used at the Site:		ETED
Global ID:	T0611100567	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	CLOS	
Date Leak Discovered:	11/4/1989	
Date Leak First Reported:		11/4/1989
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	11/6/1989	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		1/10/2001
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		4799.447511866757115998065682 8
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		11/4/1989
Preliminary Site Assessment Began:		10/20/1990
Pollution Characterization Began:		10/20/1990
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		11/6/1989
Historical Max MTBE Date:		11/1/1996
Hist Max MTBE Conc in Groundwater:		4.2
Hist Max MTBE Conc in Soil:		Not reported

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	VTA CO DEPT OF AIRPORTS	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.1977157 / -1	
Local Agency Staff:	KCK	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	
Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-88114	
Status:	Remedial action (cleanup) Underway	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	88114	
Case Type:	Groundwater	
Abatement Method Used at the Site:		ETED
Global ID:	T0611100354	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	FREV	
Date Leak Discovered:	8/26/1988	
Date Leak First Reported:		8/26/1988
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	8/26/1988	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		Not reported
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		4799.447511866757115998065682 8
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		10/5/1988
Preliminary Site Assessment Began:		1/26/1990
Pollution Characterization Began:		1/26/1990
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		6/7/2002
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		8/26/1988
Historical Max MTBE Date:		3/26/2004

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Hist Max MTBE Conc in Groundwater: 1490
Hist Max MTBE Conc in Soil: 207000
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: =
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: VTA CO DEPT OF AIRPORTS
RP Address: Not reported
Program: LUST
Lat/Long: 34.1977157 / -1
Local Agency Staff: KCK
Beneficial Use: AGR, MUN
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 88114
Status: Remedial action (cleanup) Underway

ENF:
Region: 4
Facility Id: 246922
Agency Name: Ventura Cnty Dept of Airports
Place Type: Facility
Place Subtype: Not reported
Facility Type: All other facilities
Agency Type: County Agency
Of Agencies: 1
Place Latitude: 34.197577
Place Longitude: -119.210846
SIC Code 1: 4581
SIC Desc 1: Airports, Flying Fields, and Airport Terminal Services
SIC Code 2: 4512
SIC Desc 2: Air Transportation, Scheduled
SIC Code 3: Not reported
SIC Desc 3: Not reported
NAICS Code 1: Not reported
NAICS Desc 1: Not reported
NAICS Code 2: Not reported
NAICS Desc 2: Not reported
NAICS Code 3: Not reported
NAICS Desc 3: Not reported
Of Places: 1
Source Of Facility: Reg Meas
Design Flow: Not reported
Threat To Water Quality: Not reported
Complexity: Not reported
Pretreatment: Not reported
Facility Waste Type: Not reported
Facility Waste Type 2: Not reported
Facility Waste Type 3: Not reported

VCO OXNARD AIRPORT-HANGAR III (Continued) **S101305808**

Facility Waste Type 4:	Not reported
Program:	AGT
Program Category1:	TANKS
Program Category2:	TANKS
# Of Programs:	1
WDID:	4CUPA000228
Reg Measure Id:	169437
Reg Measure Type:	Unregulated
Region:	4
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/20/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	241301
Region:	4
Order / Resolution Number:	SEL
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	02/25/2002
Adoption/Issuance Date:	02/25/2002
Achieve Date:	Not reported
Termination Date:	02/25/2002
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Notice of Noncompliance sent 2/25/02 for no SPCC onsite - 4CUPA000228
Description:	Notice of Noncompliance sent 2/25/02 for failure to have a SPCC onsite.
Program:	AGT
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

B11 **VENTURA COUNTY DEPARTMENT OF AIRPORTS** **UST** **U004066761**
SSE **2889 FIFTH STREET** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.235 mi.
1239 ft. **Site 8 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

UST:
Facility ID: 065-013-056416
Latitude: 34.197425
Longitude: -119.197709

B12 **VENTURA CO. OXNARD AIRPORT** **CA FID UST** **S101596354**
SSE **2889 W 5TH ST** **SWEEPS UST** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.235 mi.
1239 ft. **Site 9 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

CA FID UST:
Facility ID: 56001693
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: 2889 W 5TH ST
Mailing Address 2: Not reported
Mailing City,St,Zip: OXNARD 93030
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

SWEEPS UST:
Status: Active
Comp Number: 739
Number: 9
Board Of Equalization: 44-030692
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: Not reported
Swrcb Tank Id: 56-000-000739-000001
Actv Date: Not reported
Capacity: 12000
Tank Use: M.V. FUEL
Stg: P
Content: LEADED
Number Of Tanks: 5

Status: Active
Comp Number: 739
Number: 9
Board Of Equalization: 44-030692
Referral Date: 09-30-92

VENTURA CO. OXNARD AIRPORT (Continued) **S101596354**

Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-000739-000002
Actv Date:	Not reported
Capacity:	12000
Tank Use:	UNKNOWN
Stg:	P
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	739
Number:	9
Board Of Equalization:	44-030692
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-000739-000003
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	LEADED
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	739
Number:	9
Board Of Equalization:	44-030692
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-000739-000004
Actv Date:	Not reported
Capacity:	10000
Tank Use:	M.V. FUEL
Stg:	P
Content:	LEADED
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	739
Number:	9
Board Of Equalization:	44-030692
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	56-000-000739-000005
Actv Date:	Not reported

VENTURA CO. OXNARD AIRPORT (Continued) **S101596354**

Capacity: 400
Tank Use: OIL
Stg: W
Content: Not reported
Number Of Tanks: Not reported

B13 **V-OXNARD AIRPORT FUEL FARM** **HIST CORTESE** **S103066235**
SSE **2889 5TH ST** **LUST** **N/A**
1/8-1/4 **OXNARD, CA**
0.235 mi.
1239 ft. **Site 10 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

CORTESE:
Region: CORTESE
Facility County Code: 33
Reg By: LTNKA
Reg Id: 7T2236002

LUST:
Region: STATE
Global Id: T0606500932
Latitude: 33.6831409
Longitude: -116.1768474
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 12/08/1999
Lead Agency: RIVERSIDE COUNTY LOP
Case Worker: RIV
Local Agency: RIVERSIDE COUNTY LOP
RB Case Number: 7T2236002
LOC Case Number: 89169
File Location: Local Agency Warehouse
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0606500932
Contact Type: Regional Board Caseworker
Contact Name: Phan Le
Organization Name: COLORADO RIVER BASIN RWQCB (REGION 7)
Address: 73720 FRED WARING DRIVE SUITE #100
City: PALM DESERT
Email: ple@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0606500932
Contact Type: Local Agency Caseworker
Contact Name: Riverside County LOP Closed Cases
Organization Name: RIVERSIDE COUNTY LOP
Address: 3880 LEMON ST SUITE 200
City: RIVERSIDE
Email: Not reported
Phone Number: 9519558982

V-OXNARD AIRPORT FUEL FARM (Continued) **S103066235**

Status History:

Global Id:	T0606500932
Status:	Completed - Case Closed
Status Date:	12/08/1999
Global Id:	T0606500932
Status:	Open - Case Begin Date
Status Date:	10/01/1986
Global Id:	T0606500932
Status:	Open - Remediation
Status Date:	08/08/1995
Global Id:	T0606500932
Status:	Open - Site Assessment
Status Date:	10/11/1986
Global Id:	T0606500932
Status:	Open - Site Assessment
Status Date:	10/13/1993
Global Id:	T0606500932
Status:	Open - Site Assessment
Status Date:	05/11/1994

Regulatory Activities:

Global Id:	T0606500932
Action Type:	Other
Date:	01/01/1950
Action:	Leak Discovery
Global Id:	T0606500932
Action Type:	ENFORCEMENT
Date:	12/08/1999
Action:	Closure/No Further Action Letter - #Riv Co Closure
Global Id:	T0606500932
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported
Global Id:	T0606500932
Action Type:	ENFORCEMENT
Date:	12/07/1999
Action:	File review - #RCDEH Upload Site File 5/5/2010
Global Id:	T0606500932
Action Type:	Other
Date:	01/01/1950
Action:	Leak Stopped

LUST REG 7:

Region:	7
Status:	9 - Case Closed
Case Num:	7T2236002

V-OXNARD AIRPORT FUEL FARM (Continued) **S103066235**

Substance: Diesel fuel oil and additives
ID: 653
Global ID: T0606500932
Lead Agency: Local Agency
Case Worker: YO

RIVERSIDE CO. LUST:
Region: RIVERSIDE
Facility ID: 89169
Employee: Shurlow-LOP
Site Closed: Yes
Case Type: Other ground water affected
Facility Status: closed/action completed

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 89169
Status: Case Closed

C14 **F.A. BORCHARD & SONS** **LUST** **U001579738**
East **1618 DORIS AVE** **HIST UST** **N/A**
1/4-1/2 **OXNARD, CA 93030**
0.371 mi.
1959 ft. **Site 1 of 2 in cluster C**

Relative:
Higher

Actual:
53 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-87067	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	87067	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Excavate and Treat
Global ID:	T0611100208	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	6/9/1987	
Date Leak First Reported:		6/9/1987
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	7/1/1988	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		2/9/1998
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2377.843836479272394490823504

F.A. BORCHARD & SONS (Continued) **U001579738**

Source of Cleanup Funding: F
Preliminary Site Assessment Workplan Submitted: 6/9/1987
Preliminary Site Assessment Began: 9/21/1989
Pollution Characterization Began: 9/21/1989
Remediation Plan Submitted: 4/20/1990
Remedial Action Underway: 3/14/1994
Post Remedial Action Monitoring Began: 1/21/1998
Enforcement Action Date: 6/9/1987
Historical Max MTBE Date: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: F A BORCHARD & SONS
RP Address: Not reported
Program: LUST
Lat/Long: 34.2082616 / -1
Local Agency Staff: EHD
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 87067
Status: Case Closed

HIST UST:
Region: STATE
Facility ID: 00000027807
Facility Type: Other
Other Type: FARMING
Total Tanks: 0002
Contact Name: RALPH W. BORCHARD
Telephone: 8059846974
Owner Name: F.A. BORCHARD & SONS
Owner Address: P.O. BOX 1372
Owner City,St,Zip: OXNARD, CA 93032

Tank Num: 001
Container Num: #1
Year Installed: Not reported
Tank Capacity: 00000550
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: None

Tank Num: 002
Container Num: #2

F.A. BORCHARD & SONS (Continued) **U001579738**

Year Installed: Not reported
Tank Capacity: 00003000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: Visual

C15 **F.A. BORCHARD & SONS** **HIST CORTESE** **S102429616**
East **1618 DORIS** **LUST** **N/A**
1/4-1/2 **OXNARD, CA 93030**
0.371 mi.
1959 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
53 ft.

CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-87067

LUST:
Region: STATE
Global Id: T0611100208
Latitude: 34.2083605
Longitude: -119.1960117
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 02/09/1998
Lead Agency: VENTURA COUNTY LOP
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: C-87067
LOC Case Number: 87067
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611100208
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611100208
Status: Completed - Case Closed
Status Date: 02/09/1998

Global Id: T0611100208
Status: Open - Case Begin Date
Status Date: 06/09/1987

F.A. BORCHARD & SONS (Continued) **S102429616**

Global Id: T0611100208
Status: Open - Remediation
Status Date: 04/20/1990

Global Id: T0611100208
Status: Open - Remediation
Status Date: 03/14/1994

Global Id: T0611100208
Status: Open - Site Assessment
Status Date: 06/09/1987

Global Id: T0611100208
Status: Open - Site Assessment
Status Date: 07/01/1988

Global Id: T0611100208
Status: Open - Site Assessment
Status Date: 09/21/1989

Global Id: T0611100208
Status: Open - Verification Monitoring
Status Date: 01/21/1998

Regulatory Activities:
Global Id: T0611100208
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Global Id: T0611100208
Action Type: RESPONSE
Date: 01/01/1998
Action: Correspondence

Global Id: T0611100208
Action Type: ENFORCEMENT
Date: 06/09/1987
Action: * Historical Enforcement

Global Id: T0611100208
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

---

16 **OXNARD CONT SCH** **ENVIROSTOR** **S107736981**
SE **N/A**
1/4-1/2 **OXNARD, CA**
0.430 mi.
2270 ft.

Relative:
Lower

Actual:
43 ft.

ENVIROSTOR:
Site Type: Military Evaluation
Site Type Detailed: FUDS
Acres: Not reported
NPL: NO

OXNARD CONT SCH (Continued) **S107736981**

Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Douglas Bautista
Division Branch:	Cleanup Cypress
Facility ID:	80000343
Site Code:	Not reported
Assembly:	44
Senate:	19
Special Program:	Not reported
Status:	Inactive - Needs Evaluation
Status Date:	07/01/2005
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	DERA
Latitude:	34.20027
Longitude:	-119.2002
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CA99799F554600
Alias Type:	Federal Facility ID
Alias Name:	J09CA0526
Alias Type:	INPR
Alias Name:	80000343
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

17
SE
1/4-1/2
0.448 mi.
2368 ft.

VEN OAKS PLUMBING
131 MALLARD WAY
OXNARD, CA

HIST CORTESE **U001579893**
LUST **N/A**
UST
HIST UST

Relative:
Higher

Actual:
45 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-87033

VEN OAKS PLUMBING (Continued) **U001579893**

LUST:

Region:	STATE
Global Id:	T0611100185
Latitude:	34.2022627
Longitude:	-119.1979393
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	05/10/2006
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	DBW
Local Agency:	VENTURA COUNTY LOP
RB Case Number:	C87033
LOC Case Number:	87033
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100185
Contact Type:	Local Agency Caseworker
Contact Name:	DIANE B. WAHL
Organization Name:	VENTURA COUNTY LOP
Address:	800 S. VICTORIA AVE.
City:	VENTURA
Email:	diane.wahl@ventura.org
Phone Number:	8056545040

Global Id:	T0611100185
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100185
Status:	Completed - Case Closed
Status Date:	05/10/2006

Global Id:	T0611100185
Status:	Open - Case Begin Date
Status Date:	04/16/1987

Global Id:	T0611100185
Status:	Open - Remediation
Status Date:	01/15/1989

Global Id:	T0611100185
Status:	Open - Site Assessment
Status Date:	04/16/1987

Global Id:	T0611100185

VEN OAKS PLUMBING (Continued) **U001579893**

Status: Open - Site Assessment
Status Date: 04/20/1987

Global Id: T0611100185
Status: Open - Site Assessment
Status Date: 08/17/1988

Global Id: T0611100185
Status: Open - Site Assessment
Status Date: 10/31/1988

Global Id: T0611100185
Status: Open - Verification Monitoring
Status Date: 11/16/2004

Regulatory Activities:
Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 05/10/2006
Action: Closure/No Further Action Letter - #15

Global Id: T0611100185
Action Type: REMEDIATION
Date: 01/01/1950
Action: Excavation

Global Id: T0611100185
Action Type: Other
Date: 01/01/1950
Action: Leak Reported

Global Id: T0611100185
Action Type: REMEDIATION
Date: 01/01/1950
Action: Excavation

Global Id: T0611100185
Action Type: RESPONSE
Date: 11/03/2005
Action: Unknown

Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 06/07/2005
Action: LOP Case Closure Summary to RB - #13

Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 05/23/2005
Action: * No Action - #12

Global Id: T0611100185
Action Type: Other
Date: 01/01/1950
Action: Leak Stopped

Global Id: T0611100185

VEN OAKS PLUMBING (Continued) **U001579893**

Action Type: RESPONSE
Date: 01/01/2005
Action: Correspondence

Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 08/05/2005
Action: * Historical Enforcement - #14

Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 09/23/2003
Action: File review

Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 12/02/2004
Action: * Historical Enforcement - #10

Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 04/16/1987
Action: * Historical Enforcement

Global Id: T0611100185
Action Type: RESPONSE
Date: 01/01/2005
Action: Remedial Progress Report

Global Id: T0611100185
Action Type: REMEDIATION
Date: 01/01/1950
Action: Excavation

Global Id: T0611100185
Action Type: ENFORCEMENT
Date: 01/18/2005
Action: File review - #11

Global Id: T0611100185
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

LUST REG 4:
Region: 4
Regional Board: 04
County: Ventura
Facility Id: C-87033
Status: Pollution Characterization
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: 87033
Case Type: Groundwater
Abatement Method Used at the Site: ETED
Global ID: T0611100185

VEN OAKS PLUMBING (Continued) **U001579893**

W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	FREV	
Date Leak Discovered:	4/16/1987	
Date Leak First Reported:		4/16/1987
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	4/16/1987	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		Not reported
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1032.4703326522051015993843973
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		4/20/1987
Preliminary Site Assessment Began:		8/17/1988
Pollution Characterization Began:		10/31/1988
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		4/16/1987
Historical Max MTBE Date:		3/21/1997
Hist Max MTBE Conc in Groundwater:		300
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	HOV INVESTMENTS	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.2022627 / -1	
Local Agency Staff:	KCK	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	87033
Status:	Case Closed

VENTURA CO. UST:

Facility ID:	D 338
Facility Status:	Inactive

VEN OAKS PLUMBING (Continued) **U001579893**

HIST UST:

Region:	STATE
Facility ID:	00000020290
Facility Type:	Other
Other Type:	PLUMBING CONTRACTOR
Total Tanks:	0002
Contact Name:	E. J. HERTENSTEIN
Telephone:	8059845566
Owner Name:	VEN OAKS PLUMBING INC.
Owner Address:	131 MALLARD WAY
Owner City,St,Zip:	OXNARD, CA 93030
Tank Num:	001
Container Num:	1
Year Installed:	1978
Tank Capacity:	00000750
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Tank Construction:	Not reported
Leak Detection:	None
Tank Num:	002
Container Num:	2
Year Installed:	1978
Tank Capacity:	00000750
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Tank Construction:	Not reported
Leak Detection:	None

D18 **CONDOR HELICOPTERS & AVIATION** **ENVIROSTOR** **S100930098**
South **2899 WEST 5TH STREET** **N/A**
1/2-1 **OXNARD, CA 93030**
0.559 mi.
2951 ft. **Site 1 of 2 in cluster D**

Relative:
Lower

Actual:
36 ft.

ENVIROSTOR:

Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	* Mmonroy
Division Branch:	Cleanup Chatsworth
Facility ID:	56450001
Site Code:	Not reported
Assembly:	44
Senate:	19
Special Program:	Not reported
Status:	Refer: Other Agency
Status Date:	08/15/1995
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.19722

CONDOR HELICOPTERS & AVIATION (Continued) **S100930098**

Longitude: -119.2036
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED, NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD053875191
Alias Type: EPA Identification Number
Alias Name: 56450001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 11/07/1994
Comments: CalSites Validation Program confirms NFA for DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 07/01/1991
Comments: The Dept received a copy of the law suit, Ventura County vs. Evergreen Int'l, Condor helicopters & Aviation and a number of other companies, who leased the property from County for thir pesticide and herbicide spraying operation. County is suing to recoup their clean-up costs. According to our files, the Dept was not involved in this clean-up. The telephone contact with Greg Smith of Ventura County Environmental Health Dept confirmed that the County had overseen the clean-up activities at the site. He stated he would be forwarding the reports to us. No further action by DHS because the County cleaned up the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 01/31/1988
Comments: SITE SCREENING DONE PAL RECCOMMENDED BASED ON LACK OF INFO.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 08/15/1980
Comments: FACILITY IDENTIFIED ID FROM ASP Q. Q. OPER 1965 TO PRESENT. NO ONSITE DISP. OFF-SITE DISP-LDFL,26919 VENTURA BLVD

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

D19 **WINGFIELD** **VCP** **S106568365**
South **5TH STREET/PATTERSON ROAD** **ENVIROSTOR** **N/A**
1/2-1 **OXNARD, CA 93035**
0.571 mi.
3013 ft. **Site 2 of 2 in cluster D**

Relative:
Lower

Actual:
36 ft.

VCP:

Facility ID:	56010018
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	33
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	* Sayareh Amirebrahimi
Division Branch:	Cleanup Chatsworth
Site Code:	301222
Assembly:	44
Senate:	19
Special Programs Code:	Voluntary Cleanup Program
Status:	No Further Action
Status Date:	06/01/2005
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	34.1975 / -119.2065
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS, AGRICULTURAL - ROW CROPS
Potential COC:	30006, 30007, 30008
Confirmed COC:	30006,30007,30008
Potential Description:	SOIL, SOIL
Alias Name:	5TH STREET ELEMENTARY SCHOOL
Alias Type:	Alternate Name
Alias Name:	CENTEX HOMES
Alias Type:	Alternate Name
Alias Name:	WINGFIELD
Alias Type:	Alternate Name
Alias Name:	110033620918
Alias Type:	EPA (FRS #)
Alias Name:	301222
Alias Type:	Project Code (Site Code)
Alias Name:	56010018
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	03/11/2005
Comments:	DTSC issues PEA completion letter.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	04/23/2004
Comments:	Agreement completed for DTSC to review Preliminary Endangerment Assessment Report and provide comments. PEA report submitted to DTSC.

WINGFIELD (Continued) **S106568365**

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 33
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: * Sayareh Amirebrahimi
Division Branch: Cleanup Chatsworth
Facility ID: 56010018
Site Code: 301222
Assembly: 44
Senate: 19
Special Program: Voluntary Cleanup Program
Status: No Further Action
Status Date: 06/01/2005
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.1975
Longitude: -119.2065
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS, AGRICULTURAL - ROW CROPS
Potential COC: DDD, DDE, DDT
Confirmed COC: DDD, DDE, DDT, DDD, DDE, DDT
Potential Description: SOIL, SOIL
Alias Name: 5TH STREET ELEMENTARY SCHOOL
Alias Type: Alternate Name
Alias Name: CENTEX HOMES
Alias Type: Alternate Name
Alias Name: WINGFIELD
Alias Type: Alternate Name
Alias Name: 110033620918
Alias Type: EPA (FRS #)
Alias Name: 301222
Alias Type: Project Code (Site Code)
Alias Name: 56010018
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/11/2005
Comments: DTSC issues PEA completion letter.

WINGFIELD (Continued) **S106568365**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 04/23/2004
Comments: Agreement completed for DTSC to review Preliminary Endangerment Assessment Report and provide comments. PEA report submitted to DTSC.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

20
NE
1/2-1
0.697 mi.
3679 ft.

GINA & IVYWOOD DR. **Notify 65** **S100178008**
GINA & IVYWOOD DR. **N/A**
OXNARD, CA 90845

Relative:
Higher

Actual:
59 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 90845

21
North
1/2-1
0.754 mi.
3981 ft.

STANDARD PACIFIC OF VENTURA **FINDS** **1000310588**
2550 W GONZALES RD **HIST CORTESE** **N/A**
OXNARD, CA **LUST**
ENVIROSTOR

Relative:
Higher

Actual:
57 ft.

FINDS:

Registry ID: 110002830296

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-89027

STANDARD PACIFIC OF VENTURA (Continued) **1000310588**

LUST:

Region:	STATE
Global Id:	T0611100449
Latitude:	34.2193568
Longitude:	-119.2005069
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	08/08/1989
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	Not reported
RB Case Number:	C-89027
LOC Case Number:	89027
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100449
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0611100449
Status:	Completed - Case Closed
Status Date:	08/08/1989
Global Id:	T0611100449
Status:	Open - Case Begin Date
Status Date:	06/27/1988
Global Id:	T0611100449
Status:	Open - Site Assessment
Status Date:	07/01/1988
Global Id:	T0611100449
Status:	Open - Site Assessment
Status Date:	08/03/1988
Global Id:	T0611100449
Status:	Open - Site Assessment
Status Date:	05/09/1989

Regulatory Activities:

Global Id:	T0611100449
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported

STANDARD PACIFIC OF VENTURA (Continued) **1000310588**

Global Id: T0611100449
Action Type: ENFORCEMENT
Date: 02/27/1989
Action: * Historical Enforcement

Global Id: T0611100449
Action Type: ENFORCEMENT
Date: 08/08/1989
Action: Closure/No Further Action Letter

Global Id: T0611100449
Action Type: Other
Date: 01/01/1950
Action: Leak Discovery

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-89027	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	89027	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0611100449	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	6/27/1988	
Date Leak First Reported:		6/27/1988
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	7/1/1988	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		6/28/1989
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		4148.60421767441924787305086 44
Source of Cleanup Funding:		S
Preliminary Site Assessment Workplan Submitted:		8/3/1988
Preliminary Site Assessment Began:		5/9/1989
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		2/27/1989
Historical Max MTBE Date:		Not reported

STANDARD PACIFIC OF VENTURA (Continued) **1000310588**

Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: STANDARD PACIFIC
RP Address: Not reported
Program: LUST
Lat/Long: 34.2192145 / -1
Local Agency Staff: EHD
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 89027
Status: Case Closed

ENVIROSTOR:
Site Type: Historical
Site Type Detailed: * Historical
Acres: 0.2
NPL: NO
Regulatory Agencies: US EPA
Lead Agency: US EPA
Program Manager: Not reported
Supervisor: * Sayareh Amirebrahimi
Division Branch: Cleanup Chatsworth
Facility ID: 56560001
Site Code: 300574
Assembly: 37
Senate: 19
Special Program: EPA - PASI
Status: No Further Action
Status Date: 10/03/1996
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: Not reported
Latitude: 34.26851
Longitude: -119.1668
APN: NONE SPECIFIED
Past Use: DISTRIBUTOR - CHEMICAL
Potential COC: DDT
Confirmed COC: DDT, DDT
Potential Description: SOIL
Alias Name: CAD982492803
Alias Type: EPA Identification Number
Alias Name: 110002830296
Alias Type: EPA (FRS #)
Alias Name: 300574

STANDARD PACIFIC OF VENTURA (Continued) **1000310588**

Alias Type: Project Code (Site Code)
Alias Name: 56560001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 09/13/1996
Comments: A Preliminary Assessment was completed under U.S. EPA grant. The site warrants no further assessment action for either U.S. EPA or DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 01/17/1992
Comments: APPLIED ENVIRONMENTAL TECHNOLOGIES , INC. NOTIFIED DTSC OF VERIFICATION SAMPLING FOLLOWING THE REMOVAL OF DDT.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

22
North
1/2-1
0.757 mi.
3995 ft.

NORTHWEST ELEMENTARY **SCH** **S107736919**
GONZALES ROAD/PATTERSON ROAD **ENVIROSTOR** **N/A**
OXNARD, CA 93030

Relative:
Higher

Actual:
55 ft.

SCH:

Facility ID: 56010010
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 14
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Sandra Karinen
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 304015
Assembly: 37
Senate: 19
Special Program Status: Not reported
Status: No Further Action
Status Date: 03/06/2001
Restricted Use: NO
Funding: School District
Latitude: 34.2254

NORTHWEST ELEMENTARY (Continued) **S107736919**

Longitude:	-119.1713
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	Chlordane, Chlordane, DDD, DDE, DDT, Endrin, Toxaphene, Endosulfan
Confirmed COC:	No Contaminants found
Potential Description:	SOIL
Alias Name:	AKA: THURGOOD MARSHALL
Alias Type:	Alternate Name
Alias Name:	NORTHWEST ELEM
Alias Type:	Alternate Name
Alias Name:	NORTHWEST ELEMENTARY SCHOOL
Alias Type:	Alternate Name
Alias Name:	NORTHWEST ELEMENTARY SCHOOL SITE
Alias Type:	Alternate Name
Alias Name:	OXNARD ELEM. SD-NORTHWEST ELEM. SCH.
Alias Type:	Alternate Name
Alias Name:	OXNARD SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	300816
Alias Type:	Project Code (Site Code)
Alias Name:	304015
Alias Type:	Project Code (Site Code)
Alias Name:	56010010
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	05/26/2000
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	03/06/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	11/24/1999
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	07/17/2000
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	01/05/2000
Comments:	PEA for Residual Concentrations of Agricultural Chem. in Soil
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

NORTHWEST ELEMENTARY (Continued) **S107736919**

Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/19/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 12/06/1999
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Site Type: School Investigation
Site Type Detailed: School
Acres: 14
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Sandra Karinen
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Facility ID: 56010010
Site Code: 304015
Assembly: 37
Senate: 19
Special Program: Not reported
Status: No Further Action
Status Date: 03/06/2001
Restricted Use: NO
Site Mgmt. Req.: NONE SPECIFIED
Funding: School District
Latitude: 34.2254
Longitude: -119.1713
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Chlordane, Chlordane, DDD, DDE, DDT, Endrin, Toxaphene, Endosulfan
Confirmed COC: Chlordane, Chlordane, DDD, DDE, DDT, Endrin, Toxaphene, Endosulfan, No Contaminants found
Potential Description: SOIL
Alias Name: AKA: THURGOOD MARSHALL
Alias Type: Alternate Name
Alias Name: NORTHWEST ELEM
Alias Type: Alternate Name
Alias Name: NORTHWEST ELEMENTARY SCHOOL
Alias Type: Alternate Name
Alias Name: NORTHWEST ELEMENTARY SCHOOL SITE
Alias Type: Alternate Name
Alias Name: OXNARD ELEM. SD-NORTHWEST ELEM. SCH.

NORTHWEST ELEMENTARY (Continued) **S107736919**

Alias Type: Alternate Name
Alias Name: OXNARD SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: 300816
Alias Type: Project Code (Site Code)
Alias Name: 304015
Alias Type: Project Code (Site Code)
Alias Name: 56010010
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/26/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/06/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 11/24/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 07/17/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/05/2000
Comments: PEA for Residual Concentrations of Agricultural Chem. in Soil

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/19/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 12/06/1999
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported

NORTHWEST ELEMENTARY (Continued) **S107736919**

Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

23
NNE
1/2-1
0.872 mi.
4605 ft.

1710 ARLENE
OXNARD, CA 90845

Notify 65 **S100178037**
N/A

Relative:
Higher

Actual:
61 ft.

Notify 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Incident Description: 90845

E24
NE
1/2-1
0.929 mi.
4905 ft.

OXNARD ILS OUTER MARK ANNEX

OXNARD, CA

Site 1 of 2 in cluster E

FUDS **1009484712**
N/A

Relative:
Higher

Actual:
63 ft.

FUDS:
Federal Facility ID: CA9799F5548
FUDS #: J09CA0528
INST ID: 61153
Facility Name: OXNARD ILS OUTER MARK ANNEX
City: OXNARD
State: CA
EPA Region: 09
County: VENTURA
Congressional District: 23
US Army District: Los Angeles District (SPL)
Fiscal Year: 2011
Telephone: 213-452-3920
NPL Status: Not Listed
RAB: Not reported
CTC: 12
Current Owner: LOCAL GOVT
Current Prog: Not reported
Future Prog: Not reported
Description: THE AIR FORCE AQUIRED 1.95 ACRES.
THE SITE WAS USED FOR NAVIGATION AIDS FOR OXNARD AIR FORCE BASE. THE SITE WAS USED FROM 1952 TO 1970.

E25
NE
1/2-1
0.932 mi.
4923 ft.

OXNARD ILS OTR MK AX
OXNARD, CA
Site 2 of 2 in cluster E

ENVIROSTOR | **S107736984** | **N/A**

Relative:
Higher

Actual:
63 ft.

ENVIROSTOR:

Site Type:	Military Evaluation
Site Type Detailed:	FUDS
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Douglas Bautista
Division Branch:	Cleanup Cypress
Facility ID:	80000345
Site Code:	Not reported
Assembly:	44
Senate:	19
Special Program:	Not reported
Status:	Inactive - Needs Evaluation
Status Date:	07/01/2005
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	DERA
Latitude:	34.21722
Longitude:	-119.1916
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED, NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CA99799F554800
Alias Type:	Federal Facility ID
Alias Name:	J09CA0528
Alias Type:	INPR
Alias Name:	80000345
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

26
SSW
1/2-1
0.957 mi.
5055 ft.

APARTMENT COMPLEX
1040 KELP LANE
OXNARD, CA 90845

Notify 65 **S100178489**
N/A

Relative:
Lower

Actual:
32 ft.

Notify 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	90845

Count: 12 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
OXNARD	1003878781	WALKER'S VENTURA SALVAGE CITY DUMP	4400 BLOCK VINEYARD AVE	93030	CERC-NFRAP
OXNARD	1003878951	DUNES SUBDIVISION	DUNES ST	93030	CERC-NFRAP
OXNARD	S109281209	COMMANDER NAUMANN DRILL SITE	HAILES & ETTING ROADS	93030	EMI
OXNARD	1006248420	COMMANDER NAUMANN DRILL SITE	HAILES & ETTING ROADS		FINDS, EMI
OXNARD	1010736037	DUNES SUBDIVISION SITE - OXNARD	OXNARD DUNES SUBDIVISION		FINDS
OXNARD	S110655935	COTTAGES OXNARD TRACT 9450- APN #1	PATTERSON RD	93030	LUST
OXNARD	S107454212	COTTAGES OXNARD TRACT 9450- APN #1	PATTERSON RD		LUST
OXNARD	S100779164	OXNARD 1962	PERKINS RD. AND ORMOND BEACH W		SWF/LF
OXNARD	S109521349	CITY OF OXNARD	ROSE AVENUE HWY 101	93030	SLIC
OXNARD	S103878599	NAVARRO SITE	STURGIS	93030	SLIC
OXNARD	1003878694	BAILARD LDFL	VICTORIA RD XING @SN CLARA RIV	93030	CERC-NFRAP
OXNARD	S106539394	WAGON WHEEL AKA: SANTA CLARA (WAGO	2401 VINEYARD AVE.	93030	SWF/LF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/09/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 62

Source: EPA
Telephone: N/A
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/29/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 72

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/31/2013
Date Data Arrived at EDR: 07/08/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 151

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/11/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 05/29/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 72

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/11/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 104

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 06/17/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 104

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/18/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/03/2013
Number of Days to Update: 27

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/03/2013
Number of Days to Update: 27

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 50

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/21/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 10/16/2013
Date Data Arrived at EDR: 10/17/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 10/16/2013
Date Data Arrived at EDR: 10/17/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/07/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 08/27/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012
Date Data Arrived at EDR: 08/28/2012
Date Made Active in Reports: 10/16/2012
Number of Days to Update: 49

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013
Date Data Arrived at EDR: 03/01/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 10/16/2013
Date Data Arrived at EDR: 10/17/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 41

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 07/30/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 129

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 02/28/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 43

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011
Date Data Arrived at EDR: 05/11/2011
Date Made Active in Reports: 06/14/2011
Number of Days to Update: 34

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 09/28/2012
Date Data Arrived at EDR: 11/07/2012
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 156

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/01/2014
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 92

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/17/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/17/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/03/2013
Number of Days to Update: 27

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/24/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/24/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: No Update Planned

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/19/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 28
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 10/29/2013
Date Made Active in Reports: 12/05/2013
Number of Days to Update: 37
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/18/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/06/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 22

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 12/05/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/03/2013
Number of Days to Update: 27

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 37

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 12/02/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 05/10/2013
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/13/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 10/08/2013
Date Data Arrived at EDR: 10/15/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 11/13/2013
Date Data Arrived at EDR: 11/13/2013
Date Made Active in Reports: 12/05/2013
Number of Days to Update: 22

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/10/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 76

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 10/14/2013
Date Data Arrived at EDR: 10/30/2013
Date Made Active in Reports: 12/03/2013
Number of Days to Update: 34

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/30/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 10/16/2013
Date Data Arrived at EDR: 10/17/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 41

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 10/16/2013
Date Data Arrived at EDR: 10/17/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/02/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 03/13/2013
Number of Days to Update: 15

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/13/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/07/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 57

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/26/2013
Date Data Arrived at EDR: 06/11/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 143

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/12/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/26/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 28

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/06/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/27/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 64

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 11/21/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 11/21/2014
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011
Date Data Arrived at EDR: 11/10/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/09/2014
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013
Date Data Arrived at EDR: 07/17/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 107

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 91

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/09/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013
Date Data Arrived at EDR: 03/21/2013
Date Made Active in Reports: 07/10/2013
Number of Days to Update: 111

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/10/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/25/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 08/21/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 30

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 50
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/21/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 56
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/01/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 35
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 56

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/16/2013
Date Made Active in Reports: 08/26/2013
Number of Days to Update: 41

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2010
Date Data Arrived at EDR: 06/25/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 58

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/18/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013
Date Data Arrived at EDR: 08/13/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/15/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 07/03/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 72

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/04/2013
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: N/A

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/19/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 28

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/21/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/31/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/03/2013
Number of Days to Update: 27

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/25/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/12/2013
Date Data Arrived at EDR: 08/20/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 49

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/18/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/15/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013
Date Data Arrived at EDR: 02/14/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/24/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/01/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/29/2013
Date Data Arrived at EDR: 09/13/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 31

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Annually

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/23/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 30

Source: EPA
Telephone: 202-564-5962
Last EDR Contact: 12/26/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Annually

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/13/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/28/2013
Date Data Arrived at EDR: 10/29/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 38

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 11/18/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Quarterly

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/10/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/15/2013
Date Data Arrived at EDR: 10/15/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/15/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/28/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/26/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: N/A
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 11/13/2013
Date Data Arrived at EDR: 11/15/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 31

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/30/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/25/2013
Date Data Arrived at EDR: 07/26/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 25

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/30/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 61

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/02/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 20

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 56

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/30/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/20/2013
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 08/09/2013
Number of Days to Update: 39

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/15/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/09/2013
Date Data Arrived at EDR: 01/10/2013
Date Made Active in Reports: 02/25/2013
Number of Days to Update: 46

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 46

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/16/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 42

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 08/09/2013
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 13

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/20/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/04/2013
Number of Days to Update: 28

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/23/2013
Date Data Arrived at EDR: 01/25/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/28/2013
Date Data Arrived at EDR: 06/17/2013
Date Made Active in Reports: 08/21/2013
Number of Days to Update: 65

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/21/2013
Date Data Arrived at EDR: 10/22/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 36

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/22/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/17/2013
Next Scheduled EDR Contact: 11/04/2013
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2013
Date Data Arrived at EDR: 02/21/2013
Date Made Active in Reports: 03/25/2013
Number of Days to Update: 32
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 10/21/2013
Date Data Arrived at EDR: 10/25/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 33
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/15/2013
Date Data Arrived at EDR: 07/18/2013
Date Made Active in Reports: 08/20/2013
Number of Days to Update: 33
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/09/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/20/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 24
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/20/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/07/2013
Date Data Arrived at EDR: 10/09/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 48
Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/23/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 42

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/20/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 09/04/2013
Date Data Arrived at EDR: 09/05/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 39

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 12/02/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 09/11/2013
Date Data Arrived at EDR: 09/12/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 32

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/20/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/02/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/02/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 11/06/2013
Date Data Arrived at EDR: 11/07/2013
Date Made Active in Reports: 12/04/2013
Number of Days to Update: 27

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 11/04/2013
Date Data Arrived at EDR: 11/13/2013
Date Made Active in Reports: 12/04/2013
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/04/2013
Date Data Arrived at EDR: 11/13/2013
Date Made Active in Reports: 12/04/2013
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/04/2013
Date Data Arrived at EDR: 11/13/2013
Date Made Active in Reports: 12/04/2013
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/22/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 49

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/10/2013
Date Data Arrived at EDR: 10/22/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 36

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/19/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/10/2013
Date Data Arrived at EDR: 10/22/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 36

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/19/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/05/2013
Date Data Arrived at EDR: 10/10/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 47

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/05/2013
Date Data Arrived at EDR: 10/10/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 47

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/03/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 37

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2012
Date Data Arrived at EDR: 11/06/2012
Date Made Active in Reports: 11/30/2012
Number of Days to Update: 24
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 11/18/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 09/25/2013
Date Data Arrived at EDR: 09/27/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 21
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/26/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/20/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 10/01/2013
Date Data Arrived at EDR: 10/08/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 49
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/16/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 09/16/2013
Date Data Arrived at EDR: 09/17/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 29
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/12/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/21/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/04/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 36
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 12/02/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/03/2013
Date Data Arrived at EDR: 09/06/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 38
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 12/02/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/14/2013
Date Data Arrived at EDR: 08/16/2013
Date Made Active in Reports: 10/08/2013
Number of Days to Update: 53

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/08/2013
Next Scheduled EDR Contact: 02/24/2014
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 08/22/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 09/09/2013
Date Data Arrived at EDR: 09/10/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 34

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/21/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/20/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/12/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/18/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/18/2013
Number of Days to Update: 24

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/12/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 09/30/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 56

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/30/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/01/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 55

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/30/2013
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/09/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/04/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/04/2013
Number of Days to Update: 28

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/19/2013
Date Data Arrived at EDR: 08/27/2013
Date Made Active in Reports: 10/10/2013
Number of Days to Update: 44

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/19/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/07/2013
Next Scheduled EDR Contact: 01/20/2014
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/19/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 10/02/2013
Date Data Arrived at EDR: 10/30/2013
Date Made Active in Reports: 11/27/2013
Number of Days to Update: 28

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/28/2013
Next Scheduled EDR Contact: 02/11/2014
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/29/2013
Date Data Arrived at EDR: 09/18/2013
Date Made Active in Reports: 10/16/2013
Number of Days to Update: 28

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/16/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 09/24/2013
Date Data Arrived at EDR: 10/01/2013
Date Made Active in Reports: 11/26/2013
Number of Days to Update: 56

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/17/2013
Next Scheduled EDR Contact: 04/07/2014
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/05/2013
Date Made Active in Reports: 08/22/2013
Number of Days to Update: 17

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 12/06/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/22/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/18/2013
Next Scheduled EDR Contact: 01/27/2014
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 11/01/2013
Date Data Arrived at EDR: 11/07/2013
Date Made Active in Reports: 11/18/2013
Number of Days to Update: 11

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/07/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 07/24/2013
Date Made Active in Reports: 08/19/2013
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/21/2013
Next Scheduled EDR Contact: 02/03/2014
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/21/2013
Date Made Active in Reports: 08/05/2013
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/25/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 08/09/2013
Date Made Active in Reports: 09/27/2013
Number of Days to Update: 49

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/11/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PROPOSED NEW ACADEMY SITE
200-399 DORIS AVE
OXNARD, CA 93030

TARGET PROPERTY COORDINATES

Latitude (North):	34.2071 - 34° 12' 25.56''
Longitude (West):	119.2057 - 119° 12' 20.52''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	296780.8
UTM Y (Meters):	3787123.8
Elevation:	44 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	34119-B2 OXNARD, CA
Most Recent Revision:	1967

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

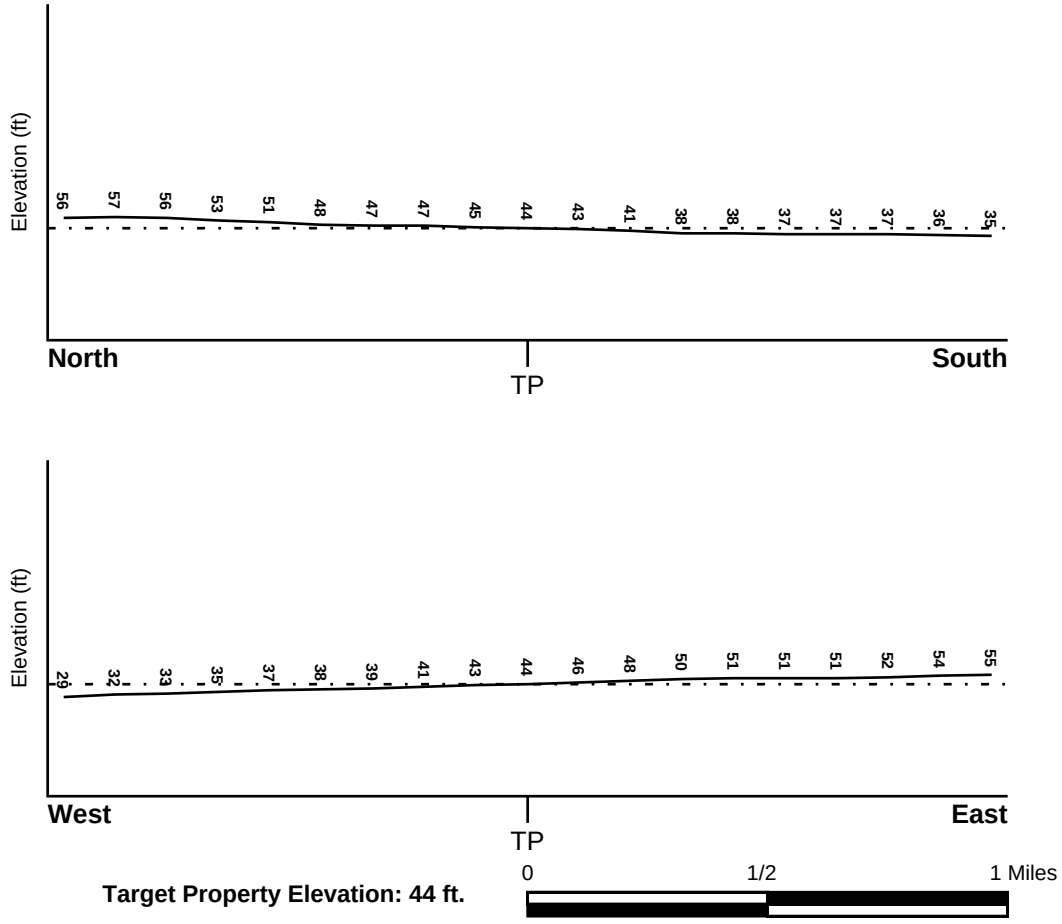
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 44 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
VENTURA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06111C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
OXNARD	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

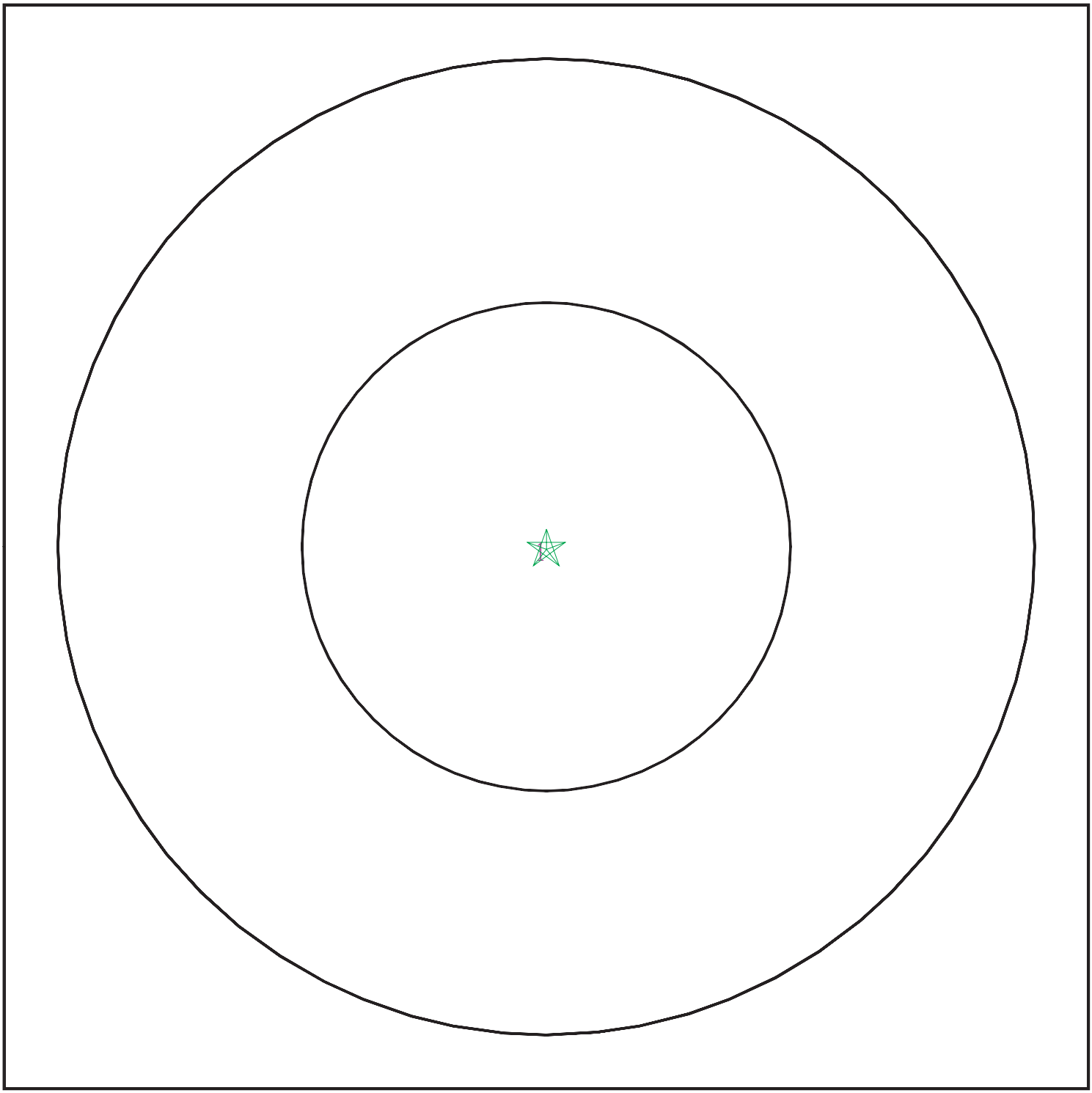
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 3820276.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Proposed New Academy Site	CLIENT:	Cardno ATC #52
ADDRESS:	200-399 DORIS AVE Oxnard CA 93030	CONTACT:	Davis Tang
LAT/LONG:	34.2071 / 119.2057	INQUIRY #:	3820276.2s
		DATE:	December 30, 2013 3:15 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: CAMARILLO

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 107 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	24 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	24 inches	50 inches	stratified sandy loam to sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 7.9
3	50 inches	79 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS40000142513	1/4 - 1/2 Mile NE
7	USGS40000142519	1/2 - 1 Mile ENE
9	USGS40000142522	1/2 - 1 Mile ENE
11	USGS40000142449	1/2 - 1 Mile South
A13	USGS40000142472	1/2 - 1 Mile ESE
14	USGS40000142543	1/2 - 1 Mile NNW
16	USGS40000142554	1/2 - 1 Mile North

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADW50000005066	1/8 - 1/4 Mile NW
3	CADW50000005058	1/4 - 1/2 Mile ENE
4	693	1/2 - 1 Mile SSE
5	CADW50000005019	1/2 - 1 Mile SSW
6	694	1/2 - 1 Mile South
8	689	1/2 - 1 Mile ESE
10	CADW50000005088	1/2 - 1 Mile NE
12	CADW50000005098	1/2 - 1 Mile NNW
A15	CADW50000005027	1/2 - 1 Mile ESE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

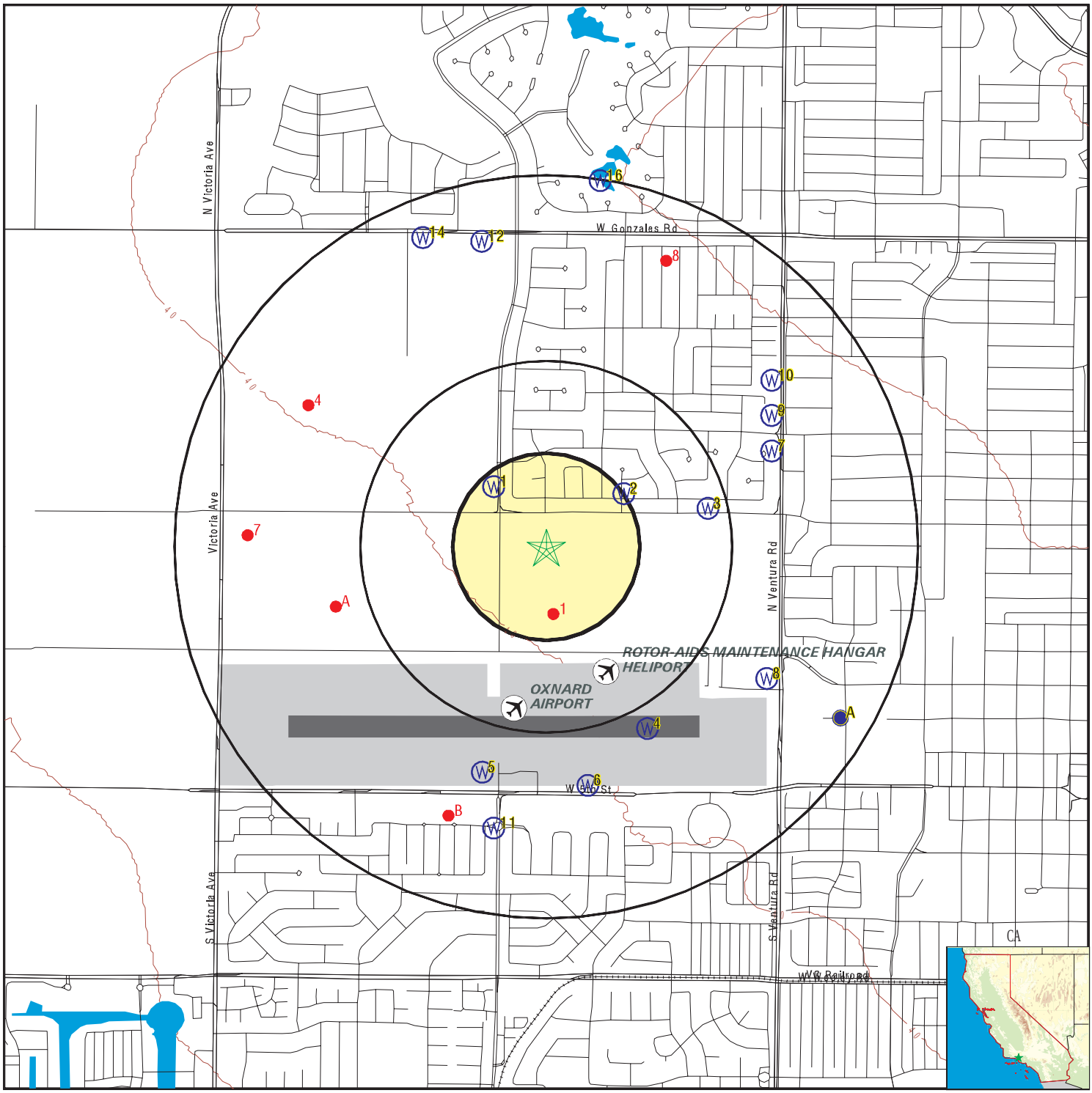
MAP ID	WELL ID	LOCATION FROM TP
1	CAOG9A000034389	1/8 - 1/4 Mile South

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	CAOG9A000034400	1/2 - 1 Mile WSW
A3	CAOG9A000034402	1/2 - 1 Mile WSW
4	CAOG9A000034629	1/2 - 1 Mile WNW
B5	CAOG9A000034082	1/2 - 1 Mile SSW
B6	CAOG9A000034079	1/2 - 1 Mile SSW
7	CAOG9A000034499	1/2 - 1 Mile West
8	CAOG9A000034676	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 3820276.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Proposed New Academy Site	CLIENT:	Cardno ATC #52
ADDRESS:	200-399 DORIS AVE Oxnard CA 93030	CONTACT:	Davis Tang
		INQUIRY #:	3820276.2s
LAT/LONG:	34.2071 / 119.2057	DATE:	December 30, 2013 3:15 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NW
1/8 - 1/4 Mile
Higher

CA WELLS **CADW50000005066**

Latitude :	34.209447		
Longitude :	119.208164		
Site code:	342094N1192081W001	Casgem sta:	02N22W32Q003S
Local well:	02N22W32Q03S	Casgem s 1:	Irrigation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000005066

2
NE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000142513**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-341233119120401		
Monloc name:	002N022W32R002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.2091713
Longitude:	-119.2020526	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	293
Welldepth units:	ft	Wellholedepth:	300
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

3
ENE
1/4 - 1/2 Mile
Higher

CA WELLS **CADW50000005058**

Latitude :	34.2086		
Longitude :	119.1981		
Site code:	342086N1191981W001	Casgem sta:	02N22W33N001S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000005058

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

4
SSE
1/2 - 1 Mile
Lower

CA WELLS **693**

Water System Information:

Prime Station Code:	01N/22W-05G03 S	User ID:	TAP
FRDS Number:	5610007014	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Destroyed
Source Lat/Long:	341200.0 1191200.0	Precision:	Undefined
Source Name:	WELL 14 - DESTROYED		
System Number:	5610007		
System Name:	OXNARD WATER DEPT		
Organization That Operates System:			
	251 SOUTH HAYES AVE. OXNARD, CA 93030		
Pop Served:	151500	Connections:	30588
Area Served:	OXNARD CITY		

5
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADW50000005019**

Latitude :	34.1983		
Longitude :	119.2087		
Site code:	341983N1192087W001	Casgem sta:	01N22W05G002S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000005019

6
South
1/2 - 1 Mile
Lower

CA WELLS **694**

Water System Information:

Prime Station Code:	01N/22W-05H02 S	User ID:	56C
FRDS Number:	5602602001	County:	Ventura
District Number:	86	Station Type:	75 YARDS NORTH OF FIFTH STREET
Water Type:	Surface Water	Well Status:	Active Raw
Source Lat/Long:	341152.0 1191210.0	Precision:	100 Feet (one Second)
Source Name:	WELL 01		
System Number:	5602602		
System Name:	BEEF BARN		
Organization That Operates System:			
	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

7
ENE **FED USGS** **USGS40000142519**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-341239119113901		
Monloc name:	002N022W33L003S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.2108379
Longitude:	-119.1951079	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	200
Welldepth units:	ft	Wellholedepth:	206
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

8
ESE **CA WELLS** **689**
1/2 - 1 Mile
Higher

Water System Information:

Prime Station Code:	01N/22W-04C01 S	User ID:	56C
FRDS Number:	5602118001	County:	Ventura
District Number:	86	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	341207.0 1191140.0	Precision:	100 Feet (one Second)
Source Name:	WELL 01		
System Number:	5602118		
System Name:	TEAL CLUB MUTUAL WATER CO		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

9
ENE **FED USGS** **USGS40000142522**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-341244119113901		
Monloc name:	002N022W33M002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.2122268
Longitude:	-119.1951079	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	54.5
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Unconfined single aquifer		
Construction date:	Not Reported	Welldepth:	221
Welldepth units:	ft	Wellholedepth:	221
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

10
NE
1/2 - 1 Mile
Higher

CA WELLS **CADW50000005088**

Latitude :	34.2136		
Longitude :	119.1951		
Site code:	342136N1191951W001	Casgem sta:	02N22W33L003S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000005088

11
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000142449**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-341146119122601		
Monloc name:	001N022W05K001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1961158
Longitude:	-119.2081638	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	214
Welldepth units:	ft	Wellholedepth:	214
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

12
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADW50000005098**

Latitude :	34.219025		
Longitude :	119.208729		
Site code:	342190N1192087W001	Casgem sta:	02N22W32C004S
Local well:	02N22W32C04S	Casgem s 1:	Irrigation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000005098

A13
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000142472**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-341203119112804		
Monloc name:	001N022W04F004S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.200838
Longitude:	-119.1920522	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	1370
Welldepth units:	ft	Wellholedepth:	1370
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

14
NNW **FED USGS** **USGS40000142543**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-341309119123801		
Monloc name:	002N022W32C001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.2191712
Longitude:	-119.2114975	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	48
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	250
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

A15
ESE **CA WELLS** **CADW50000005027**
1/2 - 1 Mile
Higher

Latitude :	34.2		
Longitude :	119.1917		
Site code:	342000N1191917W001	Casgem sta:	01N22W04F004S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000005027

16
North **FED USGS** **USGS40000142554**
1/2 - 1 Mile
Higher

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-341317119120801		
Monloc name:	002N022W29R002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.2213934
Longitude:	-119.2031639	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	310
Welldepth units:	ft	Wellholedepth:	310
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
South
1/8 - 1/4 Mile

OIL_GAS **CAOG9A000034389**

Districtnu:	2	Apinumber:	11100728
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	P
Operatorna:	ARCO Oil & Gas Company		
Countyname:	Ventura	Fieldname:	Montalvo, West
Areaname:	Onshore		
Section:	5		
Township:	01N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.204475		
Glong:	-119.205368		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Richfield-Doheny Ox. Airport	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034389

A2
WSW
1/2 - 1 Mile

OIL_GAS **CAOG9A000034400**

Districtnu:	2	Apinumber:	11100725
Blmwell:	N	Redrillcan:	No
Dryhole:	N	Wellstatus:	P
Operatorna:	ARCO Oil & Gas Company		
Countyname:	Ventura	Fieldname:	Montalvo, West
Areaname:	Onshore		
Section:	5		
Township:	01N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Fr NW cor Lot 137: 330S & 333E		
Glat:	34.204753		
Glong:	-119.215445		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Laubacher	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034400

A3
WSW
1/2 - 1 Mile

OIL_GAS **CAOG9A000034402**

Districtnu:	2	Apinumber:	11100726
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	P
Operatorna:	ARCO Oil & Gas Company		
Countyname:	Ventura	Fieldname:	Montalvo, West
Areaname:	Onshore		
Section:	5		
Township:	01N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.204772		
Glong:	-119.215726		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Laubacher	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034402

4
WNW **OIL_GAS** **CAOG9A000034629**
1/2 - 1 Mile

Districtnu:	2	Apinumber:	11120224
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	P
Operatorna:	Argo Petroleum Corp.		
Countyname:	Ventura	Fieldname:	Montalvo, West
Areaname:	Onshore		
Section:	32		
Township:	02N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.212624		
Glong:	-119.216875		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	U.P.R.R. Co.-Leonard	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034629

B5
SSW **OIL_GAS** **CAOG9A000034082**
1/2 - 1 Mile

Districtnu:	2	Apinumber:	11121902
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	I
Operatorna:	E. A. Bender		
Countyname:	Ventura	Fieldname:	Any Field
Areaname:	Any Area		
Section:	5		
Township:	01N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.196678		
Glong:	-119.210027		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Farrell	Wellnumber:	1A
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034082

B6
SSW **OIL_GAS** **CAOG9A000034079**
1/2 - 1 Mile

Districtnu:	2	Apinumber:	11105605
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	P
Operatorna:	E. A. Bender		
Countyname:	Ventura	Fieldname:	Any Field
Areaname:	Any Area		
Section:	5		
Township:	01N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.196529		
Glong:	-119.210563		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Farrell	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034079

7
West **OIL_GAS** **CAOG9A000034499**
1/2 - 1 Mile

Districtnu:	2	Apinumber:	11100727
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	P
Operatorna:	ARCO Oil & Gas Company		
Countyname:	Ventura	Fieldname:	Montalvo, West
Areaname:	Onshore		
Section:	31		
Township:	02N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.207549		
Glong:	-119.219729		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Laubacher	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034499

8
NNE **OIL_GAS** **CAOG9A000034676**
1/2 - 1 Mile

Districtnu:	2	Apinumber:	11105800
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	P
Operatorna:	Chevron U.S.A. Inc.		
Countyname:	Ventura	Fieldname:	Any Field
Areaname:	Any Area		
Section:	33		
Township:	02N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.218266		
Glong:	-119.200067		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Eastwood	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000034676

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93030	38	1

Federal EPA Radon Zone for VENTURA County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93030

Number of sites tested: 9

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.478 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

APPENDIX F

AERIAL PHOTOGRAPHS

Proposed New Academy Site
200-399 DORIS AVE
Oxnard, CA 93030

Inquiry Number: 3820276.5
January 03, 2014

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography January 03, 2014

Target Property:

200-399 DORIS AVE

Oxnard, CA 93030

Year	***Scale***	***Details***	***Source***
1938	Aerial Photograph. Scale: 1"=500'	Flight Year: 1938 Best Copy Available from original source	Laval
1947	Aerial Photograph. Scale: 1"=500'	Flight Year: 1947	Tubis
1959	Aerial Photograph. Scale: 1"=500'	Flight Year: 1959	Robinson
1964	Aerial Photograph. Scale: 1"=500'	Flight Year: 1964	Mark Hurd
1970	Aerial Photograph. Scale: 1"=500'	Flight Year: 1970	Mark Hurd
1977	Aerial Photograph. Scale: 1"=500'	Flight Year: 1977	Teledyne
1989	Aerial Photograph. Scale: 1"=500'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1994	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	EDR
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	EDR
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	EDR

INQUIRY #: 3820276.5

YEAR: 1938

= 500'

N


INQUIRY #: 3820276.5
YEAR: 1947
= 500'
N


INQUIRY #: 3820276.5
YEAR: 1959
= 500'
N


INQUIRY #: 3820276.5
YEAR: 1964
= 500'
N

INQUIRY #: 3820276.5

YEAR: 1970

N

= 500'

INQUIRY #: 3820276.5

YEAR: 1977

= 500'

N


INQUIRY #: 3820276.5
YEAR: 1989
= 500'
N


INQUIRY #: 3820276.5
YEAR: 1994
= 500'
N

INQUIRY #: 3820276.5

YEAR: 2005

= 500'

N


INQUIRY #: 3820276.5
YEAR: 2009
= 500'
N

INQUIRY #: 3820276.5

YEAR: 2010

= 500'

N


INQUIRY #: 3820276.5
YEAR: 2012
= 500'
N
25

APPENDIX G

HISTORICAL RESEARCH DOCUMENTATION

Proposed New Academy Site
200-399 DORIS AVE
Oxnard, CA 93030

Inquiry Number: 3820276.4
December 30, 2013

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

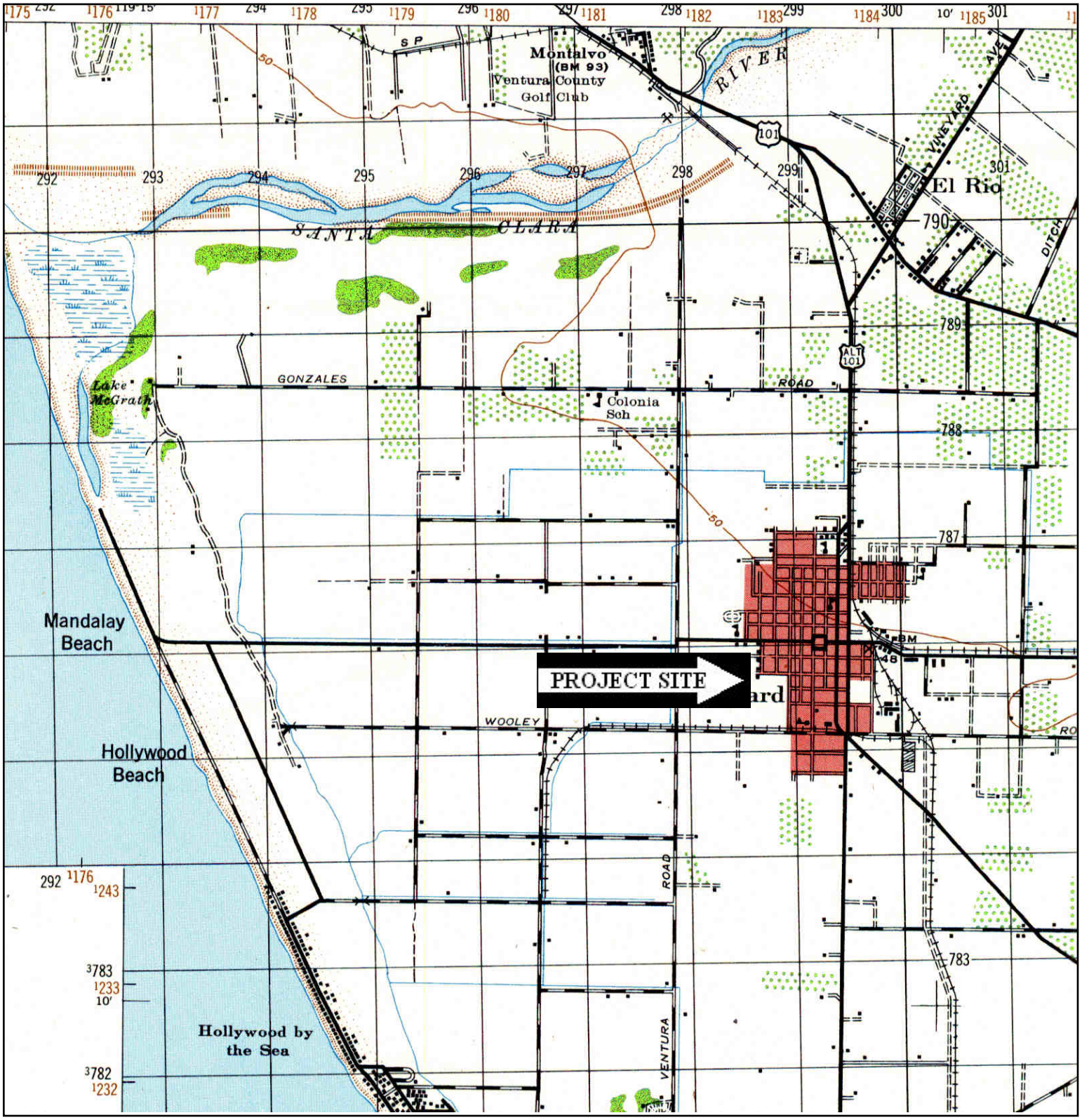
Historical Topographic Map

N	TARGET QUAD NAME: HUENEME MAP YEAR: 1904 SERIES: 15 SCALE: 1:62500	SITE NAME: Proposed New Academy Site ADDRESS: 200-399 DORIS AVE Oxnard, CA 93030 LAT/LONG: 34.2071 / -119.2057	CLIENT: Cardno ATC #52 CONTACT: Davis Tang INQUIRY#: 3820276.4 RESEARCH DATE: 12/30/2013

Historical Topographic Map

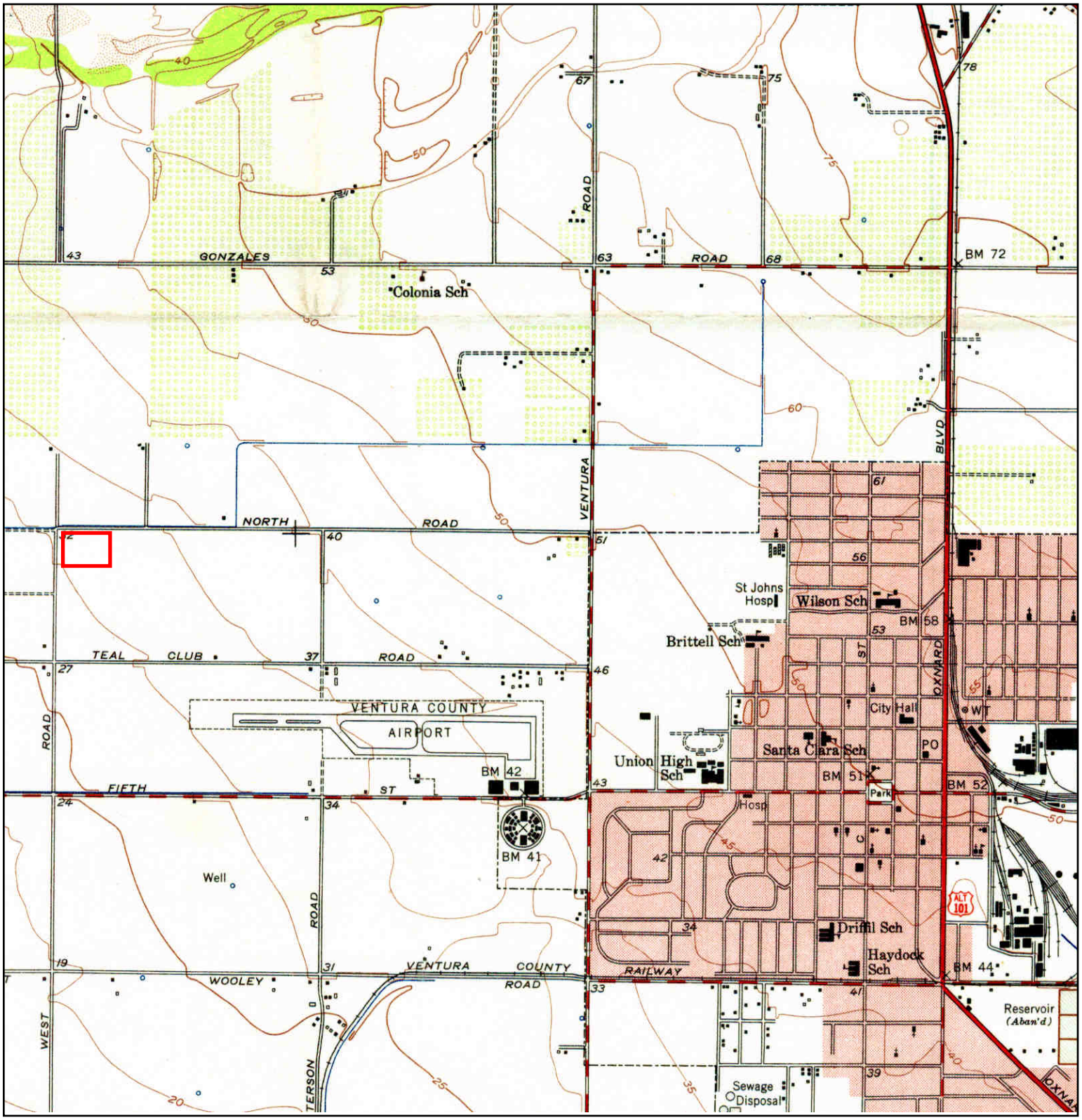
N	TARGET QUAD NAME: SOUTHERN CA SHEET 3 MAP YEAR: 1910 SERIES: 60 SCALE: 1:250000	SITE NAME: Proposed New Academy Site ADDRESS: 200-399 DORIS AVE Oxnard, CA 93030 LAT/LONG: 34.2071 / -119.2057	CLIENT: Cardno ATC #52 CONTACT: Davis Tang INQUIRY#: 3820276.4 RESEARCH DATE: 12/30/2013

Historical Topographic Map



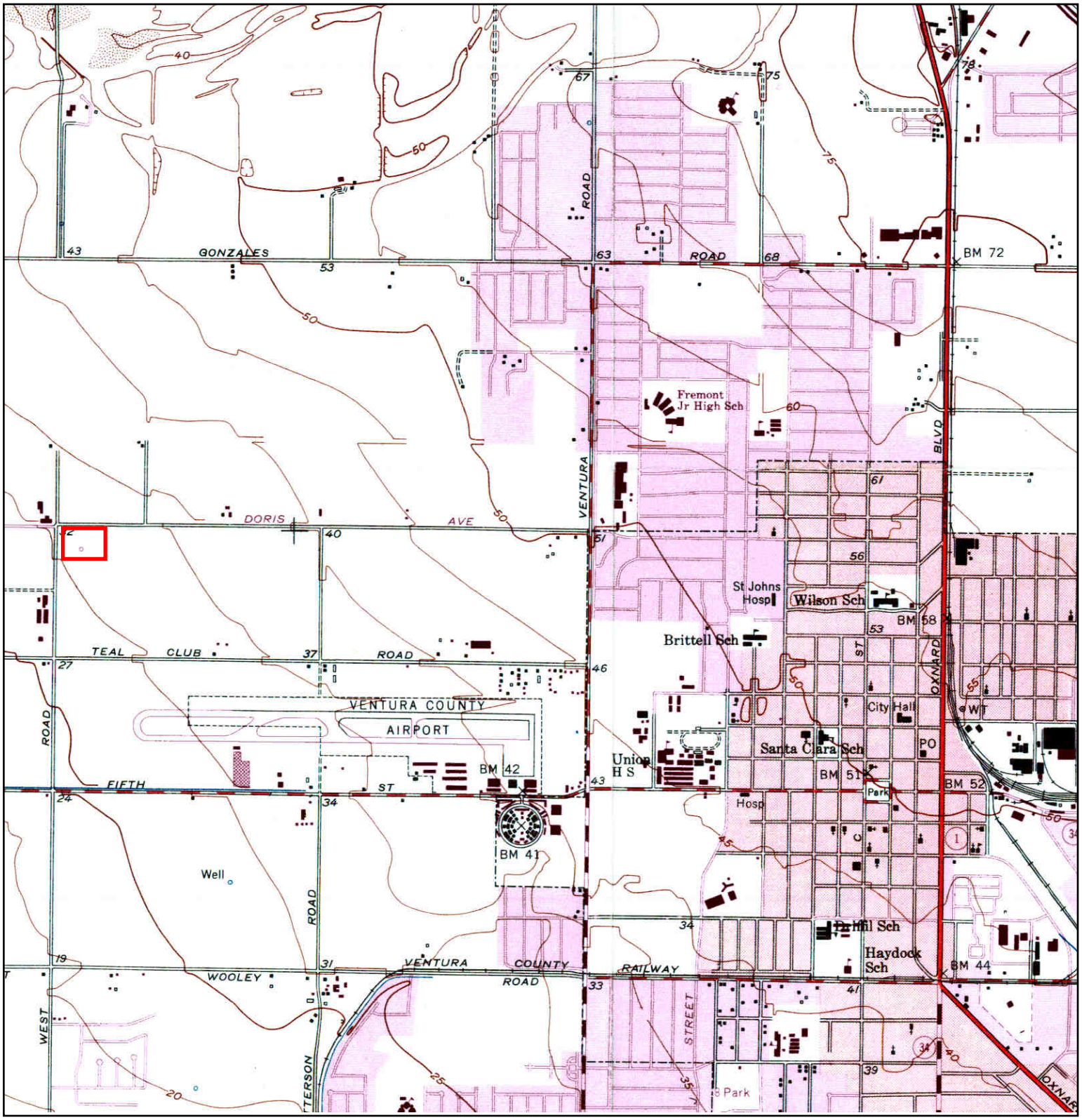
N	TARGET QUAD NAME: HUENEME MAP YEAR: 1947 SERIES: 15 SCALE: 1:50000	SITE NAME: Proposed New Academy Site ADDRESS: 200-399 DORIS AVE Oxnard, CA 93030 LAT/LONG: 34.2071 / -119.2057	CLIENT: Cardno ATC #52 CONTACT: Davis Tang INQUIRY#: 3820276.4 RESEARCH DATE: 12/30/2013

Historical Topographic Map



N	TARGET QUAD NAME: OXNARD MAP YEAR: 1951 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Proposed New Academy Site ADDRESS: 200-399 DORIS AVE Oxnard, CA 93030 LAT/LONG: 34.2071 / -119.2057	CLIENT: Cardno ATC #52 CONTACT: Davis Tang INQUIRY#: 3820276.4 RESEARCH DATE: 12/30/2013

Historical Topographic Map



N	TARGET QUAD NAME: OXNARD MAP YEAR: 1967 PHOTOREVISED FROM :1949 SERIES: 7.5 SCALE: 1:24000	SITE NAME: Proposed New Academy Site ADDRESS: 200-399 DORIS AVE Oxnard, CA 93030 LAT/LONG: 34.2071 / -119.2057	CLIENT: Cardno ATC #52 CONTACT: Davis Tang INQUIRY#: 3820276.4 RESEARCH DATE: 12/30/2013

Proposed New Academy Site
200-399 DORIS AVE
Oxnard, CA 93030

Inquiry Number: 3820276.3
December 30, 2013

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

12/30/13

Site Name:
Proposed New Academy Site
200-399 DORIS AVE
Oxnard, CA 93030

Client Name:
Cardno ATC #52
25 Cupania Circle
Monterey Park, CA 91755

EDR Inquiry # 3820276.3

Contact: Davis Tang

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Cardno ATC #52 were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Proposed New Academy Site
Address: 200-399 DORIS AVE
City, State, Zip: Oxnard, CA 93030
Cross Street:
P.O. # T1
Project: 52.45457.0002
Certification # 796A-4E20-9065

Sanborn® Library search results
Certification # 796A-4E20-9065

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Cardno ATC #52 (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Proposed New Academy Site
200-399 DORIS AVE
Oxnard, CA 93030

Inquiry Number: 3820276.6
December 31, 2013

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1926 through 2013. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2013	Cole Information Services	-	-	-	-
2008	Cole Information Services	-	-	-	-
2003	Cole Information Services	-	-	-	-
	Cole Information Services	-	X	X	-
2002	Haines & Company, Inc.	-	X	X	-
2000	Pacific Bell Telephone Co	-	-	-	-
1996	Pacific Bell	-	X	X	-
1993	GTE	-	X	X	-
1986	Pacific Bell	-	X	X	-
1985	Pacific Telephone Co	-	-	-	-
1980	Polk	-	-	-	-
1976	R. L. Polk & Co.	X	X	X	-
1975	Polk	X	-	X	-
1971	B&G Publications	-	-	-	-
1970	General Telephone Company of California	X	X	X	-
1968	B&G Publications	-	-	-	-
1965	R. L. Polk & Co.	X	X	X	-
1964	Pacific Telephone Co	-	-	-	-
1961	R. L. Polk & Co.	X	-	X	-
1957	R. L. Polk & Co.	X	-	X	-
1953	R. L. Polk & Co. of California	X	-	X	-
1949	Los Angeles Directory Co.	X	-	X	-
1940	Southern California	-	-	-	-
1930	Los Angeles Directory Co.	-	-	-	-
1926	Los Angeles Directory Co.	-	-	-	-

EXECUTIVE SUMMARY

MAP INFORMATION

The Overview Map provides information on nearby property parcel boundaries. Properties on this map that were selected for research are listed below the map.

SELECTED ADDRESSES

The following addresses were selected by the client. Detailed findings are contained in the findings section. An "X" indicates where information was identified.

Address	***Type***	***Findings***
2200 IVANHOE AVE	Map ID: 10	
2000 IVANHOE AVE	Map ID: 11	X
2210 IVANHOE AVE	Map ID: 12	X
2110 IVANHOE AVE	Map ID: 4	X
2100 IVANHOE AVE	Map ID: 5	X
2120 IVANHOE AVE	Map ID: 6	X
2020 IVANHOE AVE	Map ID: 7	X

EXECUTIVE SUMMARY

Address	***Type***	***Findings***
2130 IVANHOE AVE	Map ID: 8	X
2010 IVANHOE AVE	Map ID: 9	X

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

200-399 DORIS AVE
Oxnard, CA 93030

FINDINGS DETAIL

Target Property research detail.

DORIS

230 DORIS

Year	Uses	Source
1976	Cotten Joe	R. L. Polk & Co.
1965	9 EALES KENNETH	R. L. Polk & Co.
	REAR BEALES MARY 0 MRS	R. L. Polk & Co.
1961	Reardon Roger A 4 HU	R. L. Polk & Co.
1957	Reardon Roger A AHU	R. L. Polk & Co.
1953	Reardon Roger A E HU	R. L. Polk & Co. of California

238 DORIS

Year	Uses	Source
1965	RADKE PAUL D	R. L. Polk & Co.
1961	Radke Paul 4 HU	R. L. Polk & Co.
1953	Clark Walter M EU	R. L. Polk & Co. of California

246 DORIS

Year	Uses	Source
1976	Warwick Bell	R. L. Polk & Co.
1965	LOERA SALVADOR M	R. L. Polk & Co.
1961	Loera Salvador M Trans Co	R. L. Polk & Co.
1957	Loera Salvador M AIUHU	R. L. Polk & Co.
	Loera Salvador M Trans Co AHU	R. L. Polk & Co.
1953	Loera Salvador M EU	R. L. Polk & Co. of California

302 DORIS

Year	Uses	Source
1976	Cabral Elvira Mrs	R. L. Polk & Co.
1965	CABRAL EDW H	R. L. Polk & Co.
1961	Clark Hugh jr 4 HU	R. L. Polk & Co.

FINDINGS

Year	Uses	Source
1957	Clark Hugh jr 1 AHU	R. L. Polk & Co.
1953	Clark Hugh jr EU	R. L. Polk & Co. of California
1949	Clark Hugh jr Justine E City Building Inspector	Los Angeles Directory Co.

310 DORIS

Year	Uses	Source
1965	DAILY R WAYNE	R. L. Polk & Co.
1961	Daily R Wayne 4 HU	R. L. Polk & Co.
1957	Daily Wayne R AHU	R. L. Polk & Co.
1953	Daily Robt W EU	R. L. Polk & Co. of California

318 DORIS

Year	Uses	Source
1976	Rodwell Marie B Mrs	R. L. Polk & Co.
1970	Rodwell Kennon S Mrs	General Telephone Company of California
1965	RODWELL KENNON S	R. L. Polk & Co.
1961	Rodwell Kennon S 4 HU	R. L. Polk & Co.
1957	Rodwell Kennon S AHU	R. L. Polk & Co.
1953	Rodwell Kennon S EU	R. L. Polk & Co. of California

330 DORIS

Year	Uses	Source
1953	Pi Ltts Jas M HU	R. L. Polk & Co. of California

336 DORIS

Year	Uses	Source
1976	Pitts James M	R. L. Polk & Co.
1975	Pitts J M	Pacific Telephone Co
1965	PITTS JAMES M	R. L. Polk & Co.
1961	Pitts Jas M 4 HU	R. L. Polk & Co.
1957	Pitts Jas M AHUL	R. L. Polk & Co.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

DORIS AVE

2425 DORIS AVE

Year	Uses	Source
1976	Morris Bobby	R. L. Polk & Co.
1965	NO RETURN	R. L. Polk & Co.

DORIS CT

2502 DORIS CT

Year	Uses	Source
2002	MCVE 161 H Sarah	Haines & Company, Inc.

2517 DORIS CT

Year	Uses	Source
2002	MS 4 RAIAMIIS 6n	Haines & Company, Inc.

IVANHOE AVE

2000 IVANHOE AVE Map ID: 11

Year	Uses	Source
1996	Harmuth Robt	Pacific Bell
1993	Hawmuth Robt K& Betty M	GTE
	Ham n L POBox 451 @Ojai	GTE
	Hawmuth Robt K& Betty M	GTE
1986	Harmuth Robt K & Betty M	Pacific Bell

2010 IVANHOE AVE Map ID: 9

Year	Uses	Source
2002	SABOC 8 EKA 5ne	Haines & Company, Inc.

2020 IVANHOE AVE Map ID: 7

Year	Uses	Source
1986	Messer Eugene Dr	Pacific Bell

FINDINGS

2100 IVANHOE AVE

Year	Uses	Source
2003	CULOTTA DISTRIBUTING	Cole Information Services
2002	OCULOTIA JOn	Haines & Company, Inc.
1986	Culotta Distributing Inc	Pacific Bell
	Culotta John	Pacific Bell
	Culp CB	Pacific Bell

Map ID: 4

2110 IVANHOE AVE

Year	Uses	Source
2002	AKRIm ARADIoug	Haines & Company, Inc.
1996	Cipriano Joseph R	Pacific Bell
1993	Thompson Jack	GTE
	Thompson Jack	GTE

Map ID: 6

2120 IVANHOE AVE

Year	Uses	Source
2002	e BALANCalrs	Haines & Company, Inc.

Map ID: 8

2130 IVANHOE AVE

Year	Uses	Source
2002	PETU 009 GL 8 Vlirha	Haines & Company, Inc.
1993	Petuoglu Stephan	GTE
	Petzold Michael	GTE
	Petuoglu Stephan	GTE

Map ID: 12

2210 IVANHOE AVE

Year	Uses	Source
2002	FULLETO f Rochee	Haines & Company, Inc.
1986	Timec	Pacific Bell

W DORIS AVE

2425 W DORIS AVE

Year	Uses	Source
1970	Fry Lupe	General Telephone Company of California
	Fry M A	General Telephone Company of California

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
200-399 DORIS AVE	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1971, 1968, 1964, 1940, 1930, 1926

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
2000 IVANHOE AVE	2013, 2008, 2003, 2002, 2000, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2010 IVANHOE AVE	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2020 IVANHOE AVE	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2100 IVANHOE AVE	2013, 2008, 2003, 2000, 1996, 1993, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2100 IVANHOE AVE	2013, 2008, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2110 IVANHOE AVE	2013, 2008, 2003, 2000, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2120 IVANHOE AVE	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2130 IVANHOE AVE	2013, 2008, 2003, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2200 IVANHOE AVE	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2210 IVANHOE AVE	2013, 2008, 2003, 2000, 1996, 1993, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2425 DORIS AVE	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1975, 1971, 1970, 1968, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2425 W DORIS AVE	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2502 DORIS CT	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2517 DORIS CT	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

APPENDIX H

PRIOR REPORTS

THIS SECTION INTENTIONALLY LEFT BLANK

APPENDIX I

RESUMES

Jim Madden, P.G., LEED AP, CEM

Current Position
Program Manager - Environmental Services

Profession
Professional Geologist

Years' Experience
21

Joined Cardno
April 9, 2007

Education
B.S., Geology, Loma Linda University, Riverside, CA

Professional Registrations
Professional Geologist (CA, #7311, 2001)

LEED Accredited Professional

Certified Environmental Manager (NV, #1855, 2003)

Afiliations
Association of Environmental and Engineering Geologists
Presenter on the ASTM & AAI Phase I Environmental Site Assessment standards.

Summary of Experience

Mr. Madden serves as a Program Manager - Environmental Services for the Los Angeles, CA office providing subsurface investigations and site remediation. He has been active in the environmental consulting field since 1991. His extensive consulting experience includes Phase I and II Environmental Site Assessments (ESAs), site characterizations, groundwater investigations, vapor intrusion investigations, and site remediation projects. Mr. Madden also provides staff oversight of projects, data analysis, and technical report review.

Significant Projects

> Underground Storage Tank (UST) Assessment / Financial / Throughout CA. Completed more than 100 assessments at operating and closed facilities with leaking USTs. Obtained environmental case closures from numerous environmental oversight agencies.

> Subsurface Investigation and Remediation / Petroleum / Glendale, CA. Served as Senior Project Manager for a remediation system installation at two retail stations of dual phase remediation systems. Conducted permitting and prepared presentations to regulatory agencies. Successfully managed the use of three air rotary casing hammer drill rigs and a construction crew simultaneously onsite under intense time and health and safety constraints.

> UST Assessment / Real Estate / Los Angeles, CA. Completed regulatory closure and a successful real estate transaction by the removal of a UST that had been located 32 feet underground and adjacent to a subgrade boiler room in a high-rise building. An expedited removal was negotiated with the Los Angeles Fire Department, shoring was installed to 40 feet without disturbing the adjacent structure and the UST was removed.

> Pipeline Sampling and Assessments / Various Major Oil Companies / Southern CA. Served as Project Manager responsible for crude oil pipeline removal, sampling and closure. Also managed an emergency response remedial excavation and site assessment associated with a major diesel pipeline failure near Cajon Pass, California. Successfully negotiated with onsite regulatory agencies.

> Subsurface Investigation and Vapor Intrusion Assessment / Warehouse / Downey, CA. Served as Senior Project Manager for a subsurface investigation that included soil, groundwater, and vapor intrusion issues related to volatile organic compounds. Successfully negotiated with regulatory agency for site closure after conducting a human health risk assessment and a groundwater investigation demonstrating that offsite sources were responsible for the groundwater contamination.

- Vapor Intrusion Assessment / Restaurant / Monrovia, CA. Completed vapor intrusion assessment related to historical use of volatile organic compounds. The assessment concluded with a human health risk assessment that successfully protected human occupancy at the site through existing engineering controls in the building. The building was subsequently purchased for restaurant purposes.
- Subsurface Investigation / Government / San Bernardino, CA. Completed extensive site assessment related to the development of a future transportation center building. Successfully completed the assessment within time and budget constraints.
- Site Investigation / School District / San Bernardino, CA. Implemented extensive site investigation related to the development of a future school under DTSC oversight. Tested 40 properties for lead, organochlorine pesticides, and polychlorinated biphenyls.
- Subsurface Investigation and Remediation / Developer / Riverside, CA. Conducted a $1.3 million pesticide remediation project that included environmental site characterizations; oversight of site remediation; stormwater management including emergency response; analysis and interpretation of the data gathered; and, report preparation. Interacted with regulatory agencies including the DTSC, Regional Water Board, and County Health Agency. Closure of the site was granted by the DTSC.
- Subsurface Investigation and Remediation / Manufacturer / Heber, CA. Completed field assessment and remediation of a site that had come to the attention of the EPA and FBI due to an illegal discharge of pesticide impacted soils to an environmentally sensitive area. Conducted the initial emergency response and assisted with the removal and disposal of the impacted soils prior to successful EPA regulatory closure for the site.
- Subsurface Investigation and Remediation / Recycler / Long Beach, CA. Conducted field assessment of metal and hydrocarbon impacted soils over an extensive area prior to remediation by excavation. Responsible for cleanup negotiations with regulatory agencies and obtained site closure.
- Subsurface Investigation and Remediation / Utilities/Energy / Morro Bay, CA. Obtained Water Board closure of a large landfill by excavation. The landfill had been impacted by asbestos, hydrocarbons, metals, and other industrial wastes.
- Phase II Environmental Site Assessments / Financial / Various Locations, CA, NV and AR. Conducted hundreds of Phase II Environmental Site Assessments including field investigation, preparation and review of final reports and regulatory agency negotiations through closure.

Professional History

2007 – Current

Program Manager - Environmental Services

Program Manager, Cardno - ATC

2005 – 2007

Associate / Manager of Environmental Services,

Leighton and Associates

> Responsible for the creation and management of a new environmental department.

> Successfully project managed a $1.3 million pesticide remediation project that included environmental site characterizations; oversight of site remediation; stormwater management including emergency stormwater response; interaction with regulatory agencies including the DTSC, Regional Water Board, and County Health Agency; analysis and interpretation of the data gathered; and writing of reports. Closure of the site was granted by the DTSC.

> Led as Manager of Environmental Services for the new environmental department including the hiring and training of personnel, development of client base, and overall departmental management including health and safety compliance.

> Conducted presentations for the company, clients, and other associations.

1995 - 2005

Manager

Smith-Emery GeoServices

> Manager responsible for geotechnical and environmental departments including Phase I & II site assessments, site characterizations, geologic investigations, workplans, remediation systems, groundwater investigations, NPDES permitting, analysis and interpretation of data gathered, and writing of reports.

> Developed and maintained departmental safety compliance with all Federal, State and County health and safety regulations.

> Extensive experience in environmental consulting, including: Phase I & II site assessments, site characterizations, groundwater investigations, NPDES permitting and compliance, workplans, analysis and interpretation of data gathered, and writing of reports.

> Responsible for departmental geologic review and approval of all monitoring well logs, boring logs, reports, geologic sections, etc. Extensive familiarity with the physical geology of the Los Angeles and Southern California regions.

> Document reviews of other environmental consulting firm's reports.

> Conducted environmental assessment and safety audits for industrial, commercial, and residential facilities.

1991 - 1995

Project Geologist/ Staff Geologist

Mittelhauser Corporation

> Conducted and supervised remediation and site investigation activities at oil and chemical refineries, scrap metals facilities, terminals, and other industrial facilities, including report writing and preparation.

> Extensive experience working in hazardous materials exclusion zones under rigorous health and safety programs.

Training

> 40 hour HAZWOPER
> 8 hour HAZWOPER annual refresher
> 8 hour HAZWOPER supervisor

Skills

> Expert Witness - Assisted with two court cases expert witness testimony
> Public Speaking - Experienced in public presentations and training

.

Davis Tang

Current Position
Staff Scientist

Profession
Environmental Consultant

Years' Experience
<1

Joined Cardno
April 2013

Education
B.S., Environmental Sciences, University of California, Riverside, Riverside, CA

Summary of Experience

Mr. Tang has been active in the environmental consulting field as a staff scientist with Cardno ATC's Los Angeles, California office since 2013. Mr. Tang is responsible for the completion of Phase 1 Environmental Site Assessments (ESAs), Transaction Screen Procedures (TSPs) data interpretation, and report preparation under the oversight of an Environmental Professional (EP). Tasks include, but are not limited to, site reconnaissance, public record searches, aerial photograph reviews, and personal interviews.

Significant Projects

> Environmental Site Assessments / Various Clients / Southern CA. Conducted numerous Phase I ESAs for confidential clients throughout Southern California. Target sites include vacant properties, commercial/retail, multi-family housing, and former service station facilities. Project duties included conducting interviews, gathering current and historical site information, observing the physical aspects of the site, and report preparation.

> Student Assistant / Santa Ana Regional Water Quality Control Board / Riverside, CA - Duties included assisting Board supervisor and other staff members with regard to on-going projects involving water quality regulations on agricultural sites, accompanying Senior Geologist on regular field visits to sites in violation with regard to regulations, and utilizing various software (ArcGIS Map and GeoStiff).

Training/ Certification

- OSHA 40-Hour Hazardous Waste Operations Training (29 CFR 1910.120), 2013
- EPA / AHERA Accredited Asbestos Building Inspector
- Lead-Related Construction Inspector, ID# 25538
- First Aid/CPR Training

APPENDIX J

RECORDS OF COMMUNICATION

PRIVILEGED AND CONFIDENTIAL

RECORD OF COMMUNICATION

Date: 1/7/14 Time: _____

Project Number: _____ Recorded by: _____

Project Name: _____

Communication with: VCEH REPRESENTATIVE

of: _____

Phone: ( ) _____

Communication via: (✓) Telephone Conversation ( ) Discussions During Site Inspection

( ) Office Visitation/Meeting at: _____

( ) Other: _____

Re: _____

Summary of Communication: VCEH REP STATED THERE WERE NO FILES RELATED TO THE PROJECT SITE.

Conclusion, Actions Taken, Required or Recommended: _____

Follow up Required (when, with and by whom): _____

PRIVILEGED AND CONFIDENTIAL

Davis Tang

From: Davis Tang
Sent: Tuesday, January 07, 2014 2:53 PM
To: 'cupa@ci.oxnard.ca.us'
Subject: Records Request

January 7, 2014

Certified Unified Program Agency (CUPA)
Oxnard Fire Department
Oxnard, CA 93030

Re: UST and Hazardous Materials Records

Dear Certified Unified Program Agency Liaison:

Please determine whether or not records of USTs, leaking USTs, or hazardous materials use/clean-up activities are present for the following address:

Southeast parcel of Doris Avenue and North Patterson Road, Oxnard, CA 93030
APN: 183-0-070-090

If files are available, I would like to make an appointment to review them ASAP.

Thank you,

Davis Tang
STAFF SCIENTIST
CARDNO ATC

Cardno ATC
Shaping the Future

Phone (+1) 323-517-9780 Fax (+1) 323-517-9781 Direct (+1) 323-517-9643 Mobile (+1) 626-765-5838

Address 25 Cupania Circle, Monterey Park, CA 91755
Email davis.tang@cardno.com Web www.cardnoatc.com - www.cardno.com

* * * Communication Result Report (Jan. 7. 2014 2:53PM) * * *

1)
2)

Date/Time: Jan. 7. 2014 2:53PM

File No.	Mode	Destination	Pg(s)	Result	Page Not Sent
9213	Memory TX	18056451444	P. 1	OK	

Reason for error
E. 1) Hang up or line fail
E. 2) Busy
E. 3) No answer
E. 4) No facsimile connection
E. 5) Exceeded max. E-mail size

Cardno ATC
Shaping the Future

January 7, 2014

APCD Compliance Division
Ventura County Air Pollution Control District
669 Country Square Drive
City of Ventura, CA 93003

Phone: (805) 645-1400
Fax: (805) 645-1444

Cardno ATC
25 Columbia Circle
Monterey Park, CA 91755
Phone +1 323 517 9788
Fax +1 323 517 9761
www.cardno.com
www.cardnoatc.com

Re: **Permit Records**

Dear APCD Compliance Division

Please conduct a records search for any complaints, violations, permits, applications, and/or inspections for the following address(es):

Southeast Parcel of Doris Avenue and North Patterson Road, Oxnard 93030
(APN: 183-0-070-050)

Please let us know as soon as possible when the search has been completed. Thank you for your prompt attention to this matter. Please feel free to call me at (323) 517-9643 if you have any questions.

Sincerely,

Davis Tang
Cardno ATC
Staff Scientist
Phone (Direct): (323) 517-9643
Email: Davis.tang@cardno.com

Cardno ATC
Shaping the Future

January 7, 2014

APCD Compliance Division
Ventura County Air Pollution Control District
669 Country Square Drive
City of Ventura, CA 93003

Phone: (805) 645-1400
Fax: (805) 645-1444

Cardno ATC

25 Cupania Circle
Monterey Park, CA 91755

Phone +1 323 517 9780
Fax +1 323 517 9781
www.cardno.com

www.cardnoatc.com

Re: Permit Records

Dear APCD Compliance Division

Please conduct a records search for any complaints, violations, permits, applications, and/or inspections for the following address(es):

Southeast Parcel of Doris Avenue and North Patterson Road, Oxnard 93030
(APN: 183-0-070-090)

Please let us know as soon as possible when the search has been completed. Thank you for your prompt attention to this matter. Please feel free to call me at (323) 517-9643 if you have any questions.

Sincerely,

Davis Tang
Cardno ATC
Staff Scientist
Phone (Direct): (323) 517-9643
Email: Davis.tang@cardno.com

Ventura County
Air Pollution
Control District

Public Records Request Form

Please fill out this form as completely as possible. Please fill out a separate form for each address of interest. The form may be faxed to the District at 805/645-1444. If you have any questions, please contact Maree Penhart at 805/645-1403.

Person Requesting Information

Name: DAVIS TANG		Date: 1/9/14	
Company: CARDNO ATC			
Mailing Address: 25 CUPANIA CIR			
City: MONTEREY PARK	State: CA	Zip Code: 91755	
Telephone Number: 323-517-9780	Fax Number: 323-517-9781		
Email address: DAVIS.TANG@GMAIL.COM			

Standard Facility Information Request

Facility Name:		
Facility Address: 2292 DORIS AVE		
City: OXNARD	State: CA	Zip Code: 93030
Facility Number(s):		

Information Requested (Check All That Are Applicable):

- ☑ Copy of Current Facility Permit to Operate with Facility Permitted Emissions
- ☑ Inspection Summary (1996 to Present)
- ☑ Notice of Violation Summary (1996 to Present)
- ☑ Notice to Comply Summary (1996 to Present)
- ☑ Complaint Summary (1996 to Present)
- ☐ Other (Describe Below)

Requests for records must be for clearly identifiable records in the District's possession, and for facilities within the District's jurisdiction. The District is not required by law to create a new record or list from an already existing record.

Copying costs are $0.17 per page for requests that are 10 pages or more in length. If the "Other" box is checked, an additional charge for labor may be added to the invoice for the information requested.

NOW AVAILABLE ONLINE !
Facility Info System
Find information on facilities with APCD Permits at:
http://www.vcapcd.org/FIS.htm

APPENDIX K

LABORATORY REPORTS

THIS SECTION INTENTIONALLY LEFT BLANK

APPENDIX L

OTHER SUPPORTING DOCUMENTATION

City of Oxnard
Zoning Map

OXNARD PLANNING

RiverPark
- COMMERCIAL:CONVENTION/HOTEL
- COMMERCIAL:OFFICE
- COMMERCIAL:REGIONAL
- DRY SWALES/DETENTION BASIN
- MIXED USE RESIDENTIAL:HIGH/COMM:OFFICE
- OPEN SPACE: LANDSCAPE BUFFER
- OPEN SPACE: LANDSCAPED BUFFER
- OPEN SPACE:NEIGHBORHOOD PARKS
- OPEN SPACE:PARK SPACE
- PUBLIC FACILITIES
- RESIDENTIAL:HIGH
- RESIDENTIAL:LOW MEDUIM
- RESIDENTIAL:MEDIUM
- RETAIL/OFFICE
- SCHOOL
- WATER STORAGE/RECHARGE

Rose/Santa Clara
- AUTO SALES & SERVICE
- BUSINESS PARK
- COMMERCIAL/MANUFACTURING
- RETAIL/COMMERCIAL

City of Ventura

Santa Clara River

RiverPark

Rose-Santa Clara

Port Hueneme

OXNARD AIRPORT

U.S. Naval Base Ventura County Port Hueneme

Point Mugu Naval Air Station Naval Base Ventura County

McGrath State Beach

Mandalay County Park

Oxnard Shores

Oxnard State Beach/ Oxnard Beach Park

Hollywood By The Sea

Silverstrand Beach

Port Hueneme Beach Park

Ormond Beach

Zoning Legend

Residential Zoning
- R1 Single Family Residential
- R1-7PD Single Family Residential Planned Development
- R1-8PD Single Family Residential Planned Development
- R10PD Single Family Residential Planned Development
- R1PD Single Family Residential Planned Development
- R2 Multiple-Family Residential
- R2PD Multiple-Family Residential Planned Development
- R3 Garden Apartment
- R3PD Garden Apartment Planned Development
- R4 High-Rise Residential
- R4PD High-Rise Residential Planned Development
- MHPD Manufactured Home Planned Development
- RPD Residential Planned Development

Beach/Coastal Residential Zoning
- RB1 Single-Family Beach
- RBF Beachfront Residential
- R2C Coastal Low-Density Multiple Family
- R3C Garden Apartment Coastal
- RW1 Single-Family Water Oriented
- RW2 Multiple-Family Water Oriented
- MHPC Mobile Home Park Coastal

Coastal Zoning
- CNC Coastal Neighborhood Commercial
- CPC Coastal Planned unit Community
- CVC Coastal Visitor-Serving Commercial
- RP Coastal Resource Protection
- CDI Coastal Dependent Industry
- RC Coastal Recreation
- EC EC Coastal Energy Facility

Commercial Zoning
- C1 Neighborhood Shopping Center
- C1PD Neighborhood Shopping Center Planned Development
- C2 General Commercial
- C2PD General Commercial Planned Development
- CBD Central Business District
- CM Commercial & Light Manufacturing
- CMPD Commercial & Light Manufacturing Planned Development
- CO Commercial Office
- COPD Commercial Office Planned Development

Industrial Zoning
- M1 Light Manufacturing
- M1PD Light Manufacturing Planned Development
- M2 Heavy Manufacturing
- M2PD Heavy Manufacturing Planned Development
- ML Limited Manufacturing
- MLPD Limited Manufacturing Planned Development
- MPD Manufacturing Planned Development
- BRP Business & Research Park

Other
- HCI Harbor-Channel Islands
- CR Community Reserve
- ER Easement/ROW
- CNTY Ventura County
- AO Agricultural Open Space
- Military Base

N W E S

Miles: 0 1/2 1 2

Feet: 0 2,500 5,000 10,000

The mapped data is derived from the City of Oxnard GIS Program, which is developed and operated solely for the convenience of the City. The maps are for illustrative purposes only. The City does not warrant the accuracy of these maps, and no decision involving a risk of injury or economic loss should be made in reliance thereon.

Zoning Map Boundary Legend

Oxnard City Limits
Area.....26.9 sq.mi. (Dec. 2004)
Population 189,990 (D.O.F. 2006)

Oxnard Sphere of Influence
Adopted by LAFCO 6-8-83, Revised 6-00
(30.43 sq. miles)

Coastal Zone Boundary

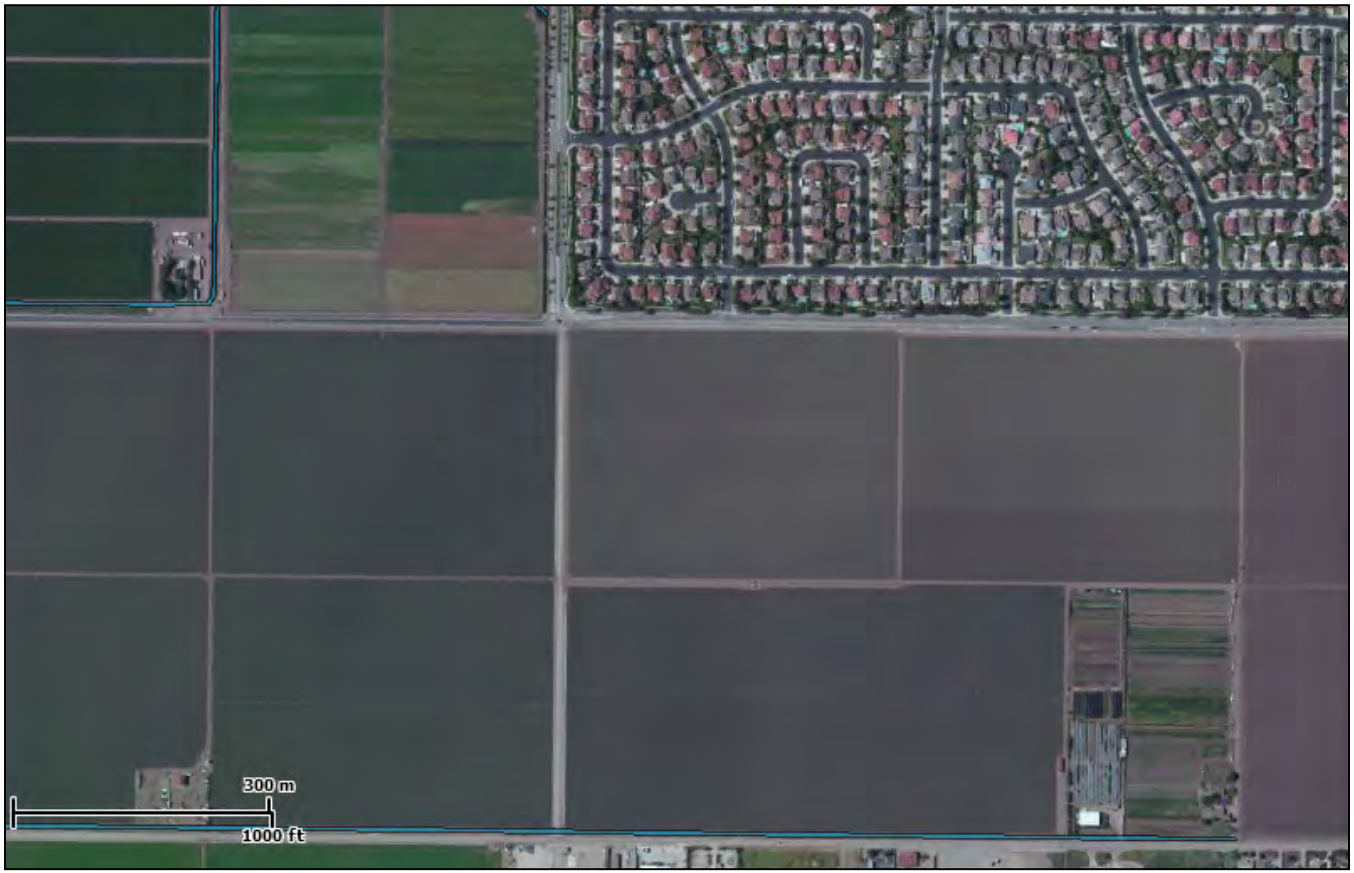
planning.cityofoxnard.org

CREATED BY: SALVADOR MANCHA
REVISED: 06.27.2007

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI

Jan 7, 2014



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

User Remarks:

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

FREMONT CLEANERS

SEMI-ANNUAL GROUNDWATER MONITORING REPORT

August 2, 2013

Project Location:	690 North Ventura Road, Oxnard, California
Fremont Cleaners Contact/Phone:	Dr. George Kallins & Scott Gerrity / (562) 925-8491
Primary Consultant/Contact Person:	Turner/Maclane Inc. / Dwight Hoenig
Consultant Phone:	(510) 881-8811
Secondary Consultant/Contact Person:	Turner/Maclane Inc. / Timothy G. Bodkin
Consultant Phone:	(650) 728-2392
Lead Agency:	Los Angeles Regional Water Quality Control Board
Lead Agency Case Number	Site ID No. 2044W00 / SCP No. 842
Lead Agency Contact/Phone Number:	Gregg Crandall / (213) 576-6701
LARWQCB Case Priority Assignment:	Unknown
Geotracker Global ID Number:	SL2044W1601
Other Agencies to Receive Copies:	None
Turner-Maclane Project Manager(s):	Dwight Hoenig; Timothy G. Bodkin
Site Conceptual Model Update Required?	Yes____ No __X__

1.0 ACTIVITIES DURING THIS PERIOD (January through June 2013)

- Semi-annual groundwater monitoring and sampling at Fremont Cleaners ("the Site") was conducted on July 1, 2013. The site is located at 690 North Ventura Road in Oxnard, California, as shown on Figure 1. Groundwater level measurements were recorded at nineteen (19) wells (MW-1 through MW-10A, MW-10B, MW-11A, MW-11B, and EW-1 through EW-6). The locations of these wells are shown on Figure 2. Groundwater samples were obtained at sixteen (16) monitoring wells (MW-1 through MW-10A, MW-10B, MW-11A, MW-11B, and EW-1 through EW-3). The samples were analyzed for volatile organic compounds (VOCs) using EPA Method 8260B. Groundwater elevations and analytical results are summarized in the attached Tables 1 and 2. Well construction details are shown on Table 3. Groundwater elevation contours are shown on Figure 3. Isoconcentration contour maps of the dissolved-phase VOCs in groundwater are presented in Figures 4 through 6.

- Groundwater samples were obtained using HydraSleeve™ samplers in each of the wells except for Wells EW-4, EW-5, and EW-6, which were noted either to be dry (Wells EW-5 and EW-6) or did not contain a sufficient volume of water for sample collection (Well EW-4). As a result, no HydraSleeve™ samplers were placed in Wells EW-4, EW-5, and EW-6 due to the shallow well casing depths and lack of sufficient groundwater present in Well EW-4. The well gauging and groundwater sampling logs are presented in Appendix A.

- Groundwater monitoring and sampling activities were performed under the direction of Turner/Maclane's State of California-licensed Certified Engineering Geologist.

2.0 ACTIVITIES PROPOSED FOR NEXT PERIOD (July through December 2013)

- Turner/Maclane is currently implementing pre-field activities (i.e., permitting, etc.) for the source removal project in accordance with the Remedial Action Work Plan dated August 15, 2011, which was approved by the Los Angeles Regional Water Quality Control Board (RWQCB) on September 8 and 15, 2011. Field activities for the source removal are anticipated to commence during Third and/or Fourth Quarter 2013.

3.0 FINDINGS

Current Phase of Project:	Groundwater Monitoring / Remediation
Frequency of Monitoring/Sampling:	Semi-Annually
Wells Gauged and/or Sampled This Semi-Annual Event:	MW-1 through MW-9, 10A/10B, 11A/11B, and EW-1 through EW-6 (EW-4 through EW-6 were dry)
Depth to Groundwater in Groundwater Wells:	9.99 to 26.01 feet
Groundwater Flow Direction and Gradient:	North-northwest / 0.007 feet per foot (see Figure 3)
Flow/Gradient Consistent with Previous Monitoring?	Yes. Groundwater gradient consistently has been oriented northwest to north-northwest.
PCE Concentration Range:	<2.0 to 970 µg/L (See Figure 4)
Well with Highest PCE Concentration:	MW-1
PCE Concentration in MW-1:	970 µg/L
TCE Concentration in MW-1:	430 µg/L
Cis-1,2-DCE Concentration in MW-1:	72 µg/L
TCE Concentrations Range:	<2.0 to 430 µg/L (See Figure 5)
Well with Highest TCE Concentration:	MW-1
Cis-1,2-DCE Concentration Range:	<2.0 to 130 µg/L (See Figure 6)
Well with Highest cis-1,2-DCE Concentration:	MW-9
Vinyl Chloride Concentration Range:	All < Laboratory Detection Limits
Well with Highest Vinyl Chloride Concentration:: PCE Concentration in MW-9	N/A ND<5.0 µg/L
Wells and/or Surface Water within 2,000 feet:	Unknown
Distance and Direction from Site:	Unknown
Current Remediation Techniques:	Groundwater Monitoring Only
Groundwater Purged this Semi-Annual Event:	Samples were obtained from HydraSleeves
Disposal/Recycling Facility:	N/A
Summary of Unusual Activity:	None
Agency Directive Requirements:	Immediate implementation of August 11, 2011 Remedial Action Work Plan
Geotracker Upload Date / for Which Event:	**August , 2013**/Second Semi-Annual 2013 **DWIGHT**

4.0 CONCLUSIONS

- Groundwater elevations show that groundwater flow is to the north-northwest at a gradient of approximately 0.007 feet per foot.

- VOC concentrations were detected in groundwater during this event. Chain-custody documentation and certified analytical reports are presented in Appendix B. In comparison with the previous semi-annual and subsequent monitoring events, PCE and TCE concentrations slightly increased in Wells MW-1 through MW-4, MW-7, MW-10A, MW-11A, and EW-1 through EW-3 with the exception of lower PCE concentrations detected in Wells MW-4 and MW-10B. In addition, the TCE concentration decreased in Well MW-10A. The concentration of cis-1,2-DCE detected in Well MW-9 increased by an order of magnitude. No TCE or cis-1,2-DCE were detected at or above the laboratory reporting limits in Well MW-10B. No cis-1,2-DCE was detected at or above the laboratory reporting limit in Wells EW-1 and EW-3. Trans-1,2-DCE was detected at a concentration slightly above the laboratory reporting limit in Well MW-9. No vinyl chloride was detected in groundwater at or above the laboratory reporting limits in any of the wells during this event. VOC concentration and groundwater elevation versus time graphs are presented in Appendix C.

- No VOCs were detected at or above the laboratory reporting limits in Wells MW-5, MW-6, MW-8, and MW-11B during this event.

- The highest VOC concentrations were detected in Well MW-1, located within the parking lot to the west of the former dry cleaners. The second highest concentrations of VOCs were detected in Well MW-4, located within the parking lot to the northeast of the former dry cleaners.

- Analytical results for PCE and TCE detected in Well MW-10B during this event and February 2013 event indicate that the PCE and TCE concentrations detected in this well during the January 2013 were anomalous and not representative of groundwater quality within the second (deeper) water-bearing zone at that location. Well MW-10B is a nested monitoring well located in the parking further west of Well MW-1.

- Groundwater analytical results obtained during this event indicate that the plume appears to be stabilized and not migrating in the direction of groundwater flow even though there were slight increases in VOC concentrations in some of the wells. The presence of VOC daughter products, including cis-1,2-DCE and trans-1,2-DCE, further indicate that the natural degradation of PCE in groundwater is occurring.

PREPARED BY:

Timothy G. Bodkin, P.G., C.E.G.
Senior Associate

Dwight R. Hoenig
President

ATTACHMENTS:

TABLES

Table 1	Groundwater Elevation and Analytical Data (July 1, 2013)
Table 2	Historical Groundwater Elevation and Analytical Data
Table 3	Well Construction Details

FIGURES

Figure 1	Vicinity Map

APPENDICES

cc: Dr. George Kallins, BGN Fremont Square LTD

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

TABLES

TABLE 1

GROUNDWATER ELEVATION AND ANALYTICAL DATA (JULY 1, 2013)
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Well Depth	TOC Elevation	Depth to Water	Groundwater Elevation	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC
	(feet)	(feet)	(feet)	(feet, msl)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-1	19.72	51.89	13.08	38.81	**970**	**430**	**72**	<20	<50
MW-2	19.50	51.39	12.19	39.20	**470**	**49**	<20	<20	<50
MW-3	19.75	51.61	12.30	39.31	**70**	**12**	**13**	<2.0	<5.0
MW-4	19.16	51.23	12.28	38.95	**580**	**110**	**70**	<20	<50
MW-5	20.40	51.67	13.40	38.27	<2.0	<2.0	<2.0	<2.0	<5.0
MW-6	20.39	51.84	14.12	37.72	<2.0	<2.0	<2.0	<2.0	<5.0
MW-7	20.30	50.33	10.78	39.55	**88**	**3.5**	<2.0	<2.0	<5.0
MW-8	20.32	50.55	9.99	40.56	<2.0	<2.0	<2.0	<2.0	<5.0
MW-9	54.88	51.57	25.79	25.78	<2.0	<2.0	**130**	**3.1**	<5.0
MW-10A	19.89	52.03	13.09	38.94	**430**	<20	<20	<20	<50
MW-10B	44.18	52.00	26.01	25.99	**17**	<2.0	<2.0	<2.0	<5.0
MW-11A	19.70	51.35	12.42	38.93	**250**	**17**	<8.0	<8.0	<20
MW-11B	44.14	51.33	24.14	27.19	<2.0	<2.0	<2.0	<2.0	<5.0
EW-1	13.88	NS	11.61	NS	**200**	**35**	<10	<10	<25
EW-2	12.08	NS	11.72	NS	**230**	**99**	**22**	<2.0	<5.0
EW-3	14.51	NS	11.39	NS	**63**	**6.2**	<2.0	<2.0	<5.0
EW-4	12.98	NS	12.89	NS	--	--	--	--	--
EW-5	11.93	NS	DW	NS	DW	DW	DW	DW	DW
EW-6	10.78	NS	DW	NS	DW	DW	DW	DW	DW
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**

Notes:

<2.0 refers to not detected at or above the laboratory reporting limit.
TOC refers to top of well casing.
msl refers to mean sea level.
ug/L refers to microgram per liter.
NS refers to the well not surveyed.
DW refers to dry well.
-- refers to groundwater sample not obtained due to insufficient well casing water volume.
CDPH MCL refers to California Department of Public Health Maximum Contaminant Level.
Bolded, shaded value refers to concentration exceeding the CDPH MCL.

PCE = tetrachloroethene.
TCE = trichloroethene.
cis-1,2-dichloroethene = cis-1,2-dichloroethene.
trans-1,2-dichloroethene = trans-1,2-dichloroethene.
VC = vinyl chloride.

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	5	5	6	10	0.5
MW-1	10/29/01	51.89	9.43	42.46	81	31	8	<1	<5.0
	2/6/02	51.89	8.77	43.12	117.8	40.5	10.7	<0.5	<0.5
	5/8/02	51.89	8.91	42.98	119.1	49.2	19.7	<0.5	<0.5
	8/9/02	51.89	9.39	42.50	95.7	39.9	13.7	<0.5	<0.5
	11/18/02	51.89	9.59	42.30	108.4	43.9	15.7	<0.5	<0.5
	2/13/03	51.89	9.33	42.56	163.1	59.4	16.2	<0.5	<0.5
	5/15/03	51.89	8.75	43.14	112.1	53.9	18.3	<0.5	<0.5
	8/22/03	51.89	10.31	41.58	151.5	80.4	38.6	<0.5	<0.5
	11/19/03	--	--	--	114	100	45	2.5	<5.0
	2/8/04	51.89	10.79	41.10	230.9	138.6	59.2	<0.5	<0.5
	5/13/04	51.89	10.43	41.46	229.2	100.4	6.1	<10	<10
	8/4/04	51.89	11.23	40.66	315.8	100.9	58.5	<2.5	<2.5
	11/15/04	51.89	12.07	39.82	372.8	423.8	493.8	<5.0	<5.0
	2/24/05	51.89	9.98	41.91	321.4	168.9	33.1	<0.5	<0.5
	4/22/05	--	--	--	516.1	215.9	107.4	<2.5	<2.5
	5/9/05	51.89	10.01	41.88	439.7	264.9	96.1	<2.5	<2.5
	6/3/05	--	--	--	906.9	560	134.5	<2.5	<2.5
	7/1/05	--	--	--	304.1	261.3	105	<5.0	<5.0
	8/9/05	51.89	10.12	41.77	478.1	292.3	99.5	<2.5	<2.5
	11/9/05	51.89	10.68	41.21	408.7	275.3	78.4	4.5	<2.5
	1/30/06	51.89	10.11	41.78	283.9	148.5	29.9	<2.5	<2.5
	5/9/06	51.89	8.31	43.58	201.5	121.6	23.3	<2.5	<2.5
	8/22/06	51.89	8.34	43.55	298.5	133	24.8	<2.5	<2.5
	11/29/06	51.89	9.88	42.01	231.2	132.5	32.6	<2.5	<2.5
	2/15/07	51.89	9.51	42.38	220.3	126.3	15.7	<2.5	<2.5
	5/23/07	51.89	9.19	42.70	244.3	94.8	19.3	<2.5	<2.5
	11/29/07	51.89	10.51	41.38	425	132.9	22.2	<2.5	<2.5
	3/26/08	51.89	10.05	41.84	290.3	106.8	28.8	<2.5	<2.5
	6/4/08	51.89	10.06	41.83	567.6	200.2	41.6	<2.5	<2.5

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
MW-1	9/24/08	51.89	10.94	40.95	**279.7**	**143.3**	**19.2**	<2.5	<2.5
	12/9/08	51.89	11.43	40.46	**306.4**	**170.8**	**33.2**	<2.5	<2.5
	3/10/09	51.89	10.78	41.11	**652.5**	**281.3**	**36.5**	<2.5	<2.5
	6/23/09	51.89	11.46	40.43	**419.1**	**203.9**	**19.4**	<2.5	<2.5
	1/13/10	51.89	12.46	39.43	**1277.3**	**255.9**	**11.6**	<2.5	<2.5
	7/29/10	51.89	11.66	40.23	**530**	**150**	**17**	<10	<25
	7/29/10	--	--	--	**640**	**150**	**18**	<10	<25
	1/19/11	51.89	11.95	39.94	**520**	**150**	**23**	<10	<25
	7/21/11	51.89	10.45	41.44	**690**	**260**	**42**	<10	<25
	1/24/12	51.89	11.04	40.85	**770**	**300**	**49**	<20	<50
	7/18/12	51.89	10.91	40.98	**750**	**290**	**56**	<20	<50
	1/21/13	51.89	12.36	39.53	**620**	**270**	**60**	<10	<25
	7/1/13	51.89	13.08	38.81	**970**	**430**	**72**	<20	<50
MW-2	10/29/01	51.39	8.74	42.65	**4901**	**3014**	**411**	<20	<100
	2/6/02	51.39	7.87	43.52	**6262**	**2527.1**	**285.1**	<50	<0.5
	5/8/02	51.39	7.98	43.41	**4803.6**	**1902.6**	**249.9**	<50	<0.5
	8/9/02	51.39	8.74	42.65	**5891.8**	**1939.2**	**254.4**	<50	<0.5
	11/18/02	51.39	8.66	42.73	**7125.8**	**640.1**	**238.8**	<50	<0.5
	2/13/03	51.39	7.27	44.12	**8394**	**1422.8**	**229.8**	<10	<0.5
	5/15/03	51.39	7.75	43.64	**4663.5**	**165.5**	**92.8**	<10	<0.5
	8/22/03	51.39	9.59	41.80	**4701.4**	**1744.6**	**200**	<10	<0.5
	11/19/03	--	--	--	**4270**	**1800**	**229**	**13**	<5.0
	2/8/04	51.39	9.93	41.46	**5156.9**	**1985**	**193.5**	<10	<10
	5/13/04	51.39	9.53	41.86	**5319.3**	**1477.7**	**371.4**	**21.6**	<10
	8/4/04	51.39	10.37	41.02	**5852.8**	**993.2**	**332.2**	<25	<25
	11/15/04	51.39	Well Inaccessible						
	2/24/05	51.39	9.12	42.27	**3958.7**	**590.5**	**69.7**	<0.5	<0.5
	4/22/05	--	--	--	**5285.5**	**613.5**	**202.9**	<25	<25

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	5	5	6	10	0.5
MW-2	5/9/05	51.39	9.52	41.87	4398.2	618.2	193.7	<25	<2.5
	6/3/05	--	--	--	9839.8	1437.5	129.5	<10	<10
	7/1/05	--	--	--	2054	785.7	406.7	<25	<25
	8/9/05	51.39	9.63	41.76	4361.9	279.7	38.4	<10	<10
	11/9/05	51.39	10.03	41.36	1040.2	873.9	389.8	16	<5.0
	1/30/06	51.39	8.43	42.96	795.7	188.3	21.6	<5.0	<5.0
	5/9/06	51.39	7.29	44.10	1050.2	775.4	415.6	<2.5	<2.5
	8/22/06	51.39	9.14	42.25	1488.1	252.4	33.4	<2.5	<2.5
	11/29/06	51.39	9.14	42.25	535	23.9	3.2	<2.5	<2.5
	2/15/07	51.39	8.74	42.65	252.7	81.8	7	<2.5	<2.5
	5/23/07	51.39	8.46	42.93	522.6	188.2	58.7	<2.5	<2.5
	11/29/07	51.39	9.72	41.67	786.7	155.1	23.5	<2.5	<2.5
	3/26/08	51.39	9.25	42.14	494.6	108.7	28.1	<2.5	<2.5
	6/4/08	51.39	9.10	42.29	772.1	146.4	18	<2.5	<2.5
	9/24/08	51.39	10.14	41.25	49.4	6.2	2	<2.5	<2.5
	12/9/08	51.39	10.44	40.95	2.4	3.9	152.8	0.9	<0.5
	3/10/09	51.39	9.45	41.94	278.1	128.3	726.9	7.8	<2.5
	6/23/09	51.39	9.56	41.83	821.8	423.7	65.4	2.4	<0.5
	1/13/10	51.39	11.49	39.90	3962	498.8	45.9	<5.0	<5.0
	7/29/10	51.39	10.68	40.71	330	48	<10	<10	<25
	7/29/10	--	--	--	480	56	<10	<10	<25
	1/19/11	51.39	10.04	41.35	290	47	<10	<10	<25
	7/21/11	51.39	9.44	41.95	240	28	<10	<10	<25
	1/24/12	51.39	9.68	41.71	260	17	<4.0	<4.0	<10
	7/18/12	51.39	10.02	41.37	120	6.2	<4.0	<4.0	<10
	1/21/13	51.39	11.41	39.98	340	11	<10	<10	<25
	7/1/13	51.39	12.19	39.20	470	49	<20	<20	<50

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
MW-3	10/29/01	51.61	8.88	42.73	**228**	**24**	**13**	<1	<5.0
	2/6/02	51.61	7.90	43.71	**279.5**	**20.4**	**6.1**	<2.5	<0.5
	5/8/02	51.61	8.31	43.30	**284.6**	**27.7**	**18.7**	<2.5	<0.5
	8/9/02	51.61	8.89	42.72	**245.7**	**24.4**	**15.2**	<2.5	<0.5
	11/18/02	51.61	8.67	42.94	**133.5**	**20.8**	**8.4**	<0.5	<0.5
	2/13/03	51.61	6.54	45.07	**224.5**	**24.9**	**8**	<0.5	<0.5
	5/15/03	51.61	7.73	43.88	**153.9**	**36.8**	**11.2**	<0.5	<0.5
	8/22/03	51.61	9.70	41.91	**239.4**	**55.1**	**16.3**	<0.5	<0.5
	11/19/03	--	--	--	**193**	**68**	**19**	**1.3**	<5.0
	2/8/04	51.61	9.98	41.63	**127**	**30.4**	**6.3**	<0.5	<0.5
	5/13/04	51.61	9.56	42.05	**250.5**	**18.3**	<10	<10	<10
	8/4/04	51.61	10.41	41.20	**361.8**	**36.1**	**17.6**	<2.5	<2.5
	11/15/04	51.61	11.11	40.50	**302.7**	**52.2**	**29.4**	<5.0	<5.0
	2/24/05	51.61	9.17	42.44	**236.9**	**22**	<0.5	<0.5	<0.5
	4/22/05	--	--	--	**231.1**	**15.4**	**5.9**	<2.5	<2.5
	5/9/05	51.61	9.23	42.38	**243.2**	**18**	**5.3**	<2.5	<2.5
	6/3/05	--	--	--	**469.3**	**34.7**	**4.8**	<2.5	<2.5
	7/1/05	--	--	--	**86.8**	**10**	**4.2**	<2.5	<2.5
	8/9/05	51.61	9.63	41.98	**141.8**	<2.5	<2.5	<2.5	<2.5
	11/9/05	51.61	10.17	41.44	**91**	**15.2**	**6.7**	<2.5	<2.5
	1/30/06	51.61	9.16	42.45	**50.3**	**7.4**	**5.2**	<0.5	<0.5
	5/9/06	51.61	7.82	43.79	**133.2**	**10.8**	<2.5	<2.5	<2.5
	8/22/06	51.61	15.30	36.31	**135.5**	**10.9**	**3.5**	<0.5	<0.5
	11/29/06	51.61	9.26	42.35	**57.7**	**14.5**	**4.2**	<0.5	<0.5
	2/15/07	51.61	8.82	42.79	**41**	**6.4**	**0.8**	<0.5	<0.5
	5/23/07	51.61	8.58	43.03	**43.5**	**7.2**	**4.5**	<0.5	<0.5
	11/29/07	51.61	10.13	41.48	**53.2**	**60.4**	**4.6**	**3.3**	<0.5
	3/26/08	51.61	9.31	42.30	**64.3**	**7.4**	**4.6**	<0.5	<0.5
	6/4/08	51.61	9.24	42.37	**86.1**	**7.9**	**5.3**	<0.5	<0.5

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	5	5	6	10	0.5
MW-3	9/24/08	51.61	10.34	41.27	48.9	6.7	4.3	<0.5	<0.5
	12/9/08	51.61	10.74	40.87	49.4	6.2	2	<0.5	<0.5
	3/10/09	51.61	9.56	42.05	26.6	1.9	9.2	<0.5	<0.5
	6/23/09	51.61	9.85	41.76	49.4	5.8	4	<0.5	<0.5
	1/13/10	51.61	12.36	39.25	12.7	84.2	9.1	<0.5	<0.5
	7/29/10	51.61	10.73	40.88	10	<2.0	6.3	<2.0	<5.0
	1/19/11	51.61	9.72	41.89	4.1	<2.0	<2.0	<2.0	<5.0
	7/21/11	51.61	11.13	40.48	26	4.1	4.9	<2.0	<5.0
	1/24/12	51.61	9.41	42.20	32	2.8	<2.0	<2.0	<5.0
	7/18/12	51.61	9.98	41.63	20	3.6	<2.0	<2.0	<5.0
	1/21/13	51.61	11.40	40.21	35	4.8	2.7	<2.0	<5.0
	7/1/13	51.61	12.30	39.31	70	12	13	<2.0	<5.0
MW-4	10/29/01	51.23	8.56	42.67	334	79	45	<1	<5.0
	2/6/02	51.23	7.79	43.44	621.5	22	3.6	<5.0	<0.5
	5/8/02	51.23	8.16	43.07	541.2	16.2	3.5	<5.0	<0.5
	8/9/02	51.23	8.57	42.66	472.9	26.9	14.2	<5.0	<0.5
	11/18/02	51.23	8.61	42.62	851.7	26.6	17.9	<5.0	<0.5
	2/13/03	51.23	7.86	43.37	727	41.6	26.1	<5.0	<0.5
	5/15/03	51.23	7.74	43.49	372.9	8.4	<0.5	<0.5	<0.5
	8/22/03	51.23	9.40	41.83	445.7	16.2	2.6	<0.5	<0.5
	11/19/03	--	--	--	304	22	4.9	<5.0	<5.0
	2/8/04	51.23	9.78	41.45	643.5	116.8	54.8	<0.5	<0.5
	5/13/04	51.23	9.36	41.87	437.7	20.1	<10	<10	<10
	8/4/04	51.23	10.14	41.09	1210.8	34.4	19	<2.5	<2.5
	11/15/04	51.23	10.98	40.25	1331.5	132.5	127.4	4.9	<5.0
	2/24/05	51.23	8.97	42.26	426.8	63	61.3	<0.5	<0.5
	5/4/05	--	--	--	323.4	14.5	5.5	<5.0	<2.5
	5/9/05	51.23	9.33	41.90	355.8	19.2	4.2	<2.5	<2.5

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
MW-4	6/3/05	--	--	--	**872.5**	**72.2**	**10.3**	<2.5	<2.5
	7/1/05	--	--	--	**452.2**	**71.1**	**34.3**	<5.0	<5.0
	8/9/05	51.23	9.61	41.62	**223**	**48.3**	**30.6**	<5.0	<5.0
	11/9/05	51.23	10.01	41.22	**386**	**52**	**12.6**	<5.0	<5.0
	1/30/06	51.23	9.06	42.17	**165.7**	**21.8**	**16.2**	<2.5	<2.5
	5/9/06	51.23	7.17	44.06	**128.9**	**18.4**	**9.2**	<2.5	<2.5
	8/22/06	51.23	Car parked over well. Not gauged.						
	12/21/06	51.23	8.96	42.27	**2.6**	<0.5	<0.5	<0.5	<0.5
	2/15/07	51.23	8.67	42.56	**70.2**	**22**	**21.4**	<0.5	<0.5
	5/23/07	51.23	8.33	42.90	**61.5**	**5.3**	**1.3**	<0.5	<0.5
	11/29/07	51.23	9.49	41.74	**233.6**	**27.8**	**7.5**	<0.5	<0.5
	3/26/08	51.23	9.19	42.04	**134.3**	**19.8**	**108.4**	<0.5	<0.5
	6/4/08	51.23	8.89	42.34	**158.6**	**15.5**	**37.6**	<0.5	<0.5
	9/24/08	51.23	10.15	41.08	**255.5**	**46.1**	**84.6**	<0.5	<0.5
	12/9/08	51.23	10.43	40.80	**537.5**	**79.9**	**263.4**	<0.5	<0.5
	3/10/09	51.23	9.45	41.78	**209.8**	**26.1**	**92.2**	<2.5	<0.5
	6/23/09	51.23	9.09	42.14	**280.7**	**30.8**	**116**	<0.5	<2.5
	1/13/10	51.23	11.00	40.23	**620.7**	**38.2**	**80.2**	<2.5	<2.5
	7/29/10	51.23	10.64	40.59	**290**	**26**	<10	<10	<25
	1/19/11	51.23	10.31	40.92	**370**	**48**	**37**	<10	<25
	7/21/11	51.23	9.55	41.68	**320**	**31**	**15**	<10	<25
	1/24/12	51.23	10.06	41.17	**390**	**49**	**39**	<10	<25
	7/18/12	51.23	10.13	41.10	**510**	**60**	**22**	<10	<25
	1/21/13	51.23	11.50	39.73	**590**	**71**	**36**	<20	<50
	7/1/13	51.23	12.28	38.95	**580**	**110**	**70**	<20	<50
MW-5	5/9/06	51.67	9.27	42.40					
	8/22/06	51.67	Car Parked Over Well. Not Gauged.						
	11/29/06	51.67	9.61	42.06	<0.5	<0.5	<0.5	<0.5	<0.5

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	5	5	6	10	0.5
MW-5	2/15/07	51.67	9.41	42.26	<0.5	<0.5	<0.5	<0.5	<0.5
	5/23/07	51.67	9.76	41.91	<0.5	<0.5	<0.5	<0.5	<0.5
	11/29/07	51.67	10.73	40.94	<0.5	<0.5	<0.5	<0.5	<0.5
	3/26/08	51.67	9.83	41.84	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/08	51.67	10.87	40.80	<0.5	<0.5	<0.5	<0.5	<0.5
	9/24/08	51.67	10.99	40.68	<0.5	<0.5	<0.5	<0.5	<0.5
	12/9/08	51.67	11.28	40.39	<0.5	<0.5	<0.5	<0.5	<0.5
	3/10/09	51.67	12.05	39.62	<0.5	<0.5	<0.5	<0.5	<0.5
	6/23/09	51.67	Gauged annually during the Fourth Quarter						
	1/13/10	51.67	14.04	37.63	<0.5	<0.5	<0.5	<0.5	<0.5
	7/29/10	51.67	12.64	39.03	<2.0	<2.0	<2.0	<2.0	<5.0
	1/19/11	51.67	13.70	37.97	<2.0	<2.0	<2.0	<2.0	<5.0
	7/21/11	51.67	10.73	40.94	<2.0	<2.0	<2.0	<2.0	<5.0
	1/24/12	51.67	10.77	40.90	<2.0	<2.0	<2.0	<2.0	<5.0
	7/18/12	51.67	10.62	41.05	<2.0	<2.0	<2.0	<2.0	<5.0
	1/21/13	51.67	12.73	38.94	<2.0	<2.0	<2.0	<2.0	<5.0
	7/1/13	51.67	13.40	38.27	<2.0	<2.0	<2.0	<2.0	<5.0
MW-6	5/9/06	51.84	8.69	43.15	**11.5**	<0.5	<0.5	<0.5	<0.5
	8/22/06	51.84	9.24	42.60	**0.8**	<0.5	<0.5	<0.5	<0.5
	11/29/06	51.84	9.81	42.03	<0.5	<0.5	<0.5	<0.5	<0.5
	2/15/07	51.84	9.72	42.12	<0.5	<0.5	<0.5	<0.5	<0.5
	5/23/07	51.84	9.34	42.50	<0.5	<0.5	<0.5	<0.5	<0.5
	11/29/07	51.84	9.76	42.08	**0.6**	<0.5	<0.5	<0.5	<0.5
	3/26/08	51.84	10.42	41.42	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/08	51.84	10.44	41.40	<0.5	<0.5	<0.5	<0.5	<0.5
	9/24/08	51.84	11.40	40.44	<0.5	<0.5	<0.5	<0.5	<0.5
	12/9/08	51.84	11.93	39.91	<0.5	<0.5	<0.5	<0.5	<0.5
	3/10/09	51.84	11.28	40.56	<0.5	<0.5	<0.5	<0.5	<0.5

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
MW-6	6/23/09	51.84	ually during the Fourth Quarter						
	1/13/10	51.84	13.10	38.74	<0.5	<0.5	<0.5	<0.5	<0.5
	7/29/10	51.84	12.61	39.23	<2.0	<2.0	<2.0	<2.0	<5.0
	1/19/11	51.84	12.97	38.87	<2.0	<2.0	<2.0	<2.0	<5.0
	7/21/11	51.84	11.13	40.71	<2.0	<2.0	<2.0	<2.0	<5.0
	1/24/12	51.84	11.79	40.05	<2.0	<2.0	<2.0	<2.0	<5.0
	7/18/12	51.84	11.82	40.02	<2.0	<2.0	<2.0	<2.0	<5.0
	1/21/13	51.84	13.23	38.61	<2.0	<2.0	<2.0	<2.0	<5.0
	7/1/13	51.84	14.12	37.72	<2.0	<2.0	<2.0	<2.0	<5.0
MW-7	5/9/06	50.33	5.97	44.36	**176.1**	**6**	<0.5	<0.5	<2.5
	8/22/06	50.33	7.83	42.50	**238.2**	**10.2**	<0.5	<0.5	<2.5
	11/29/06	50.33	7.91	42.42	**120.7**	**7.6**	<2.5	<2.5	<2.5
	2/15/07	50.33	8.45	41.88	**98.2**	**7.9**	<0.5	<0.5	<0.5
	5/23/07	50.33	7.29	43.04	**62.5**	**4.3**	**0.5**	<0.5	<0.5
	11/29/07	50.33	8.70	41.63	**110.2**	**5.1**	<0.5	<0.5	<0.5
	3/26/08	50.33	7.72	42.61	**148.7**	**7.6**	<0.5	<0.5	<0.5
	6/4/08	50.33	7.88	42.45	**211.6**	**6.8**	<0.5	<0.5	<0.5
	9/24/08	50.33	8.97	41.36	**144.7**	**5.9**	<0.5	<0.5	<0.5
	12/9/08	50.33	9.46	40.87	**111.9**	**4.4**	<0.5	<0.5	<0.5
	3/10/09	50.33	8.11	42.22	**142.5**	**5.7**	<0.5	<0.5	<0.5
	6/23/09	50.33	8.45	41.88	**140.5**	**4.4**	<0.5	<0.5	<0.5
	1/13/10	50.33	11.05	39.28	**55.6**	**3.7**	<0.5	<0.5	<0.5
	7/29/10	50.33	9.37	40.96	**140**	**4.8**	<2.0	<2.0	<5.0
	1/19/11	50.33	9.50	40.83	**110**	**6.5**	<2.0	<2.0	<5.0
	7/21/11	50.33	7.95	42.38	**100**	**4.6**	<2.0	<2.0	<5.0
	1/24/12	50.33	8.16	42.17	**90**	**4.4**	<2.0	<2.0	<5.0
	7/18/12	50.33	8.52	41.81	**100**	**5.1**	<2.0	<2.0	<5.0
	1/21/13	50.33	10.02	40.31	**80**	**3.5**	<2.0	<2.0	<5.0

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HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	5	5	6	10	0.5
MW-7	7/1/13	50.33	10.78	39.55	**88**	**3.5**	<2.0	<2.0	<5.0
MW-8	9/6/07	--	--	--	<0.5	<0.5	<0.5	<0.5	<0.5
	11/29/07	50.55	8.24	42.31	<0.5	**0.3**	<0.5	<0.5	<0.5
	3/26/08	50.55	6.23	44.32	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/08	50.55	6.25	44.30	<0.5	<0.5	<0.5	<0.5	<0.5
	9/24/08	50.55	7.09	43.46	<0.5	<0.5	<0.5	<0.5	<0.5
	12/9/08	50.55	7.47	43.08	<0.5	<0.5	<0.5	<0.5	<0.5
	3/10/09	50.55	with sandy dirt. Not gauged.						
	6/23/09	50.55	7.51	43.04	<0.5	<0.5	<0.5	<0.5	<0.5
	1/13/10	50.55	9.91	40.64	<0.5	<0.5	<0.5	<0.5	<0.5
	7/29/10	50.55	8.12	42.43	<2.0	<2.0	<2.0	<2.0	<5.0
	1/19/11	50.55	5.50	45.05	<2.0	<2.0	<2.0	<2.0	<5.0
	7/21/11	50.55	6.55	44.00	<2.0	<2.0	<2.0	<2.0	<5.0
	1/24/12	50.55	6.75	43.80	<2.0	<2.0	<2.0	<2.0	<5.0
	7/18/12	50.55	7.37	43.18	<2.0	<2.0	<2.0	<2.0	<5.0
	1/21/13	50.55	9.05	41.50	<2.0	<2.0	<2.0	<2.0	<5.0
	7/1/13	50.55	9.99	40.56	<2.0	<2.0	<2.0	<2.0	<5.0
MW-9	10/27/11	--	--	--	<5.0	**24**	**260**	**5.5**	<12
	1/24/12	51.57	15.27	36.30	<2.0	**3.4**	**46**	<2.0	<5.0
	7/18/12	51.57	17.56	34.01	<2.0	**2.4**	**61**	<2.0	<5.0
	1/21/13	51.57	21.65	29.92	**10**	**3.3**	**54**	<2.0	<5.0
	7/1/13	51.57	25.79	25.78	<2.0	<2.0	**130**	**3.1**	<5.0
MW-10A	6/29/12	--	--	--	**380**	**12**	<8	<8	<20
	7/18/12	52.03	10.75	41.28	**410**	**17**	<10	<10	<25
	1/21/13	52.03	12.44	39.59	**340**	**13**	<10	<10	<25
	2/22/13	52.03	12.52	39.51	--	--	--	--	--

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FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
MW-10A	7/1/13	52.03	13.09	38.94	**430**	<20	<20	<20	<50
MW-10B	6/29/12	--	--	--	**2.2**	<2.0	<2.0	<2.0	<5.0
	7/18/12	52.00	17.65	34.35	**4.9**	<2.0	<2.0	<2.0	<5.0
	1/21/13	52.00	21.80	30.20	**240**	**10**	<5.0	<5.0	<13
	2/22/13	52.00	22.50	29.50	**22**	<2.0	<2.0	<2.0	<5.0
	7/1/13	52.00	26.01	25.99	**17**	<2.0	<2.0	<2.0	<5.0
MW-11A	6/29/12	--	--	--	**60**	**7.3**	<2.0	<2.0	<5.0
	7/18/12	51.35	9.79	41.56	**140**	<4.0	<4.0	<4.0	<10
	1/21/13	51.35	11.63	39.72	**220**	**14**	<5.0	<5.0	<13
	7/1/13	51.35	12.42	38.93	**250**	**17**	<8.0	<8.0	<20
MW-11B	6/29/12	--	--	--	**6.6**	<2.0	<2.0	<2.0	<5.0
	7/18/12	51.33	17.18	34.15	<2.0	<2.0	<2.0	<2.0	<5.0
	1/21/13	51.33	21.32	30.01	<2.0	<2.0	<2.0	<2.0	<5.0
	7/1/13	51.33	24.14	27.19	<2.0	<2.0	<2.0	<2.0	<5.0
EW-1	4/22/05	NS	--	--	**947.1**	**7.9**	<2.5	<2.5	<2.5
	5/4/05	NS	--	--	**766.1**	**11.6**	<2.5	<2.5	<2.5
	6/3/05	NS	--	--	**780.2**	<2.5	<2.5	<2.5	<2.5
	7/1/05	NS	--	--	**107.3**	**3.1**	<2.5	<2.5	<2.5
	8/9/05	NS	--	--	**192.5**	<2.5	<2.5	<2.5	<2.5
	11/9/05	NS	--	--	**153.4**	**3.3**	<2.5	<2.5	<2.5
	1/30/06	NS	--	--	**149.3**	**2.8**	<2.5	<2.5	<2.5
	5/9/06	NS	--	--	**174.4**	**8.4**	<2.5	<2.5	<2.5
	8/22/06	NS	--	--	**166.7**	**2.2**	<0.5	<0.5	<0.5
	11/29/06	NS	--	--	**112.6**	**9.2**	<2.5	<2.5	<2.5
	2/15/07	NS	8.39	--	**184.9**	**4.1**	<0.5	<0.5	<0.5

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FREMONT CLEANERS
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OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
EW-1	5/23/07	NS	7.98	--	**130.7**	**1.6**	<0.5	<0.5	<0.5
	11/29/07	NS	9.33	--	**108.7**	**1.7**	<0.5	<0.5	<0.5
	3/26/08	NS	8.73	--	**144.2**	**3.8**	<0.5	<0.5	<0.5
	6/4/08	NS	8.65	--	**156.9**	**2.8**	<0.5	<0.5	<0.5
	9/24/08	NS	9.78	--	**121.6**	<0.5	<0.5	<0.5	<0.5
	12/9/08	NS	9.88	--	**115.2**	**17.6**	**4.2**	<0.5	<0.5
	3/10/09	NS	8.60	--	**107.2**	**17.8**	**5.5**	<0.5	<0.5
	6/23/09	NS	8.82	--	**66.2**	**15.3**	**9.4**	<0.5	<0.5
	1/13/10	NS	10.99	--	**216.3**	**24**	**18.2**	<0.5	<0.5
	7/29/10	NS	9.98	--	**78**	**7.6**	**2.8**	<2.0	<5.0
	1/19/11	NS	9.18	--	**97**	**13**	**4.5**	<2.0	<5.0
	7/21/11	NS	8.78	--	**200**	**4.2**	<2.0	<2.0	<5.0
	1/24/12	NS	9.27	--	**120**	**17**	**2.6**	<2.0	<5.0
	7/18/12	NS	9.47	--	**160**	**42**	**7.8**	<2.0	<5.0
	1/21/13	NS	10.79	--	**110**	**20**	**3.5**	<2.0	<5.0
	7/1/13	NS	11.61	--	**200**	**35**	<10	<10	<25
EW-2	4/22/05	NS	--	--	**809.1**	**140.5**	**12**	<2.5	<2.5
	5/4/05	NS	--	--	**643.9**	**65.6**	**4.8**	<2.5	<2.5
	6/3/05	NS	--	--	**606.5**	**45.7**	**5.3**	<2.5	<2.5
	7/1/05	NS	--	--	**143.1**	**43.3**	**7.5**	<5.0	<5.0
	8/9/05	NS	--	--	**327.6**	**74.3**	**7.7**	<2.5	<2.5
	11/9/05	NS	--	--	**381.6**	**106.4**	**5.4**	<2.5	<2.5
	1/30/06	NS	--	--	**254.1**	**14.5**	**3.4**	<2.5	<2.5
	5/9/06	NS	--	--	**244.3**	**159.6**	**12.2**	<2.5	<2.5
	8/22/06	NS	--	--	**548.6**	**42.1**	**3.1**	<2.5	<2.5
	11/29/06	NS	--	--	**361.6**	**20.3**	<2.5	<2.5	<2.5
	2/15/07	NS	8.18	--	**296.4**	**24.3**	<2.5	<2.5	<2.5
	5/23/07	NS	7.79	--	**477.1**	**96.1**	**4.3**	<2.5	<2.5

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FREMONT CLEANERS
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Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	5	5	6	10	0.5
EW-2	11/29/07	NS	9.13	--	413.9	8.7	<2.5	<2.5	<2.5
	3/26/08	NS	8.39	--	313.3	82	7.3	<2.5	<2.5
	6/4/08	NS	8.44	--	473.8	16.6	<2.5	<2.5	<2.5
	9/24/08	NS	9.57	--	202.7	5.1	<0.5	<0.5	<2.5
	12/9/08	NS	9.76	--	115.2	4	<0.5	<0.5	<0.5
	3/10/09	NS	8.28	--	161.7	23.2	2.3	<0.5	<0.5
	6/23/09	NS	8.71	--	146.3	11.6	<0.5	<0.5	<0.5
	1/13/10	NS	11.05	--	290.8	57.2	6.7	<0.5	<0.5
	7/29/10	NS	9.79	--	78	26	4.1	<2.0	<5.0
	1/19/11	NS	8.85	--	79	76	15	<2.0	<5.0
	7/21/11	NS	8.56	--	100	4.1	5.3	<2.0	<5.0
	1/24/12	NS	8.83	--	96	24	3.2	<2.0	<5.0
	7/18/12	NS	9.21	--	83	17	<2.0	<2.0	<5.0
	1/21/13	NS	10.55	--	120	46	10	<2.0	<5.0
	7/1/13	NS	11.72	--	230	99	22	<2.0	<5.0
EW-3	4/22/05	NS	--	--	140.4	10.2	<2.5	<2.5	<2.5
	5/4/05	NS	--	--	167.7	12.3	<2.5	<2.5	<2.5
	6/3/05	NS	--	--	76.8	6.8	<0.5	<0.5	<0.5
	7/1/05	NS	--	--	23.6	2.6	2.9	<0.5	<0.5
	8/9/05	NS	--	--	74.4	<0.5	<0.5	<0.5	<0.5
	11/9/05	NS	--	--	81.5	8.7	3.8	<0.5	<0.5
	1/30/06	NS	--	--	59	9	<0.5	<0.5	<0.5
	5/9/06	NS	--	--	52	7.8	1.3	<0.5	<0.5
	8/22/06	NS	--	--	42.6	11.9	3.4	<0.5	<0.5
	11/29/06	NS	--	--	51.5	12.8	3.8	<0.5	<0.5
	2/15/07	NS	8.19	--	37.7	13.1	2.1	<0.5	<0.5
	5/23/07	NS	7.88	--	25.9	25.5	7.9	<0.5	<0.5
	11/29/07	NS	9.22	--	61.1	5	<0.5	<2.0	<0.5

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Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	5	5	6	10	0.5
EW-3	3/26/08	NS	8.42	--	34	9.4	2	<2.0	<0.5
	6/4/08	NS	8.51	--	37.9	10.5	2.8	<2.0	<0.5
	9/24/08	NS	9.61	--	39.9	6.6	2.4	<2.0	<0.5
	12/9/08	NS	9.81	--	43.7	4.8	2.4	<2.0	<0.5
	3/10/09	NS	8.45	--	29.6	19.7	5.3	<2.0	<0.5
	6/23/09	NS	8.77	--	31.1	7.6	1.1	<2.0	<0.5
	1/13/10	NS	11.26	--	77	14.9	2.8	<2.0	<0.5
	7/29/10	NS	9.79	--	76	10	2	<2.0	<5.0
	1/19/11	NS	8.75	--	62	8.8	<2.0	<2.0	<5.0
	7/21/11	NS	8.52	--	52	4.6	<2.0	<2.0	<5.0
	1/24/12	NS	8.63	--	36	4.3	<2.0	<2.0	<5.0
	7/18/12	NS	9.13	--	49	6.4	3.8	<2.0	<5.0
	1/21/13	NS	10.49	--	38	4.6	<2.0	<2.0	<5.0
	7/1/13	NS	11.39	--	63	6.2	<2.0	<2.0	<5.0
EW-4	5/4/05	NS	--	--	19112	1223.9	201	<50	<50
	6/3/05	NS	--	--	34401	2889.3	255.2	<25	<25
	7/1/05	NS	--	--	9788.8	1306.7	224	<50	<50
	8/9/05	NS	--	--	18781.1	2829.3	328.9	<10	<10
	11/9/05	NS	--	--	5401.3	2086.8	227	9.2	<5.0
	1/30/06	NS	--	--	2016.7	721.1	116	<5.0	<5.0
	5/9/06	NS	--	--	4867.7	1213.5	123.9	6.1	<5.0
	8/22/06	NS	--	--	2650.6	443	40.3	<10	<10
	11/29/06	NS	--	--	281.1	18.1	<2.5	<2.5	<2.5
	2/15/07	NS	9.13	--	772.9	435.1	93.8	<10	<10
	5/23/07	NS	9.06	--	178.3	28.2	4.7	<0.5	<0.5
	11/29/07	NS	10.09	--	1617.6	68.2	<5.0	<5.0	<5.0
	3/26/08	NS	9.02	--	1052.3	111.5	<5.0	<5.0	<0.5
	6/4/08	NS	9.70	--	220.7	47.8	1534.1	<5.0	<5.0

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
EW-4	9/24/08	NS	10.62	--	**227.4**	**46.8**	**323.6**	<0.5	<0.5
	12/9/08	NS	10.92	--	**99.1**	**15.7**	**168.3**	**1.1**	<0.5
	3/10/09	NS	9.78	--	**174.9**	**11**	**9.7**	<0.5	<0.5
	6/23/09	NS	9.56	--	**35**	**1.7**	**3.3**	**1.1**	<0.5
	1/15/10	NS	11.75	--	**144.6**	**43.6**	**9**	<0.5	<0.5
	7/29/10	NS	11.19	--	**73**	**26**	**13**	<2.0	<5.0
	1/19/11	NS	11.96	--	**540**	**260**	**130**	**8.5**	<5.0
	7/21/11	NS	10.11	--	**900**	**500**	**62**	<20	<5.0
	1/24/12	NS	10.59	--	**1100**	**470**	**44**	<20	<50
	7/18/12	NS	10.80	--	**1000**	**330**	**42**	<20	<50
	1/21/13	NS	12.02	--	**1100**	**330**	**43**	<40	<100
	7/1/13	NS	12.89	--	--	--	--	--	--
EW-5	5/4/05	NS	--	--	**10908.4**	**269.9**	**68.7**	<25	<25
	6/3/05	NS	--	--	**18503.1**	**1112.6**	**125.5**	<2.5	<2.5
	7/1/05	NS	--	--	**5390.3**	**372.6**	**79.4**	<50	<50
	8/9/05	NS	--	--	**1154.3**	**76.3**	**6.5**	<2.5	<2.5
	11/9/05	NS	--	--	**2960.6**	**469**	**27**	<5.0	<5.0
	1/30/06	NS	--	--	**308**	**51.9**	**2.5**	<2.5	<2.5
	5/9/06	NS	--	--	**2391.2**	**712.8**	**61.6**	**4.5**	<5.0
	8/22/06	NS	--	--	**4004.7**	**1177.2**	**100**	<10	<10
	11/29/06	NS	--	--	**156.1**	**35**	<2.5	<2.5	<2.5
	2/15/07	NS	9.17	--	**208.7**	**5.2**	<2.5	<2.5	<2.5
	5/23/07	NS	8.65	--	**1953.8**	**470.4**	**61.7**	<2.5	<2.5
	11/29/07	NS	9.83	--	**8315.5**	**1322.4**	**113.1**	<5.0	<5.0
	3/26/08	NS	9.46	--	**840.1**	**246**	**15.2**	<5.0	<5.0
	6/4/08	NS	9.36	--	**6644.1**	**852**	**85.3**	<5.0	<5.0
	9/24/08	NS	10.34	--	**717.3**	**368.2**	**63.6**	<5.0	<5.0
	12/9/08	NS	10.97	--	**623.3**	**256.4**	**5613.4**	**16.3**	<5.0

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
EW-5	3/10/09	NS	9.56	--	**10084.2**	**816.2**	**83.9**	<25	<25
	6/23/09	NS	9.57	--	**3523.2**	**635.5**	**135.1**	<5.0	<5.0
	1/15/10	NS	11.62	--	**3818.2**	**879.7**	**105.3**	<5.0	<5.0
	7/29/10	NS	10.79	--	**660**	**160**	**24**	<10	<25
	1/19/11	NS	10.35	--	**90**	**17**	<4.0	<4.0	<10
	7/21/11	NS	9.70	--	**84**	**11**	<4.0	<4.0	<4.0
	1/24/12	NS	9.94	--	**84**	**6.1**	<2.0	<2.0	<5.0
	7/18/12	NS	10.18	--	**73**	**4.9**	<2.0	<2.0	<5.0
	1/21/13	NS	11.59	--	**190**	**9.4**	<4.0	<4.0	<10
	7/1/13	NS	DW	--	--	--	--	--	--
EW-6	5/4/05	NS	--	--	**3367.7**	**359.6**	**39.5**	<25	<25
	8/9/05	NS	--	--	--	--	--	--	--
	11/9/05	NS	--	--	--	--	--	--	--
	1/30/06	NS	--	--	--	--	--	--	--
	5/9/06	NS	--	--	**3221.1**	**1249.7**	**137.5**	**7.8**	<25
	8/22/06	NS	--	--	--	--	--	--	--
	11/29/06	NS	--	--	--	--	--	--	--
	2/15/07	NS	10.52	--	**2039.6**	**853.8**	**47.2**	<2.5	<2.5
	5/23/07	NS	8.80	--	**1637.8**	**505.2**	**46.9**	<10	<10
	11/29/07	NS	9.83	--	--	--	--	--	--
	3/26/08	NS	9.52	--	**183.2**	**64.9**	<2.5	<2.5	<2.5
	6/4/08	NS	9.41	--	**463.5**	**74.7**	<5.0	<5.0	<5.0
	9/24/08	NS	9.87	--	--	--	--	--	--
	12/9/08	NS	9.99	--	--	--	--	--	--
	3/10/09	NS	9.69	--	--	--	--	--	--
	6/23/09	NS	9.49	--	**185.9**	**18.7**	<0.5	<0.5	<0.5
	1/15/10	NS	10.06	--	**40.6**	**3.9**	<0.5	<0.5	<0.5
	7/29/10	NS	10.00	--	**32**	**3.6**	<2.0	<2.0	<5.0

TABLE 2

HISTORICAL GROUNDWATER ELEVATION AND ANALYTICAL DATA
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Sample Date	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet, msl)	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	VC (ug/L)
				CDPH MCL	**5**	**5**	**6**	**10**	**0.5**
EW-6	1/19/11	NS	0.00	--	--	--	--	--	--
	7/21/11	NS	9.99	--	--	--	--	--	--
	1/24/12	NS	10.08	--	--	--	--	--	--
	7/18/12	NS	10.21	--	--	--	--	--	--
	1/21/13	NS	10.21	--	--	--	--	--	--
	7/1/13	NS	DW	--	--	--	--	--	--

Notes:

<2.0 refers to not detected at or above the laboratory reporting limit.
J-flagged = estimated value for reporting values above the MDL and below the practical quantitation limit.
TOC refers to top of well casing.
msl refers to mean sea level.
ug/L refers to microgram per liter.
NS refers to the well not surveyed.
DW refers to dry well.
-- refers to no data obtained or groundwater sample not obtained due to insufficient well casing water volume.
CDPH MCL refers to California Department of Public Health Maximum Contaminant Level.
Bolded, shaded value refers to concentration exceeding the CDPH MCL.
PCE = tetrachloroethene.
TCE = trichloroethene.
cis-1,2-dichloroethene = cis-1,2-dichloroethene.
trans-1,2-dichloroethene = trans-1,2-dichloroethene.
VC = vinyl chloride.

TABLE 3

WELL CONSTRUCTION DETAILS
FREMONT CLEANERS
690 N. VENTURA ROAD
OXNARD, CALIFORNIA

Well ID	Date Installed	Well and Borehole Diameters	Borehole Depth	Screen Interval	Screen Slot Size	Casing Elevation (ft)	Well Type	Casing Diameter	Casing Length
MW-1	10/23/2001	12"	20 ft	5 ft - 20 ft	0.02"	51.89	Schedule 40 PVC	4”	20 ft
MW-2	10/23/2001	12"	20 ft	5 ft - 20 ft	0.02"	51.39	Schedule 40 PVC	4”	20 ft
MW-3	10/23/2001	12"	20 ft	5 ft - 20 ft	0.02"	51.61	Schedule 40 PVC	4”	20 ft
MW-4	10/23/2001	12"	20 ft	5 ft - 20 ft	0.02"	51.23	Schedule 40 PVC	4”	20 ft
MW-5	5/9/2006	10"	21 ft	6 ft – 21 ft	0.02"	51.67	Schedule 40 PVC	4”	21 ft
MW-6	5/9/2006	10"	21 ft	6 ft – 21 ft	0.02"	51.84	Schedule 40 PVC	4”	21 ft
MW-7	5/9/2006	10"	21 ft	6 ft – 21 ft	0.02"	50.33	Schedule 40 PVC	4”	21 ft
MW-8	7/6/2007	10"	20 ft	5 ft – 20 ft	0.01"	50.55	Schedule 40 PVC	4”	20 ft
MW-9	10/25/2011	14"	56.5 ft	45 ft - 55 ft	0.01"	51.57	Schedule 40 PVC	2"	55 ft
MW-10A	6/27/2012	10"	45	10 ft – 20 ft	0.01"	52.03	Schedule 40 PVC	2"	20 ft
MW-10B	6/27/2012	10"	45	34 ft – 44 ft	0.01"	52.00	Schedule 40 PVC	2"	44 ft
MW-11A	6/28/2012	10"	45	10 ft – 20 ft	0.01"	51.35	Schedule 40 PVC	2"	20 ft
MW-11B	6/28/2012	10"	45	33 ft – 43 ft	0.01"	51.33	Schedule 40 PVC	2"	44 ft
EW-1	9/8/2004	7"	15 ft	5 ft – 15 ft	0.01"	----	Schedule 40 PVC	4”	15 ft
EW-2	9/8/2004	7"	15 ft	5 ft – 15 ft	0.01"	----	Schedule 40 PVC	4”	15 ft
EW-3	9/8/2004	7"	15 ft	5 ft – 15 ft	0.01"	----	Schedule 40 PVC	4”	15 ft
EW-4	9/8/2004	4"	15 ft	5 ft – 15 ft	0.01"	----	Schedule 40 PVC	2"	15 ft
EW-5	Sept. 2004*	4"	15 ft	5 ft – 15 ft	0.01"	----	Schedule 40 PVC	2"	15 ft
EW-6	Sept. 2004*	4"	15 ft	5 ft – 15 ft	0.01"	----	Schedule 40 PVC	2"	15 ft
AS-1/VES-1	5/13/2004	8"	18 ft	7 ft - 12 ft/16 ft - 18 ft	0.02"	----	Schedule 40 PVC	2.5"	18 ft/12 ft
AS-2/VES-2	5/13/2004	8"	12 ft	5 ft – 15 ft	0.02"	----	Schedule 40 PVC	2"	12 ft

Notes:
* = Approximate time of installation.
ft = feet
---- = Not Surveyed

TURNER MACLANE, INC.
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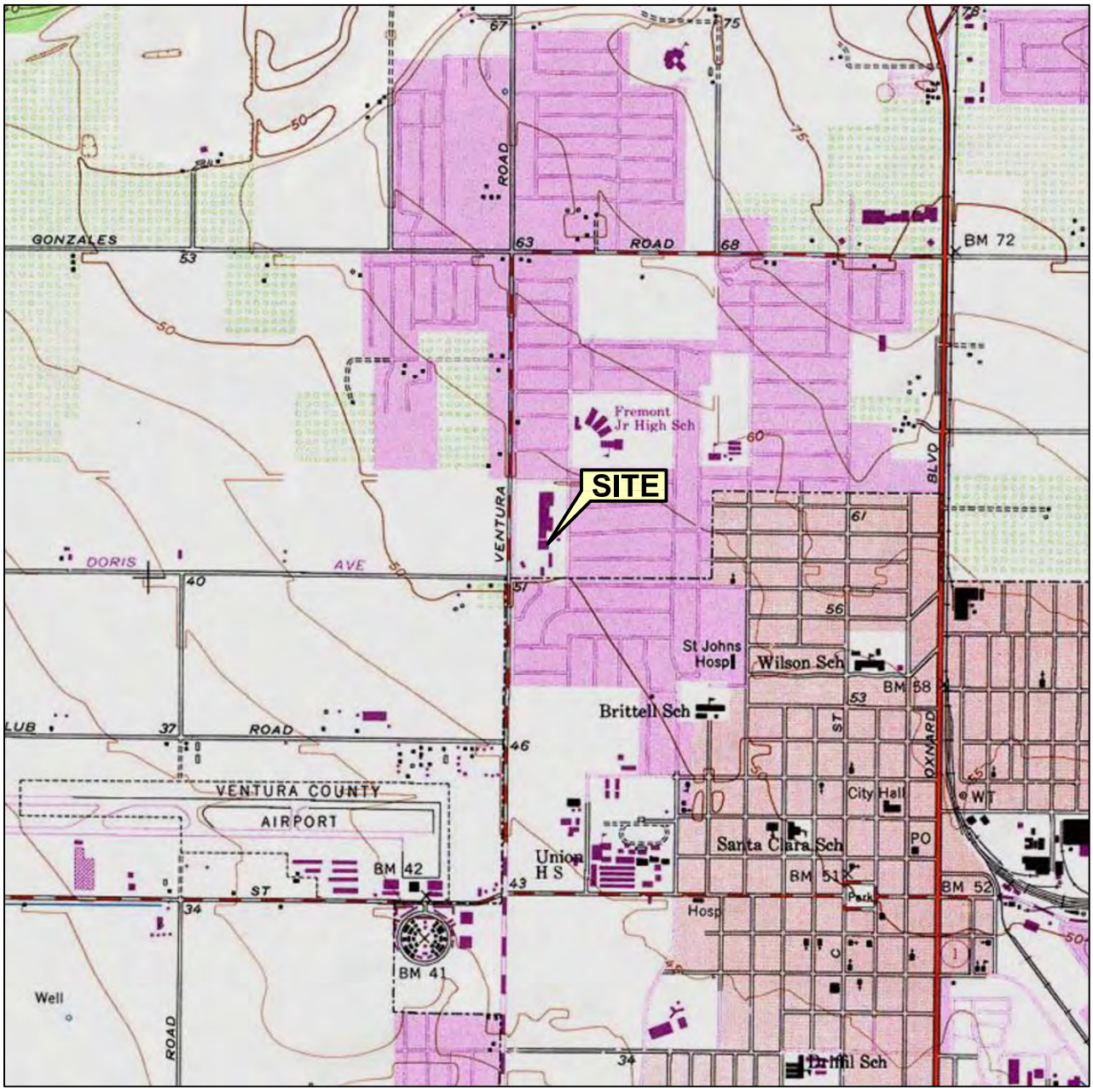
FIGURES



1 MILE 3/4 1/2 1/4 0 1 MILE

SCALE 1 : 24,000

N

SOURCE:
UNITED STATES GEOLOGICAL SURVEY
7.5 MINUTE TOPOGRAPHIC MAPS:
OXNARD QUADRANGLE, CALIFORNIA

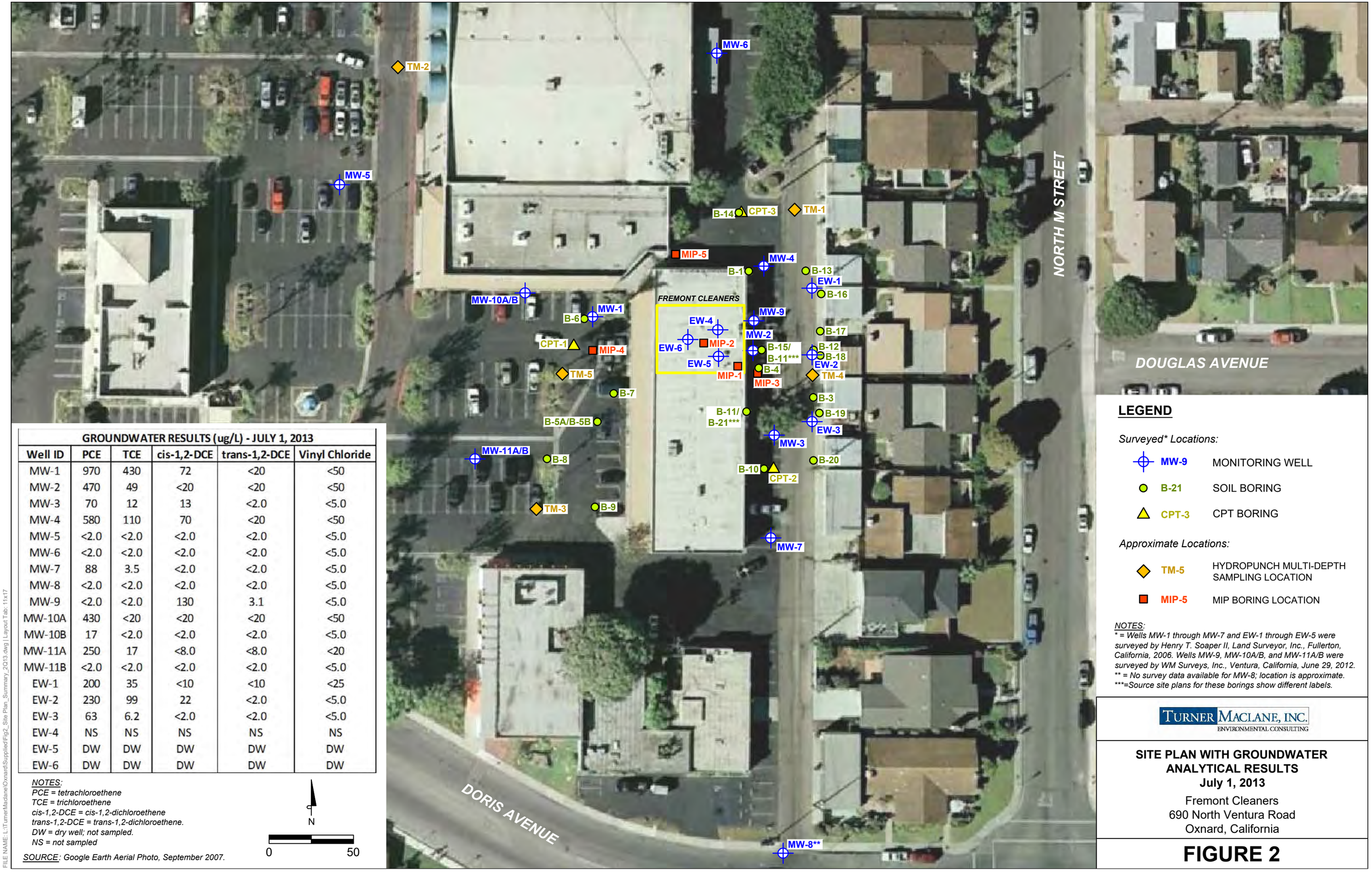
TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

VICINITY MAP

Fremont Cleaners
690 North Ventura Road
Oxnard, California

FIGURE 1

FILE NAME: L:\TurnerMaclane\Oxnard\Supplied\Fig1_Vicinity Map.dwg | Layout Tab: 8x11



GROUNDWATER RESULTS (ug/L) - JULY 1, 2013					
Well ID	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
MW-1	970	430	72	<20	<50
MW-2	470	49	<20	<20	<50
MW-3	70	12	13	<2.0	<5.0
MW-4	580	110	70	<20	<50
MW-5	<2.0	<2.0	<2.0	<2.0	<5.0
MW-6	<2.0	<2.0	<2.0	<2.0	<5.0
MW-7	88	3.5	<2.0	<2.0	<5.0
MW-8	<2.0	<2.0	<2.0	<2.0	<5.0
MW-9	<2.0	<2.0	130	3.1	<5.0
MW-10A	430	<20	<20	<20	<50
MW-10B	17	<2.0	<2.0	<2.0	<5.0
MW-11A	250	17	<8.0	<8.0	<20
MW-11B	<2.0	<2.0	<2.0	<2.0	<5.0
EW-1	200	35	<10	<10	<25
EW-2	230	99	22	<2.0	<5.0
EW-3	63	6.2	<2.0	<2.0	<5.0
EW-4	NS	NS	NS	NS	NS
EW-5	DW	DW	DW	DW	DW
EW-6	DW	DW	DW	DW	DW

NOTES:
PCE = tetrachloroethene
TCE = trichloroethene
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene.
DW = dry well; not sampled.
NS = not sampled

SOURCE: Google Earth Aerial Photo, September 2007.

LEGEND

Surveyed Locations:*

- MW-9 — MONITORING WELL
- B-21 — SOIL BORING
- CPT-3 — CPT BORING

Approximate Locations:

- TM-5 — HYDROPUNCH MULTI-DEPTH SAMPLING LOCATION
- MIP-5 — MIP BORING LOCATION

NOTES:
** = Wells MW-1 through MW-7 and EW-1 through EW-5 were surveyed by Henry T. Soaper II, Land Surveyor, Inc., Fullerton, California, 2006. Wells MW-9, MW-10A/B, and MW-11A/B were surveyed by WM Surveys, Inc., Ventura, California, June 29, 2012.*
*** = No survey data available for MW-8; location is approximate.*
****=Source site plans for these borings show different labels.*

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

SITE PLAN WITH GROUNDWATER ANALYTICAL RESULTS
July 1, 2013

Fremont Cleaners
690 North Ventura Road
Oxnard, California

FIGURE 2

FILE NAME: L:\TurnerMaclane\Oxnard\Supplied\Fig2_Site Plan_Summary_2Q13.dwg | Layout Tab: 11x17

MW-6
37.72

38.0

38.0

38.5

MW-5
38.27

38.5

MW-4
38.95

39.0

EW-1

NORTH M STREET

MW-10A
38.94
MW-10B
25.99*

MW-1
38.81

FREMONT CLEANERS

EW-4

EW-6

EW-5

MW-9
25.78*

EW-2

MW-2
39.20

DOUGLAS AVENUE

MW-11A
38.93
MW-11B
27.19*

EW-3

MW-3
39.31

39.0

39.5

MW-7
39.55

39.5

GENERAL DIRECTION OF GROUNDWATER GRADIENT

40.0

40.0

DORIS AVENUE

40.5

40.5

MW-8
41.56

N

0 50 100

SOURCE: GOOGLE EARTH AERIAL PHOTO, SEPTEMBER 2007.

LEGEND

MONITORING WELL

39.20 — GROUNDWATER ELEVATION (FT-MSL), JULY 1, 2013

40.0 — GROUNDWATER ELEVATION CONTOUR LINE (FT-MSL)

NOTES:
ft-msl = feet above mean sea level.
* = Data point not used in contouring.

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

GROUNDWATER ELEVATION CONTOUR MAP
July 1, 2013
Fremont Cleaners
690 North Ventura Road
Oxnard, California

FIGURE 3

FILE NAME: L:\TurnerMaclane\Oxnard\Supplied\Fig3_GW_July13.dwg | Layout Tab: 11x17

MW-6
<2.0

MW-5
<2.0

10

100

?

MW-10A
430
MW-10B
17*

MW-1
970

MW-4
580

FREMONT CLEANERS

EW-4
NS

EW-6
DW

EW-5
DW

MW-9
<2.0*

MW-2
470

EW-1
200

EW-2
230

EW-3
63

MW-3
70

MW-11A
250
MW-11B
<2.0*

MW-7
88

MW-8
<2.0

NORTH M STREET

DOUGLAS AVENUE

DORIS AVENUE

N

0 50 100

SOURCE: Google Earth Aerial Photo, September 2007.

LEGEND

Monitoring Well

620 — Dissolved-phase Tetrachloroethene (PCE) Concentration (ug/L), July 1, 2013

10 — Dissolved-phase Tetrachloroethene (PCE) Isoconcentration Contour Line (ug/L)

NOTES:
ug/L = micrograms per liter.
DW = dry well; not sampled.
NS = not sampled.
** = Data point not used in contouring.*

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

DISSOLVED-PHASE TETRACHLOROETHENE (PCE) ISOCONCENTRATION CONTOUR MAP
July 1, 2013

Fremont Cleaners
690 North Ventura Road
Oxnard, California

FIGURE 4

FILE NAME: L:\TurnerMaclane\Oxnard\Supplied\Fig4_PCE_July13.dwg | Layout Tab: 11x17

MW-6
<2.0

MW-5
<2.0

10

MW-10A
<20
MW-10B
<2.0*

100

MW-1
430

FREMONT CLEANERS

EW-4
NS

EW-6
DW

EW-5
DW

MW-4
110

EW-1
35

MW-9
<2.0*

MW-2
49

EW-2
99

10

MW-11A
17
MW-11B
<2.0*

MW-3
12

EW-3
6.2

NORTH M STREET

DOUGLAS AVENUE

MW-7
3.5

MW-8
<2.0

DORIS AVENUE

N

0 50 100

SOURCE: GOOGLE EARTH AERIAL PHOTO, SEPTEMBER 2007.

LEGEND

- Monitoring Well
- 500 — Dissolved-phase Trichloroethene (TCE) Concentration (ug/L), July 1, 2013
- 10 — Dissolved-phase Trichloroethene (TCE) Isoconcentration Contour Line (ug/L)

NOTES:
µg/L = micrograms per liter.
DW = dry well; not sampled.
NS = not sampled.
** = Data point not used in contouring.*

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

DISSOLVED-PHASE TRICHLOROETHENE (TCE) ISOCONCENTRATION CONTOUR MAP
July 1, 2013

Fremont Cleaners
690 North Ventura Road
Oxnard, California

FIGURE 5

FILE NAME: L:\TurnerMaclane\Oxnard\Supplied\Fig5_TCE_July13.dwg | Layout Tab: 11x17

MW-6
<2.0

MW-5
<2.0

10

MW-4
70

EW-1
<10

MW-10A
<20
MW-10B
<2.0*

MW-1
72

FREMONT CLEANERS

EW-4
NS

EW-6
DW

MW-9
130*

EW-5
DW

MW-2
<20

EW-2
22

10

NORTH M STREET

DOUGLAS AVENUE

EW-3
<2.0

MW-3
13

MW-11A
<8.0
MW-11B
<2.0*

MW-7
<2.0

DORIS AVENUE

MW-8
<2.0

N

0 50 100

SOURCE: GOOGLE EARTH AERIAL PHOTO, SEPTEMBER 2007.

LEGEND

Monitoring Well

62 — Dissolved-phase cis-1,2-Dichloroethene (cis 1,2-DCE) Concentration (ug/L), July 1, 2013

10 — Dissolved-phase cis-1,2-Dichloroethene (cis 1,2-DCE) Isoconcentration Contour Line (ug/L)

NOTES:
µg/L = micrograms per liter.
DW = dry well; not sampled.
NS = not sampled.
** = Data point not used in contouring.*

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

DISSOLVED-PHASE
cis-1,2-DICHLOROETHENE (cis 1,2-DCE)
ISOCONCENTRATION CONTOUR MAP
July 1, 2013
Fremont Cleaners
690 North Ventura Road
Oxnard, California

FIGURE 6

FILE NAME: L:\TurnerMaclane\Oxnard\Supplied\Fig6_cis 1-2 DCE_July13.dwg | Layout Tab: 11x17

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

APPENDIX A

WELL GAUGING AND GROUNDWATER SAMPLING LOGS

WELL GAUGING DATA

Project # 130701.B-1 Date 7-1-13 Client Turner Macione

Site 690 N. Ventura Rd, Oxnard

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW1	1135	4					13.08	19.72		
MW2	0945	4					12.19	19.50		
MW3	0819	4					12.30	19.75		
MW4	0958	4					12.28	19.16		
MW5	1030	4					13.40	20.40		
MW6	1013	4					14.12	20.39		
MW7	0800	4					10.78	20.30		
MW9	0915	2					25.79	54.88		
MW10A	1113	2					13.09	19.89		
MW10B	1123	2					26.01	44.18		
MW11A	1044	2					12.42	~~25.45~~ 19.70 EW		
MW11B	1052	2					24.14	44.14		
EW1	0930	4					11.61	13.88		
EW2	0847	4					~~11.28~~ 11.72 EW	12.08		
EW3	0833	4					11.39	14.51		
EW-6 ~~EW-4~~	1226	2					Dry	10.28		
~~EW-5~~	1252	2					Dry	11.93	∪	

WELL GAUGING DATA

Project # 130701.BM Date 7-1-13 Client Turner Mallone

Site 690 N. Ventura Rd, Oxnard

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
~~EW-4~~ FW-4 Dry	1239	2					12.89	1298		
MW-8	0743	4					9.99	20.32		

HYDRASLEEVE SAMPLING DATA SHEET

Project #: 130701.13N1	Site: 690 Ventura Rd, Oxnard
Sampler: BN	Water Quality Meter: Myron L Ultrameter
Sampling Method: Hydrasleeve	

Well I.D.: MW8	Well Diameter: 2 3 (4) 6 8 ___	
Total Well Depth (TD): 20.32	Depth to Water (DTW): 9.99	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	0745	76.9	7.45	3449	8		

Sample ID: MW8	Analyzed for: VOC's	Laboratory: T.A.
QA/QC (Sample ID):		
Observations: Hydra sleeve reset at 15'		

Well I.D.: MW7	Well Diameter: 2 3 (4) 6 8 ___	
Total Well Depth (TD): 20.30	Depth to Water (DTW): 10.78	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	0805	74.7	7.58	3071	7		

Sample ID: MW7	Analyzed for: VOC's	Laboratory: T.A.
QA/QC (Sample ID):		
Observations: Hydra sleeve reset @ 15'		

Well I.D.: MW3	Well Diameter: 2 3 (4) 6 8 ___	
Total Well Depth (TD): 19.75	Depth to Water (DTW): 12.30	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13 0825	0825	72.0	7.29	3053	13		

Sample ID:	Analyzed for: VOC's	Laboratory: T.A.
QA/QC (Sample ID):		
Observations: Hydra sleeve reset at 16'		

HYDRASLEEVE SAMPLING DATA SHEET

Project #: 130701-BM1	Site: 690 Ventura Rd, Oxnard
Sampler: BM	Water Quality Meter: Myron Ultrameter
Sampling Method: Hydrasleeve	

Well I.D.: EW-3	Well Diameter: 2 3 4 6 8 ___	
Total Well Depth (TD): 14.51	Depth to Water (DTW): 11.39	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	0835	70.8	7.19	2965	22		

Sample ID: EW-3	Analyzed for: VOC's	Laboratory: T.A.
QA/QC (Sample ID):		
Observations: Hydrasleeve reset at 14'		

Well I.D.: EW-2	Well Diameter: 2 3 (4) 6 8 ___	
Total Well Depth (TD): 12.08	Depth to Water (DTW): 11.72 ~~11.28~~	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	0850	71.6	7.06	2993	71000		

Sample ID:	Analyzed for: VOC's	Laboratory: T.A
QA/QC (Sample ID):		
Observations: Insufficient H2O to sample w/ Hydrasleeve. well sampled w/ pin sample. Hydrasleeve reset at 11'		

Well I.D.: MW-9	Well Diameter: (2) 3 4 6 8 ___	
Total Well Depth (TD): 54.88	Depth to Water (DTW): 25.79	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	0920	69.8	7.11	4972	6		

Sample ID: MW-9	Analyzed for: VOC's	Laboratory: T.A.
QA/QC (Sample ID):		
Observations: Hydrasleeve reset @ 50'		

HYDRASLEEVE SAMPLING DATA SHEET

Project #: 130701-BM1	Site: 690 Vallejo Rd, Oxnard
Sampler: BM	Water Quality Meter: Myron L ultrameter
Sampling Method: Hydrasleeve	

Well I.D.: EW1	Well Diameter: 2 3 (4) 6 8 ___	
Total Well Depth (TD): 138.8	Depth to Water (DTW): 11.61	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	0935	74.4	7.16	6048	279		

Sample ID:	Analyzed for: VOC's	Laboratory: T.A
QA/QC (Sample ID):		
Observations: Hydrasleeve reset @ 135'		

Well I.D.: MW2	Well Diameter: 2 3 (4) 6 8 ___	
Total Well Depth (TD): 19.50	Depth to Water (DTW): 12.19	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	0950	71.0	7.49	2801	57		

Sample ID: MW2	Analyzed for: VOC's	Laboratory: T.A.
QA/QC (Sample ID):		
Observations: Hydrasleeve reset @ 16'		

Well I.D.: MW4	Well Diameter: 2 3 (4) 6 8 ___	
Total Well Depth (TD): 19.16	Depth to Water (DTW): 12.28 ~~12.24~~ BM	Depth to top of Hydrasleeve:

Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1003	72.5	7.27	2903	173		

Sample ID:	Analyzed for: VOC's	Laboratory: T.A.
QA/QC (Sample ID):		
Observations: Hydrasleeve reset at 16'		

HYDRASLEEVE SAMPLING DATA SHEET

Project #: 130701.BM1	Site: 640 Ventura Rd, Oxnard
Sampler: BM	Water Quality Meter: Myron L Ultrameter
Sampling Method: Hydrasleeve	

Well I.D.: MW-6			Well Diameter: 2 3 (4) 6 8 ___				
Total Well Depth (TD): 20.39			Depth to Water (DTW): 14.12			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1018	72.6	7.05	2983	32		
Sample ID:			Analyzed for: VOC's			Laboratory: T.A	
QA/QC (Sample ID):							
Observations: Hydrasleeve reset at 17'							

Well I.D.: MW-5			Well Diameter: 2 3 (4) 6 8 ___				
Total Well Depth (TD): 20.40			Depth to Water (DTW): 13.40			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1035	73.3	7.04	3185	24		
Sample ID: MW-5			Analyzed for: VOC's			Laboratory: T.A.	
QA/QC (Sample ID):							
Observations: reset Hydrasleeve at 17'							

Well I.D.: MW-11A			Well Diameter: (2) 3 4 6 8 ___				
Total Well Depth (TD): 19.70			Depth to Water (DTW): 12.42			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1049	75.2	6.87	3599	317		
Sample ID:			Analyzed for: VOC's			Laboratory: T.A.	
QA/QC (Sample ID):							
Observations: Hydrasleeve reset at 16'							

HYDRASLEEVE SAMPLING DATA SHEET

Project #: 130701-BM1	Site: 690 Ventura Rd
Sampler: BM	Water Quality Meter: Myron L ultrameter
Sampling Method: Hydrasleeve	

Well I.D.: MW-11B			Well Diameter: (2) 3 4 6 8 ___				
Total Well Depth (TD): 44.14			Depth to Water (DTW): 24.14			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1057	74.1	6.78	4589	92		
Sample ID:			Analyzed for: VOC's			Laboratory: T.A.	
QA/QC (Sample ID):							
Observations: Hydrasleeve reset @ 38'							

Well I.D.: MW-10A			Well Diameter: (2) 3 4 6 8 ___				
Total Well Depth (TD): 19.89			Depth to Water (DTW): 13.09			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1118	73.9	7.03	4031	7		
Sample ID:			Analyzed for: VOC's			Laboratory: T.A	
QA/QC (Sample ID):							
Observations: reset Hydrasleeve at 17'							

Well I.D.: MW-10B			Well Diameter: (2) 3 4 6 8 ___				
Total Well Depth (TD): ~~44~~ 44.18			Depth to Water (DTW): 26.01			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1128	72.4	6.83	4559	114		
Sample ID:			Analyzed for: VOC's			Laboratory: T.A	
QA/QC (Sample ID):							
Observations: Hydrasleeve reset @ 39'							

HYDRASLEEVE SAMPLING DATA SHEET

Project #: 130701-BM1	Site: 690 Ventura Rd, Oxnard
Sampler: BM	Water Quality Meter: Myron L Ultrameter
Sampling Method: Hydrasleeve	

Well I.D.: MW1			Well Diameter: 2 3 (4) 6 8 ____				
Total Well Depth (TD): 19.72			Depth to Water (DTW): 13.08			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1140	72.2	7.08	3548	10		
Sample ID:			Analyzed for: VOC's			Laboratory: T.A.	
QA/QC (Sample ID):							
Observations: Hydrasleeve reset at 17'							

Well I.D.: EW6			Well Diameter: (2) 3 4 6 8 ____				
Total Well Depth (TD): 10.28			Depth to Water (DTW): Dry			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1226						
Sample ID:			Analyzed for:			Laboratory:	
QA/QC (Sample ID):							
Observations: well was dry no sample taken							

Well I.D.: EW4			Well Diameter: (2) 3 4 6 8 ____				
Total Well Depth (TD): 12.98			Depth to Water (DTW): 12.89			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1239						
Sample ID:			Analyzed for:			Laboratory:	
QA/QC (Sample ID):							
Observations: -Insufficient H2O to purge or sample							

HYDRASLEEVE SAMPLING DATA SHEET

Project #: 130701-B-1	Site: 640 Ventura Rd Oxnard
Sampler: BN	Water Quality Meter: Myron L Ultrameter
Sampling Method: Hydrasleeve	

Well I.D.: EW-5			Well Diameter: 2 3 4 6 8 ____				
Total Well Depth (TD): 11.93			Depth to Water (DTW): Dry			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
7-1-13	1252						
Sample ID:			Analyzed for:			Laboratory:	
QA/QC (Sample ID):							
Observations: well was Dry, no sample taken							

Well I.D.:			Well Diameter: 2 3 4 6 8 ____				
Total Well Depth (TD):			Depth to Water (DTW):			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
Sample ID:			Analyzed for:			Laboratory:	
QA/QC (Sample ID):							
Observations:							

Well I.D.:			Well Diameter: 2 3 4 6 8 ____				
Total Well Depth (TD):			Depth to Water (DTW):			Depth to top of Hydrasleeve:	
Date	Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)
Sample ID:			Analyzed for:			Laboratory:	
QA/QC (Sample ID):							
Observations:							

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF BTS #

CLIENT: Turner Maclane Inc.

SITE: Fremont Cleaners
690 N. Ventura Road
Oxnard, CA

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT

LAB: Test America

DHS #

Invoice and Report to: Timothy G. Bodkin, P.G., C.E.G.
tgbodkin@comcast.net
P.O. Box 962
Montara, CA 94037

SAMPLE I.D.	DATE	TIME	MATRIX (S = Soil, W = H2O)	CONTAINERS TOTAL		VOCs (EPA 8260B)						ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
TB1	7-1-13	0700	W	2		X									
MW-1		1140	W	3		X									
~~FW-6~~		~~1216~~	~~W~~	~~3~~											
MW-8		0745	W	3		X									
MW-7		0805	W	3		X									
MW-3		0825	W	3		X									
MW-6		1018	W	3		X									
MW-5		2035	W	3		X									
MW-11A		1049	W	3		X									
MW-11B	↓	1057	W	3		X									

SAMPLING COMPLETED DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED NO LATER THAN:
7-1-13	1400	Ben Stevens	Standard

	DATE	TIME			DATE	TIME
RELEASED BY	7-1-13	1530	→	Nicole	7/1/13	1530
RELEASED BY: Nicole	7/1/13		→		7/1/13	1700
RELEASED BY			→			

SHIPPED VIA	DATE SENT	TIME SENT

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
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CHAIN OF BTS #

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CONDUCT ANALYSIS TO DETECT

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DHS #

Invoice and Report to: Timothy G. Bodkin, P.G., C.E.G.
tgbodkin@comcast.net
P.O. Box 962
Montara, CA 94037

SAMPLE I.D.	DATE	TIME	MATRIX (S = Soil, W = H2O)	CONTAINERS TOTAL		VOCs (EPA 8260B)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-10A	7-1-13	1118	W	3		X				
MW-10B		1128	W	3		X				
EW-3		0835	W	3		X				
EW-2		0850	W	3		X				
MW-9		0920	W	3		X				
EW-1		0935	W	3		X				
MW-2		0950	W	3		X				
MW-4	↓	1003	W	3		X				

SAMPLING COMPLETED	DATE	TIME
	7-1-13	1400

SAMPLING PERFORMED BY: Ben Steven

RESULTS NEEDED NO LATER THAN: Standard

RELEASED BY		DATE 7-1-13	TIME 1530	→ Nicole		DATE 7/1/13	TIME 1530
RELEASED BY	Nicole	DATE 7/1/13	TIME	→		DATE 7-1-13	TIME 1645
RELEASED BY		DATE	TIME	→		DATE	TIME
SHIPPED VIA		DATE SENT	TIME SENT				

WELLHEAD INSPECTION CHECKLIST

Client Tulare Marlene Date 7.1.13

Site Address 690 N. Ventura Rd, Oxnard

Job Number 130701-RM1 Technician BV

Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12"or less)	WELL IS CLEARLY MARKED WITH THE WORDS "MONITORING WELL" (12"or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-1	✓	✓	✓							
MW-2										✓
MW-3	✓	✓	✓							
MW-4		✓	✓							✓
MW-5	✓	✓	✓							
MW-6	✓	✓	✓							
MW-7	✓	✓	✓							
MW-8	✓	✓	✓							
MW-9	✓	✓	✓							
MW-10A	✓	✓	✓							
MW-10B	✓	✓	✓							
MW-11A	✓	✓	✓							
MW-11B	✓	✓	✓							
EW-1	✓	✓	✓							
EW-2	✓	✓	✓							
EW-3	✓	✓	✓							
EW-4										✓

NOTES: MW-1: No lid, Extraction System in well box prevents lid closure

MW-4: 1 of 2 tabs stripped

EW-4, EW-5: No HCl remediation system in well

WELLHEAD INSPECTION CHECKLIST

Client Turner Machine Date 7.1.13

Site Address 690 N. Ventura Rd, Oxnard

Job Number 130701-BM1 Technician BM

Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12"or less)	WELL IS CLEARLY MARKED WITH THE WORDS "MONITORING WELL" (12"or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
EW5										✓
EW6			✓							✓

NOTES: EW-6i 2012 tabs Stripped

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME 130701.BN1				PROJECT NUMBER 130701.BN1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
Myron Voltameter		7.1.13 0700	pH7	7.16	7.00	24.6°C	BN
↓		↓	pH4	4.12	4.00		
			pH10	10.09	10.00	25.1°C	BN
			3900µS	3872µS	3900µS		

TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

APPENDIX B

CHAIN-OF-CUSTODY DOCUMENTATION AND CERTIFIED ANALYTICAL REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-50508-1
Client Project/Site: Fremont Dry Cleaners

For:
Turner Maclane Inc.
3511 La Mesa Drive
Hayward, California 94542

Attn: Dwight Hoenig

Authorized for release by:
7/9/2013 5:49:57 PM
Sushmitha Reddy, Project Manager I
sushmitha.reddy@testamericainc.com

Designee for

Philip Sanelle, Project Manager I
philip.sanelle@testamericainc.com

Table of Contents

Sample Summary

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-50508-1	TB1	Water	07/01/13 07:00	07/01/13 18:25
440-50508-2	MW1	Water	07/01/13 11:40	07/01/13 18:25
440-50508-3	MW8	Water	07/01/13 07:45	07/01/13 18:25
440-50508-4	MW7	Water	07/01/13 08:05	07/01/13 18:25
440-50508-5	MW3	Water	07/01/13 08:25	07/01/13 18:25
440-50508-6	MW6	Water	07/01/13 10:18	07/01/13 18:25
440-50508-7	MW5	Water	07/01/13 10:35	07/01/13 18:25
440-50508-8	MW11A	Water	07/01/13 10:49	07/01/13 18:25
440-50508-9	MW11B	Water	07/01/13 10:57	07/01/13 18:25
440-50508-10	MW10A	Water	07/01/13 11:18	07/01/13 18:25
440-50508-11	MW10B	Water	07/01/13 11:28	07/01/13 18:25
440-50508-12	EW3	Water	07/01/13 08:35	07/01/13 18:25
440-50508-13	EW2	Water	07/01/13 08:50	07/01/13 18:25
440-50508-14	MW9	Water	07/01/13 09:20	07/01/13 18:25
440-50508-15	EW1	Water	07/01/13 09:35	07/01/13 18:25
440-50508-16	MW2	Water	07/01/13 09:50	07/01/13 18:25
440-50508-17	MW4	Water	07/01/13 10:03	07/01/13 18:25

Job ID: 440-50508-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-50508-1

Comments
No additional comments.

Receipt
The samples were received on 7/1/2013 6:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9º C.

GC/MS VOA
Method(s) 8260B: The matrix spike (MS) recoveries for batch 115407 were outside control limits for chlorobromomethane. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8260B: The continuing calibration verification (CCV) for bromomethane associated with batch 115407 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 8260B: The matrix spike duplicate (MSD) recovery for batch 115313 were outside control limits for Bromoform. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

VOA Prep
No analytical or quality issues were noted.

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: TB1
Date Collected: 07/01/13 07:00
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 02:31	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 02:31	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 02:31	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 02:31	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 02:31	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 02:31	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 02:31	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 02:31	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 02:31	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 02:31	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 02:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 02:31	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:31	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 02:31	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 02:31	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 02:31	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:31	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 02:31	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:31	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 02:31	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 02:31	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 02:31	1
Benzene	ND		2.0		ug/L			07/03/13 02:31	1
Bromobenzene	ND		5.0		ug/L			07/03/13 02:31	1
Bromoform	ND		5.0		ug/L			07/03/13 02:31	1
Bromomethane	ND		5.0		ug/L			07/03/13 02:31	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 02:31	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 02:31	1
Chloroethane	ND		5.0		ug/L			07/03/13 02:31	1
Chloroform	ND		2.0		ug/L			07/03/13 02:31	1
Chloromethane	ND		5.0		ug/L			07/03/13 02:31	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 02:31	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 02:31	1
Dibromomethane	ND		2.0		ug/L			07/03/13 02:31	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 02:31	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 02:31	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 02:31	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 02:31	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 02:31	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 02:31	1
Naphthalene	ND		5.0		ug/L			07/03/13 02:31	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 02:31	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 02:31	1
o-Xylene	ND		2.0		ug/L			07/03/13 02:31	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 02:31	1
Styrene	ND		2.0		ug/L			07/03/13 02:31	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 02:31	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 02:31	1
Toluene	ND		2.0		ug/L			07/03/13 02:31	1

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: TB1

Lab Sample ID: 440-50508-1

Date Collected: 07/01/13 07:00
Matrix: Water
Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 02:31	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 02:31	1
Trichloroethene	ND		2.0		ug/L			07/03/13 02:31	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 02:31	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 02:31	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 02:31	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 02:31	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 02:31	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 02:31	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*114*		*80 - 120*		*07/03/13 02:31*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*07/03/13 02:31*	*1*
Dibromofluoromethane (Surr)	*119*		*80 - 120*		*07/03/13 02:31*	*1*

Client Sample ID: MW1

Lab Sample ID: 440-50508-2

Date Collected: 07/01/13 11:40
Matrix: Water
Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		50		ug/L			07/03/13 20:58	10
1,1,1-Trichloroethane	ND		20		ug/L			07/03/13 20:58	10
1,1,2,2-Tetrachloroethane	ND		20		ug/L			07/03/13 20:58	10
1,1,2-Trichloroethane	ND		20		ug/L			07/03/13 20:58	10
1,1-Dichloroethane	ND		20		ug/L			07/03/13 20:58	10
1,1-Dichloroethene	ND		50		ug/L			07/03/13 20:58	10
1,1-Dichloropropene	ND		20		ug/L			07/03/13 20:58	10
1,2,3-Trichlorobenzene	ND		50		ug/L			07/03/13 20:58	10
1,2,3-Trichloropropane	ND		100		ug/L			07/03/13 20:58	10
1,2,4-Trichlorobenzene	ND		50		ug/L			07/03/13 20:58	10
1,2,4-Trimethylbenzene	ND		20		ug/L			07/03/13 20:58	10
1,2-Dibromo-3-Chloropropane	ND		50		ug/L			07/03/13 20:58	10
1,2-Dichlorobenzene	ND		20		ug/L			07/03/13 20:58	10
1,2-Dichloroethane	ND		20		ug/L			07/03/13 20:58	10
1,2-Dichloropropane	ND		20		ug/L			07/03/13 20:58	10
1,3,5-Trimethylbenzene	ND		20		ug/L			07/03/13 20:58	10
1,3-Dichlorobenzene	ND		20		ug/L			07/03/13 20:58	10
1,3-Dichloropropane	ND		20		ug/L			07/03/13 20:58	10
1,4-Dichlorobenzene	ND		20		ug/L			07/03/13 20:58	10
2,2-Dichloropropane	ND		20		ug/L			07/03/13 20:58	10
2-Chlorotoluene	ND		50		ug/L			07/03/13 20:58	10
4-Chlorotoluene	ND		50		ug/L			07/03/13 20:58	10
Benzene	ND		20		ug/L			07/03/13 20:58	10
Bromobenzene	ND		50		ug/L			07/03/13 20:58	10
Bromoform	ND		50		ug/L			07/03/13 20:58	10
Bromomethane	ND		50		ug/L			07/03/13 20:58	10
Carbon tetrachloride	ND		50		ug/L			07/03/13 20:58	10
Chlorobenzene	ND		20		ug/L			07/03/13 20:58	10

Client Sample ID: MW1

Lab Sample ID: 440-50508-2

Date Collected: 07/01/13 11:40

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		50		ug/L			07/03/13 20:58	10
Chloroform	ND		20		ug/L			07/03/13 20:58	10
Chloromethane	ND		50		ug/L			07/03/13 20:58	10
cis-1,2-Dichloroethene	**72**		20		ug/L			07/03/13 20:58	10
cis-1,3-Dichloropropene	ND		20		ug/L			07/03/13 20:58	10
Dibromomethane	ND		20		ug/L			07/03/13 20:58	10
Dichlorodifluoromethane	ND		50		ug/L			07/03/13 20:58	10
Ethylbenzene	ND		20		ug/L			07/03/13 20:58	10
Hexachlorobutadiene	ND		50		ug/L			07/03/13 20:58	10
Isopropylbenzene	ND		20		ug/L			07/03/13 20:58	10
m,p-Xylene	ND		20		ug/L			07/03/13 20:58	10
Methylene Chloride	ND		50		ug/L			07/03/13 20:58	10
Naphthalene	ND		50		ug/L			07/03/13 20:58	10
n-Butylbenzene	ND		50		ug/L			07/03/13 20:58	10
N-Propylbenzene	ND		20		ug/L			07/03/13 20:58	10
o-Xylene	ND		20		ug/L			07/03/13 20:58	10
sec-Butylbenzene	ND		50		ug/L			07/03/13 20:58	10
Styrene	ND		20		ug/L			07/03/13 20:58	10
tert-Butylbenzene	ND		50		ug/L			07/03/13 20:58	10
Tetrachloroethene	**970**		20		ug/L			07/03/13 20:58	10
Toluene	ND		20		ug/L			07/03/13 20:58	10
trans-1,2-Dichloroethene	ND		20		ug/L			07/03/13 20:58	10
trans-1,3-Dichloropropene	ND		20		ug/L			07/03/13 20:58	10
Trichloroethene	**430**		20		ug/L			07/03/13 20:58	10
Trichlorofluoromethane	ND		50		ug/L			07/03/13 20:58	10
Vinyl chloride	ND		50		ug/L			07/03/13 20:58	10
1,2-Dibromoethane (EDB)	ND		20		ug/L			07/03/13 20:58	10
Bromochloromethane	ND		50		ug/L			07/03/13 20:58	10
Bromodichloromethane	ND		20		ug/L			07/03/13 20:58	10
Dibromochloromethane	ND		20		ug/L			07/03/13 20:58	10
p-Isopropyltoluene	ND		20		ug/L			07/03/13 20:58	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/03/13 20:58*	*10*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*07/03/13 20:58*	*10*
Dibromofluoromethane (Surr)	*118*		*80 - 120*		*07/03/13 20:58*	*10*

Client Sample ID: MW8

Lab Sample ID: 440-50508-3

Date Collected: 07/01/13 07:45

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 13:54	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 13:54	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 13:54	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 13:54	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 13:54	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 13:54	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 13:54	1

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW8
Date Collected: 07/01/13 07:45
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 13:54	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 13:54	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 13:54	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 13:54	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 13:54	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 13:54	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 13:54	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 13:54	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 13:54	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 13:54	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 13:54	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 13:54	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 13:54	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 13:54	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 13:54	1
Benzene	ND		2.0		ug/L			07/03/13 13:54	1
Bromobenzene	ND		5.0		ug/L			07/03/13 13:54	1
Bromoform	ND		5.0		ug/L			07/03/13 13:54	1
Bromomethane	ND		5.0		ug/L			07/03/13 13:54	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 13:54	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 13:54	1
Chloroethane	ND		5.0		ug/L			07/03/13 13:54	1
Chloroform	ND		2.0		ug/L			07/03/13 13:54	1
Chloromethane	ND		5.0		ug/L			07/03/13 13:54	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 13:54	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 13:54	1
Dibromomethane	ND		2.0		ug/L			07/03/13 13:54	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 13:54	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 13:54	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 13:54	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 13:54	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 13:54	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 13:54	1
Naphthalene	ND		5.0		ug/L			07/03/13 13:54	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 13:54	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 13:54	1
o-Xylene	ND		2.0		ug/L			07/03/13 13:54	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 13:54	1
Styrene	ND		2.0		ug/L			07/03/13 13:54	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 13:54	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 13:54	1
Toluene	ND		2.0		ug/L			07/03/13 13:54	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 13:54	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 13:54	1
Trichloroethene	ND		2.0		ug/L			07/03/13 13:54	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 13:54	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 13:54	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 13:54	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 13:54	1

Client Sample ID: MW8

Lab Sample ID: 440-50508-3

Date Collected: 07/01/13 07:45

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		2.0		ug/L			07/03/13 13:54	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 13:54	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*80 - 120*		*07/03/13 13:54*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*07/03/13 13:54*	*1*
Dibromofluoromethane (Surr)	*115*		*80 - 120*		*07/03/13 13:54*	*1*

Client Sample ID: MW7

Lab Sample ID: 440-50508-4

Date Collected: 07/01/13 08:05

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 03:58	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 03:58	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 03:58	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 03:58	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 03:58	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 03:58	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 03:58	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 03:58	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 03:58	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 03:58	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 03:58	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 03:58	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:58	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 03:58	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 03:58	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 03:58	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:58	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 03:58	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:58	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 03:58	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 03:58	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 03:58	1
Benzene	ND		2.0		ug/L			07/03/13 03:58	1
Bromobenzene	ND		5.0		ug/L			07/03/13 03:58	1
Bromoform	ND		5.0		ug/L			07/03/13 03:58	1
Bromomethane	ND		5.0		ug/L			07/03/13 03:58	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 03:58	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 03:58	1
Chloroethane	ND		5.0		ug/L			07/03/13 03:58	1
Chloroform	ND		2.0		ug/L			07/03/13 03:58	1
Chloromethane	ND		5.0		ug/L			07/03/13 03:58	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 03:58	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 03:58	1
Dibromomethane	ND		2.0		ug/L			07/03/13 03:58	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 03:58	1

Client Sample ID: MW7

Lab Sample ID: 440-50508-4

Date Collected: 07/01/13 08:05

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		2.0		ug/L			07/03/13 03:58	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 03:58	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 03:58	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 03:58	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 03:58	1
Naphthalene	ND		5.0		ug/L			07/03/13 03:58	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 03:58	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 03:58	1
o-Xylene	ND		2.0		ug/L			07/03/13 03:58	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 03:58	1
Styrene	ND		2.0		ug/L			07/03/13 03:58	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 03:58	1
Tetrachloroethene	**88**		2.0		ug/L			07/03/13 03:58	1
Toluene	ND		2.0		ug/L			07/03/13 03:58	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 03:58	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 03:58	1
Trichloroethene	**3.5**		2.0		ug/L			07/03/13 03:58	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 03:58	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 03:58	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 03:58	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 03:58	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 03:58	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 03:58	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*80 - 120*		*07/03/13 03:58*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*07/03/13 03:58*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 120*		*07/03/13 03:58*	*1*

Client Sample ID: MW3

Lab Sample ID: 440-50508-5

Date Collected: 07/01/13 08:25

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 04:27	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 04:27	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 04:27	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 04:27	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 04:27	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 04:27	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 04:27	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 04:27	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 04:27	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 04:27	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 04:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 04:27	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 04:27	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 04:27	1

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW3
Date Collected: 07/01/13 08:25
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 04:27	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 04:27	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 04:27	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 04:27	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 04:27	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 04:27	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 04:27	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 04:27	1
Benzene	ND		2.0		ug/L			07/03/13 04:27	1
Bromobenzene	ND		5.0		ug/L			07/03/13 04:27	1
Bromoform	ND		5.0		ug/L			07/03/13 04:27	1
Bromomethane	ND		5.0		ug/L			07/03/13 04:27	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 04:27	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 04:27	1
Chloroethane	ND		5.0		ug/L			07/03/13 04:27	1
Chloroform	ND		2.0		ug/L			07/03/13 04:27	1
Chloromethane	ND		5.0		ug/L			07/03/13 04:27	1
cis-1,2-Dichloroethene	**13**		2.0		ug/L			07/03/13 04:27	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 04:27	1
Dibromomethane	ND		2.0		ug/L			07/03/13 04:27	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 04:27	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 04:27	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 04:27	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 04:27	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 04:27	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 04:27	1
Naphthalene	ND		5.0		ug/L			07/03/13 04:27	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 04:27	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 04:27	1
o-Xylene	ND		2.0		ug/L			07/03/13 04:27	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 04:27	1
Styrene	ND		2.0		ug/L			07/03/13 04:27	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 04:27	1
Tetrachloroethene	**70**		2.0		ug/L			07/03/13 04:27	1
Toluene	ND		2.0		ug/L			07/03/13 04:27	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 04:27	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 04:27	1
Trichloroethene	**12**		2.0		ug/L			07/03/13 04:27	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 04:27	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 04:27	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 04:27	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 04:27	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 04:27	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 04:27	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*80 - 120*		*07/03/13 04:27*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*07/03/13 04:27*	*1*
Dibromofluoromethane (Surr)	*112*		*80 - 120*		*07/03/13 04:27*	*1*

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW6
Date Collected: 07/01/13 10:18
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 04:56	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 04:56	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 04:56	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 04:56	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 04:56	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 04:56	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 04:56	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 04:56	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 04:56	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 04:56	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 04:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 04:56	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 04:56	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 04:56	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 04:56	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 04:56	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 04:56	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 04:56	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 04:56	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 04:56	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 04:56	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 04:56	1
Benzene	ND		2.0		ug/L			07/03/13 04:56	1
Bromobenzene	ND		5.0		ug/L			07/03/13 04:56	1
Bromoform	ND		5.0		ug/L			07/03/13 04:56	1
Bromomethane	ND		5.0		ug/L			07/03/13 04:56	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 04:56	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 04:56	1
Chloroethane	ND		5.0		ug/L			07/03/13 04:56	1
Chloroform	ND		2.0		ug/L			07/03/13 04:56	1
Chloromethane	ND		5.0		ug/L			07/03/13 04:56	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 04:56	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 04:56	1
Dibromomethane	ND		2.0		ug/L			07/03/13 04:56	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 04:56	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 04:56	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 04:56	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 04:56	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 04:56	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 04:56	1
Naphthalene	ND		5.0		ug/L			07/03/13 04:56	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 04:56	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 04:56	1
o-Xylene	ND		2.0		ug/L			07/03/13 04:56	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 04:56	1
Styrene	ND		2.0		ug/L			07/03/13 04:56	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 04:56	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 04:56	1
Toluene	ND		2.0		ug/L			07/03/13 04:56	1

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW6

Lab Sample ID: 440-50508-6

Date Collected: 07/01/13 10:18

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 04:56	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 04:56	1
Trichloroethene	ND		2.0		ug/L			07/03/13 04:56	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 04:56	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 04:56	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 04:56	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 04:56	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 04:56	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 04:56	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 04:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*80 - 120*		*07/03/13 04:56*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/03/13 04:56*	*1*
Dibromofluoromethane (Surr)	*117*		*80 - 120*		*07/03/13 04:56*	*1*

Client Sample ID: MW5

Lab Sample ID: 440-50508-7

Date Collected: 07/01/13 10:35

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 02:03	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 02:03	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 02:03	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 02:03	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 02:03	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 02:03	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 02:03	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 02:03	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 02:03	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 02:03	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 02:03	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 02:03	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:03	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 02:03	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 02:03	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 02:03	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:03	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 02:03	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:03	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 02:03	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 02:03	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 02:03	1
Benzene	ND		2.0		ug/L			07/03/13 02:03	1
Bromobenzene	ND		5.0		ug/L			07/03/13 02:03	1
Bromoform	ND		5.0		ug/L			07/03/13 02:03	1
Bromomethane	ND		5.0		ug/L			07/03/13 02:03	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 02:03	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 02:03	1

Client Sample ID: MW5
Date Collected: 07/01/13 10:35
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		5.0		ug/L			07/03/13 02:03	1
Chloroform	ND		2.0		ug/L			07/03/13 02:03	1
Chloromethane	ND		5.0		ug/L			07/03/13 02:03	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 02:03	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 02:03	1
Dibromomethane	ND		2.0		ug/L			07/03/13 02:03	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 02:03	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 02:03	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 02:03	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 02:03	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 02:03	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 02:03	1
Naphthalene	ND		5.0		ug/L			07/03/13 02:03	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 02:03	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 02:03	1
o-Xylene	ND		2.0		ug/L			07/03/13 02:03	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 02:03	1
Styrene	ND		2.0		ug/L			07/03/13 02:03	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 02:03	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 02:03	1
Toluene	ND		2.0		ug/L			07/03/13 02:03	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 02:03	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 02:03	1
Trichloroethene	ND		2.0		ug/L			07/03/13 02:03	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 02:03	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 02:03	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 02:03	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 02:03	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 02:03	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 02:03	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 02:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*80 - 120*		*07/03/13 02:03*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/03/13 02:03*	*1*
Dibromofluoromethane (Surr)	*115*		*80 - 120*		*07/03/13 02:03*	*1*

Client Sample ID: MW11A
Date Collected: 07/01/13 10:49
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		20		ug/L			07/04/13 06:50	4
1,1,1-Trichloroethane	ND		8.0		ug/L			07/04/13 06:50	4
1,1,2,2-Tetrachloroethane	ND		8.0		ug/L			07/04/13 06:50	4
1,1,2-Trichloroethane	ND		8.0		ug/L			07/04/13 06:50	4
1,1-Dichloroethane	ND		8.0		ug/L			07/04/13 06:50	4
1,1-Dichloroethene	ND		20		ug/L			07/04/13 06:50	4
1,1-Dichloropropene	ND		8.0		ug/L			07/04/13 06:50	4

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW11A
Date Collected: 07/01/13 10:49
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		20		ug/L			07/04/13 06:50	4
1,2,3-Trichloropropane	ND		40		ug/L			07/04/13 06:50	4
1,2,4-Trichlorobenzene	ND		20		ug/L			07/04/13 06:50	4
1,2,4-Trimethylbenzene	ND		8.0		ug/L			07/04/13 06:50	4
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			07/04/13 06:50	4
1,2-Dichlorobenzene	ND		8.0		ug/L			07/04/13 06:50	4
1,2-Dichloroethane	ND		8.0		ug/L			07/04/13 06:50	4
1,2-Dichloropropane	ND		8.0		ug/L			07/04/13 06:50	4
1,3,5-Trimethylbenzene	ND		8.0		ug/L			07/04/13 06:50	4
1,3-Dichlorobenzene	ND		8.0		ug/L			07/04/13 06:50	4
1,3-Dichloropropane	ND		8.0		ug/L			07/04/13 06:50	4
1,4-Dichlorobenzene	ND		8.0		ug/L			07/04/13 06:50	4
2,2-Dichloropropane	ND		8.0		ug/L			07/04/13 06:50	4
2-Chlorotoluene	ND		20		ug/L			07/04/13 06:50	4
4-Chlorotoluene	ND		20		ug/L			07/04/13 06:50	4
Benzene	ND		8.0		ug/L			07/04/13 06:50	4
Bromobenzene	ND		20		ug/L			07/04/13 06:50	4
Bromoform	ND		20		ug/L			07/04/13 06:50	4
Bromomethane	ND		20		ug/L			07/04/13 06:50	4
Carbon tetrachloride	ND		20		ug/L			07/04/13 06:50	4
Chlorobenzene	ND		8.0		ug/L			07/04/13 06:50	4
Chloroethane	ND		20		ug/L			07/04/13 06:50	4
Chloroform	ND		8.0		ug/L			07/04/13 06:50	4
Chloromethane	ND		20		ug/L			07/04/13 06:50	4
cis-1,2-Dichloroethene	ND		8.0		ug/L			07/04/13 06:50	4
cis-1,3-Dichloropropene	ND		8.0		ug/L			07/04/13 06:50	4
Dibromomethane	ND		8.0		ug/L			07/04/13 06:50	4
Dichlorodifluoromethane	ND		20		ug/L			07/04/13 06:50	4
Ethylbenzene	ND		8.0		ug/L			07/04/13 06:50	4
Hexachlorobutadiene	ND		20		ug/L			07/04/13 06:50	4
Isopropylbenzene	ND		8.0		ug/L			07/04/13 06:50	4
m,p-Xylene	ND		8.0		ug/L			07/04/13 06:50	4
Methylene Chloride	ND		20		ug/L			07/04/13 06:50	4
Naphthalene	ND		20		ug/L			07/04/13 06:50	4
n-Butylbenzene	ND		20		ug/L			07/04/13 06:50	4
N-Propylbenzene	ND		8.0		ug/L			07/04/13 06:50	4
o-Xylene	ND		8.0		ug/L			07/04/13 06:50	4
sec-Butylbenzene	ND		20		ug/L			07/04/13 06:50	4
Styrene	ND		8.0		ug/L			07/04/13 06:50	4
tert-Butylbenzene	ND		20		ug/L			07/04/13 06:50	4
Tetrachloroethene	**250**		8.0		ug/L			07/04/13 06:50	4
Toluene	ND		8.0		ug/L			07/04/13 06:50	4
trans-1,2-Dichloroethene	ND		8.0		ug/L			07/04/13 06:50	4
trans-1,3-Dichloropropene	ND		8.0		ug/L			07/04/13 06:50	4
Trichloroethene	**17**		8.0		ug/L			07/04/13 06:50	4
Trichlorofluoromethane	ND		20		ug/L			07/04/13 06:50	4
Vinyl chloride	ND		20		ug/L			07/04/13 06:50	4
1,2-Dibromoethane (EDB)	ND		8.0		ug/L			07/04/13 06:50	4
Bromochloromethane	ND		20		ug/L			07/04/13 06:50	4

Client Sample ID: MW11A

Lab Sample ID: 440-50508-8

Date Collected: 07/01/13 10:49

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		8.0		ug/L			07/04/13 06:50	4
Dibromochloromethane	ND		8.0		ug/L			07/04/13 06:50	4
p-Isopropyltoluene	ND		8.0		ug/L			07/04/13 06:50	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*80 - 120*		*07/04/13 06:50*	*4*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/04/13 06:50*	*4*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*07/04/13 06:50*	*4*

Client Sample ID: MW11B

Lab Sample ID: 440-50508-9

Date Collected: 07/01/13 10:57

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/04/13 06:22	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/04/13 06:22	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/04/13 06:22	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/04/13 06:22	1
1,1-Dichloroethane	ND		2.0		ug/L			07/04/13 06:22	1
1,1-Dichloroethene	ND		5.0		ug/L			07/04/13 06:22	1
1,1-Dichloropropene	ND		2.0		ug/L			07/04/13 06:22	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/04/13 06:22	1
1,2,3-Trichloropropane	ND		10		ug/L			07/04/13 06:22	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/04/13 06:22	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/04/13 06:22	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/04/13 06:22	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/04/13 06:22	1
1,2-Dichloroethane	ND		2.0		ug/L			07/04/13 06:22	1
1,2-Dichloropropane	ND		2.0		ug/L			07/04/13 06:22	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/04/13 06:22	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/04/13 06:22	1
1,3-Dichloropropane	ND		2.0		ug/L			07/04/13 06:22	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/04/13 06:22	1
2,2-Dichloropropane	ND		2.0		ug/L			07/04/13 06:22	1
2-Chlorotoluene	ND		5.0		ug/L			07/04/13 06:22	1
4-Chlorotoluene	ND		5.0		ug/L			07/04/13 06:22	1
Benzene	ND		2.0		ug/L			07/04/13 06:22	1
Bromobenzene	ND		5.0		ug/L			07/04/13 06:22	1
Bromoform	ND		5.0		ug/L			07/04/13 06:22	1
Bromomethane	ND		5.0		ug/L			07/04/13 06:22	1
Carbon tetrachloride	ND		5.0		ug/L			07/04/13 06:22	1
Chlorobenzene	ND		2.0		ug/L			07/04/13 06:22	1
Chloroethane	ND		5.0		ug/L			07/04/13 06:22	1
Chloroform	ND		2.0		ug/L			07/04/13 06:22	1
Chloromethane	ND		5.0		ug/L			07/04/13 06:22	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/04/13 06:22	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/04/13 06:22	1
Dibromomethane	ND		2.0		ug/L			07/04/13 06:22	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/04/13 06:22	1

Client Sample ID: MW11B
Date Collected: 07/01/13 10:57
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		2.0		ug/L			07/04/13 06:22	1
Hexachlorobutadiene	ND		5.0		ug/L			07/04/13 06:22	1
Isopropylbenzene	ND		2.0		ug/L			07/04/13 06:22	1
m,p-Xylene	ND		2.0		ug/L			07/04/13 06:22	1
Methylene Chloride	ND		5.0		ug/L			07/04/13 06:22	1
Naphthalene	ND		5.0		ug/L			07/04/13 06:22	1
n-Butylbenzene	ND		5.0		ug/L			07/04/13 06:22	1
N-Propylbenzene	ND		2.0		ug/L			07/04/13 06:22	1
o-Xylene	ND		2.0		ug/L			07/04/13 06:22	1
sec-Butylbenzene	ND		5.0		ug/L			07/04/13 06:22	1
Styrene	ND		2.0		ug/L			07/04/13 06:22	1
tert-Butylbenzene	ND		5.0		ug/L			07/04/13 06:22	1
Tetrachloroethene	ND		2.0		ug/L			07/04/13 06:22	1
Toluene	ND		2.0		ug/L			07/04/13 06:22	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/04/13 06:22	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/04/13 06:22	1
Trichloroethene	ND		2.0		ug/L			07/04/13 06:22	1
Trichlorofluoromethane	ND		5.0		ug/L			07/04/13 06:22	1
Vinyl chloride	ND		5.0		ug/L			07/04/13 06:22	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/04/13 06:22	1
Bromochloromethane	ND		5.0		ug/L			07/04/13 06:22	1
Bromodichloromethane	ND		2.0		ug/L			07/04/13 06:22	1
Dibromochloromethane	ND		2.0		ug/L			07/04/13 06:22	1
p-Isopropyltoluene	ND		2.0		ug/L			07/04/13 06:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*80 - 120*		*07/04/13 06:22*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*07/04/13 06:22*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*07/04/13 06:22*	*1*

Client Sample ID: MW10A
Date Collected: 07/01/13 11:18
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		50		ug/L			07/04/13 05:53	10
1,1,1-Trichloroethane	ND		20		ug/L			07/04/13 05:53	10
1,1,2,2-Tetrachloroethane	ND		20		ug/L			07/04/13 05:53	10
1,1,2-Trichloroethane	ND		20		ug/L			07/04/13 05:53	10
1,1-Dichloroethane	ND		20		ug/L			07/04/13 05:53	10
1,1-Dichloroethene	ND		50		ug/L			07/04/13 05:53	10
1,1-Dichloropropene	ND		20		ug/L			07/04/13 05:53	10
1,2,3-Trichlorobenzene	ND		50		ug/L			07/04/13 05:53	10
1,2,3-Trichloropropane	ND		100		ug/L			07/04/13 05:53	10
1,2,4-Trichlorobenzene	ND		50		ug/L			07/04/13 05:53	10
1,2,4-Trimethylbenzene	ND		20		ug/L			07/04/13 05:53	10
1,2-Dibromo-3-Chloropropane	ND		50		ug/L			07/04/13 05:53	10
1,2-Dichlorobenzene	ND		20		ug/L			07/04/13 05:53	10
1,2-Dichloroethane	ND		20		ug/L			07/04/13 05:53	10

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW10A
Date Collected: 07/01/13 11:18
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		20		ug/L			07/04/13 05:53	10
1,3,5-Trimethylbenzene	ND		20		ug/L			07/04/13 05:53	10
1,3-Dichlorobenzene	ND		20		ug/L			07/04/13 05:53	10
1,3-Dichloropropane	ND		20		ug/L			07/04/13 05:53	10
1,4-Dichlorobenzene	ND		20		ug/L			07/04/13 05:53	10
2,2-Dichloropropane	ND		20		ug/L			07/04/13 05:53	10
2-Chlorotoluene	ND		50		ug/L			07/04/13 05:53	10
4-Chlorotoluene	ND		50		ug/L			07/04/13 05:53	10
Benzene	ND		20		ug/L			07/04/13 05:53	10
Bromobenzene	ND		50		ug/L			07/04/13 05:53	10
Bromoform	ND		50		ug/L			07/04/13 05:53	10
Bromomethane	ND		50		ug/L			07/04/13 05:53	10
Carbon tetrachloride	ND		50		ug/L			07/04/13 05:53	10
Chlorobenzene	ND		20		ug/L			07/04/13 05:53	10
Chloroethane	ND		50		ug/L			07/04/13 05:53	10
Chloroform	ND		20		ug/L			07/04/13 05:53	10
Chloromethane	ND		50		ug/L			07/04/13 05:53	10
cis-1,2-Dichloroethene	ND		20		ug/L			07/04/13 05:53	10
cis-1,3-Dichloropropene	ND		20		ug/L			07/04/13 05:53	10
Dibromomethane	ND		20		ug/L			07/04/13 05:53	10
Dichlorodifluoromethane	ND		50		ug/L			07/04/13 05:53	10
Ethylbenzene	ND		20		ug/L			07/04/13 05:53	10
Hexachlorobutadiene	ND		50		ug/L			07/04/13 05:53	10
Isopropylbenzene	ND		20		ug/L			07/04/13 05:53	10
m,p-Xylene	ND		20		ug/L			07/04/13 05:53	10
Methylene Chloride	ND		50		ug/L			07/04/13 05:53	10
Naphthalene	ND		50		ug/L			07/04/13 05:53	10
n-Butylbenzene	ND		50		ug/L			07/04/13 05:53	10
N-Propylbenzene	ND		20		ug/L			07/04/13 05:53	10
o-Xylene	ND		20		ug/L			07/04/13 05:53	10
sec-Butylbenzene	ND		50		ug/L			07/04/13 05:53	10
Styrene	ND		20		ug/L			07/04/13 05:53	10
tert-Butylbenzene	ND		50		ug/L			07/04/13 05:53	10
Tetrachloroethene	**430**		20		ug/L			07/04/13 05:53	10
Toluene	ND		20		ug/L			07/04/13 05:53	10
trans-1,2-Dichloroethene	ND		20		ug/L			07/04/13 05:53	10
trans-1,3-Dichloropropene	ND		20		ug/L			07/04/13 05:53	10
Trichloroethene	ND		20		ug/L			07/04/13 05:53	10
Trichlorofluoromethane	ND		50		ug/L			07/04/13 05:53	10
Vinyl chloride	ND		50		ug/L			07/04/13 05:53	10
1,2-Dibromoethane (EDB)	ND		20		ug/L			07/04/13 05:53	10
Bromochloromethane	ND		50		ug/L			07/04/13 05:53	10
Bromodichloromethane	ND		20		ug/L			07/04/13 05:53	10
Dibromochloromethane	ND		20		ug/L			07/04/13 05:53	10
p-Isopropyltoluene	ND		20		ug/L			07/04/13 05:53	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*80 - 120*		*07/04/13 05:53*	*10*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*07/04/13 05:53*	*10*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*07/04/13 05:53*	*10*

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW10B
Date Collected: 07/01/13 11:28
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/04/13 05:25	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/04/13 05:25	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/04/13 05:25	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/04/13 05:25	1
1,1-Dichloroethane	ND		2.0		ug/L			07/04/13 05:25	1
1,1-Dichloroethene	ND		5.0		ug/L			07/04/13 05:25	1
1,1-Dichloropropene	ND		2.0		ug/L			07/04/13 05:25	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/04/13 05:25	1
1,2,3-Trichloropropane	ND		10		ug/L			07/04/13 05:25	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/04/13 05:25	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/04/13 05:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/04/13 05:25	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/04/13 05:25	1
1,2-Dichloroethane	ND		2.0		ug/L			07/04/13 05:25	1
1,2-Dichloropropane	ND		2.0		ug/L			07/04/13 05:25	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/04/13 05:25	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/04/13 05:25	1
1,3-Dichloropropane	ND		2.0		ug/L			07/04/13 05:25	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/04/13 05:25	1
2,2-Dichloropropane	ND		2.0		ug/L			07/04/13 05:25	1
2-Chlorotoluene	ND		5.0		ug/L			07/04/13 05:25	1
4-Chlorotoluene	ND		5.0		ug/L			07/04/13 05:25	1
Benzene	ND		2.0		ug/L			07/04/13 05:25	1
Bromobenzene	ND		5.0		ug/L			07/04/13 05:25	1
Bromoform	ND		5.0		ug/L			07/04/13 05:25	1
Bromomethane	ND		5.0		ug/L			07/04/13 05:25	1
Carbon tetrachloride	ND		5.0		ug/L			07/04/13 05:25	1
Chlorobenzene	ND		2.0		ug/L			07/04/13 05:25	1
Chloroethane	ND		5.0		ug/L			07/04/13 05:25	1
Chloroform	ND		2.0		ug/L			07/04/13 05:25	1
Chloromethane	ND		5.0		ug/L			07/04/13 05:25	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/04/13 05:25	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/04/13 05:25	1
Dibromomethane	ND		2.0		ug/L			07/04/13 05:25	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/04/13 05:25	1
Ethylbenzene	ND		2.0		ug/L			07/04/13 05:25	1
Hexachlorobutadiene	ND		5.0		ug/L			07/04/13 05:25	1
Isopropylbenzene	ND		2.0		ug/L			07/04/13 05:25	1
m,p-Xylene	ND		2.0		ug/L			07/04/13 05:25	1
Methylene Chloride	ND		5.0		ug/L			07/04/13 05:25	1
Naphthalene	ND		5.0		ug/L			07/04/13 05:25	1
n-Butylbenzene	ND		5.0		ug/L			07/04/13 05:25	1
N-Propylbenzene	ND		2.0		ug/L			07/04/13 05:25	1
o-Xylene	ND		2.0		ug/L			07/04/13 05:25	1
sec-Butylbenzene	ND		5.0		ug/L			07/04/13 05:25	1
Styrene	ND		2.0		ug/L			07/04/13 05:25	1
tert-Butylbenzene	ND		5.0		ug/L			07/04/13 05:25	1
Tetrachloroethene	**17**		2.0		ug/L			07/04/13 05:25	1
Toluene	ND		2.0		ug/L			07/04/13 05:25	1

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW10B

Lab Sample ID: 440-50508-11

Date Collected: 07/01/13 11:28

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/04/13 05:25	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/04/13 05:25	1
Trichloroethene	ND		2.0		ug/L			07/04/13 05:25	1
Trichlorofluoromethane	ND		5.0		ug/L			07/04/13 05:25	1
Vinyl chloride	ND		5.0		ug/L			07/04/13 05:25	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/04/13 05:25	1
Bromochloromethane	ND		5.0		ug/L			07/04/13 05:25	1
Bromodichloromethane	ND		2.0		ug/L			07/04/13 05:25	1
Dibromochloromethane	ND		2.0		ug/L			07/04/13 05:25	1
p-Isopropyltoluene	ND		2.0		ug/L			07/04/13 05:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*80 - 120*		*07/04/13 05:25*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*07/04/13 05:25*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*07/04/13 05:25*	*1*

Client Sample ID: EW3

Lab Sample ID: 440-50508-12

Date Collected: 07/01/13 08:35

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 02:33	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 02:33	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 02:33	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 02:33	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 02:33	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 02:33	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 02:33	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 02:33	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 02:33	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 02:33	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 02:33	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 02:33	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:33	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 02:33	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 02:33	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 02:33	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:33	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 02:33	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 02:33	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 02:33	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 02:33	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 02:33	1
Benzene	ND		2.0		ug/L			07/03/13 02:33	1
Bromobenzene	ND		5.0		ug/L			07/03/13 02:33	1
Bromoform	ND		5.0		ug/L			07/03/13 02:33	1
Bromomethane	ND		5.0		ug/L			07/03/13 02:33	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 02:33	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 02:33	1

Client Sample ID: EW3

Lab Sample ID: 440-50508-12

Date Collected: 07/01/13 08:35

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		5.0		ug/L			07/03/13 02:33	1
Chloroform	ND		2.0		ug/L			07/03/13 02:33	1
Chloromethane	ND		5.0		ug/L			07/03/13 02:33	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 02:33	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 02:33	1
Dibromomethane	ND		2.0		ug/L			07/03/13 02:33	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 02:33	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 02:33	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 02:33	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 02:33	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 02:33	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 02:33	1
Naphthalene	ND		5.0		ug/L			07/03/13 02:33	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 02:33	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 02:33	1
o-Xylene	ND		2.0		ug/L			07/03/13 02:33	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 02:33	1
Styrene	ND		2.0		ug/L			07/03/13 02:33	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 02:33	1
Tetrachloroethene	**63**		2.0		ug/L			07/03/13 02:33	1
Toluene	ND		2.0		ug/L			07/03/13 02:33	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 02:33	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 02:33	1
Trichloroethene	**6.2**		2.0		ug/L			07/03/13 02:33	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 02:33	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 02:33	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 02:33	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 02:33	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 02:33	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 02:33	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 02:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*80 - 120*		*07/03/13 02:33*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*07/03/13 02:33*	*1*
Dibromofluoromethane (Surr)	*115*		*80 - 120*		*07/03/13 02:33*	*1*

Client Sample ID: EW2

Lab Sample ID: 440-50508-13

Date Collected: 07/01/13 08:50

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 03:02	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 03:02	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 03:02	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 03:02	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 03:02	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 03:02	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 03:02	1

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: EW2
Date Collected: 07/01/13 08:50
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-13
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 03:02	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 03:02	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 03:02	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 03:02	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 03:02	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:02	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 03:02	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 03:02	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 03:02	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:02	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 03:02	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:02	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 03:02	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 03:02	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 03:02	1
Benzene	ND		2.0		ug/L			07/03/13 03:02	1
Bromobenzene	ND		5.0		ug/L			07/03/13 03:02	1
Bromoform	ND		5.0		ug/L			07/03/13 03:02	1
Bromomethane	ND		5.0		ug/L			07/03/13 03:02	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 03:02	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 03:02	1
Chloroethane	ND		5.0		ug/L			07/03/13 03:02	1
Chloroform	ND		2.0		ug/L			07/03/13 03:02	1
Chloromethane	ND		5.0		ug/L			07/03/13 03:02	1
cis-1,2-Dichloroethene	**22**		2.0		ug/L			07/03/13 03:02	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 03:02	1
Dibromomethane	ND		2.0		ug/L			07/03/13 03:02	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 03:02	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 03:02	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 03:02	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 03:02	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 03:02	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 03:02	1
Naphthalene	ND		5.0		ug/L			07/03/13 03:02	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 03:02	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 03:02	1
o-Xylene	ND		2.0		ug/L			07/03/13 03:02	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 03:02	1
Styrene	ND		2.0		ug/L			07/03/13 03:02	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 03:02	1
Tetrachloroethene	**230**		2.0		ug/L			07/03/13 03:02	1
Toluene	ND		2.0		ug/L			07/03/13 03:02	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 03:02	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 03:02	1
Trichloroethene	**99**		2.0		ug/L			07/03/13 03:02	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 03:02	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 03:02	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 03:02	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 03:02	1

Client Sample ID: EW2
Lab Sample ID: 440-50508-13
Date Collected: 07/01/13 08:50
Matrix: Water
Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		2.0		ug/L			07/03/13 03:02	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 03:02	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 03:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*113*		*80 - 120*		*07/03/13 03:02*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/03/13 03:02*	*1*
Dibromofluoromethane (Surr)	*120*		*80 - 120*		*07/03/13 03:02*	*1*

Client Sample ID: MW9
Lab Sample ID: 440-50508-14
Date Collected: 07/01/13 09:20
Matrix: Water
Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 03:32	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 03:32	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 03:32	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 03:32	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 03:32	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 03:32	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 03:32	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 03:32	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 03:32	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 03:32	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 03:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 03:32	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:32	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 03:32	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 03:32	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 03:32	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:32	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 03:32	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 03:32	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 03:32	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 03:32	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 03:32	1
Benzene	ND		2.0		ug/L			07/03/13 03:32	1
Bromobenzene	ND		5.0		ug/L			07/03/13 03:32	1
Bromoform	ND		5.0		ug/L			07/03/13 03:32	1
Bromomethane	ND		5.0		ug/L			07/03/13 03:32	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 03:32	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 03:32	1
Chloroethane	ND		5.0		ug/L			07/03/13 03:32	1
Chloroform	ND		2.0		ug/L			07/03/13 03:32	1
Chloromethane	ND		5.0		ug/L			07/03/13 03:32	1
cis-1,2-Dichloroethene	**130**		2.0		ug/L			07/03/13 03:32	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 03:32	1
Dibromomethane	ND		2.0		ug/L			07/03/13 03:32	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 03:32	1

Client Sample ID: MW9
Date Collected: 07/01/13 09:20
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-14
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		2.0		ug/L			07/03/13 03:32	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 03:32	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 03:32	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 03:32	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 03:32	1
Naphthalene	ND		5.0		ug/L			07/03/13 03:32	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 03:32	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 03:32	1
o-Xylene	ND		2.0		ug/L			07/03/13 03:32	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 03:32	1
Styrene	ND		2.0		ug/L			07/03/13 03:32	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 03:32	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 03:32	1
Toluene	ND		2.0		ug/L			07/03/13 03:32	1
trans-1,2-Dichloroethene	**3.1**		2.0		ug/L			07/03/13 03:32	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 03:32	1
Trichloroethene	ND		2.0		ug/L			07/03/13 03:32	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 03:32	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 03:32	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 03:32	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 03:32	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 03:32	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 03:32	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 03:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*80 - 120*		*07/03/13 03:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*07/03/13 03:32*	*1*
Dibromofluoromethane (Surr)	*113*		*80 - 120*		*07/03/13 03:32*	*1*

Client Sample ID: EW1
Date Collected: 07/01/13 09:35
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-15
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		25		ug/L			07/03/13 21:28	5
1,1,1-Trichloroethane	ND		10		ug/L			07/03/13 21:28	5
1,1,2,2-Tetrachloroethane	ND		10		ug/L			07/03/13 21:28	5
1,1,2-Trichloroethane	ND		10		ug/L			07/03/13 21:28	5
1,1-Dichloroethane	ND		10		ug/L			07/03/13 21:28	5
1,1-Dichloroethene	ND		25		ug/L			07/03/13 21:28	5
1,1-Dichloropropene	ND		10		ug/L			07/03/13 21:28	5
1,2,3-Trichlorobenzene	ND		25		ug/L			07/03/13 21:28	5
1,2,3-Trichloropropane	ND		50		ug/L			07/03/13 21:28	5
1,2,4-Trichlorobenzene	ND		25		ug/L			07/03/13 21:28	5
1,2,4-Trimethylbenzene	ND		10		ug/L			07/03/13 21:28	5
1,2-Dibromo-3-Chloropropane	ND		25		ug/L			07/03/13 21:28	5
1,2-Dichlorobenzene	ND		10		ug/L			07/03/13 21:28	5
1,2-Dichloroethane	ND		10		ug/L			07/03/13 21:28	5

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: EW1
Date Collected: 07/01/13 09:35
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-15
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		10		ug/L			07/03/13 21:28	5
1,3,5-Trimethylbenzene	ND		10		ug/L			07/03/13 21:28	5
1,3-Dichlorobenzene	ND		10		ug/L			07/03/13 21:28	5
1,3-Dichloropropane	ND		10		ug/L			07/03/13 21:28	5
1,4-Dichlorobenzene	ND		10		ug/L			07/03/13 21:28	5
2,2-Dichloropropane	ND		10		ug/L			07/03/13 21:28	5
2-Chlorotoluene	ND		25		ug/L			07/03/13 21:28	5
4-Chlorotoluene	ND		25		ug/L			07/03/13 21:28	5
Benzene	ND		10		ug/L			07/03/13 21:28	5
Bromobenzene	ND		25		ug/L			07/03/13 21:28	5
Bromoform	ND		25		ug/L			07/03/13 21:28	5
Bromomethane	ND		25		ug/L			07/03/13 21:28	5
Carbon tetrachloride	ND		25		ug/L			07/03/13 21:28	5
Chlorobenzene	ND		10		ug/L			07/03/13 21:28	5
Chloroethane	ND		25		ug/L			07/03/13 21:28	5
Chloroform	ND		10		ug/L			07/03/13 21:28	5
Chloromethane	ND		25		ug/L			07/03/13 21:28	5
cis-1,2-Dichloroethene	ND		10		ug/L			07/03/13 21:28	5
cis-1,3-Dichloropropene	ND		10		ug/L			07/03/13 21:28	5
Dibromomethane	ND		10		ug/L			07/03/13 21:28	5
Dichlorodifluoromethane	ND		25		ug/L			07/03/13 21:28	5
Ethylbenzene	ND		10		ug/L			07/03/13 21:28	5
Hexachlorobutadiene	ND		25		ug/L			07/03/13 21:28	5
Isopropylbenzene	ND		10		ug/L			07/03/13 21:28	5
m,p-Xylene	ND		10		ug/L			07/03/13 21:28	5
Methylene Chloride	ND		25		ug/L			07/03/13 21:28	5
Naphthalene	ND		25		ug/L			07/03/13 21:28	5
n-Butylbenzene	ND		25		ug/L			07/03/13 21:28	5
N-Propylbenzene	ND		10		ug/L			07/03/13 21:28	5
o-Xylene	ND		10		ug/L			07/03/13 21:28	5
sec-Butylbenzene	ND		25		ug/L			07/03/13 21:28	5
Styrene	ND		10		ug/L			07/03/13 21:28	5
tert-Butylbenzene	ND		25		ug/L			07/03/13 21:28	5
Tetrachloroethene	**200**		10		ug/L			07/03/13 21:28	5
Toluene	ND		10		ug/L			07/03/13 21:28	5
trans-1,2-Dichloroethene	ND		10		ug/L			07/03/13 21:28	5
trans-1,3-Dichloropropene	ND		10		ug/L			07/03/13 21:28	5
Trichloroethene	**35**		10		ug/L			07/03/13 21:28	5
Trichlorofluoromethane	ND		25		ug/L			07/03/13 21:28	5
Vinyl chloride	ND		25		ug/L			07/03/13 21:28	5
1,2-Dibromoethane (EDB)	ND		10		ug/L			07/03/13 21:28	5
Bromochloromethane	ND		25		ug/L			07/03/13 21:28	5
Bromodichloromethane	ND		10		ug/L			07/03/13 21:28	5
Dibromochloromethane	ND		10		ug/L			07/03/13 21:28	5
p-Isopropyltoluene	ND		10		ug/L			07/03/13 21:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/03/13 21:28*	*5*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*		*07/03/13 21:28*	*5*
Dibromofluoromethane (Surr)	*113*		*80 - 120*		*07/03/13 21:28*	*5*

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW2
Date Collected: 07/01/13 09:50
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-16
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		50		ug/L			07/04/13 07:18	10
1,1,1-Trichloroethane	ND		20		ug/L			07/04/13 07:18	10
1,1,2,2-Tetrachloroethane	ND		20		ug/L			07/04/13 07:18	10
1,1,2-Trichloroethane	ND		20		ug/L			07/04/13 07:18	10
1,1-Dichloroethane	ND		20		ug/L			07/04/13 07:18	10
1,1-Dichloroethene	ND		50		ug/L			07/04/13 07:18	10
1,1-Dichloropropene	ND		20		ug/L			07/04/13 07:18	10
1,2,3-Trichlorobenzene	ND		50		ug/L			07/04/13 07:18	10
1,2,3-Trichloropropane	ND		100		ug/L			07/04/13 07:18	10
1,2,4-Trichlorobenzene	ND		50		ug/L			07/04/13 07:18	10
1,2,4-Trimethylbenzene	ND		20		ug/L			07/04/13 07:18	10
1,2-Dibromo-3-Chloropropane	ND		50		ug/L			07/04/13 07:18	10
1,2-Dichlorobenzene	ND		20		ug/L			07/04/13 07:18	10
1,2-Dichloroethane	ND		20		ug/L			07/04/13 07:18	10
1,2-Dichloropropane	ND		20		ug/L			07/04/13 07:18	10
1,3,5-Trimethylbenzene	ND		20		ug/L			07/04/13 07:18	10
1,3-Dichlorobenzene	ND		20		ug/L			07/04/13 07:18	10
1,3-Dichloropropane	ND		20		ug/L			07/04/13 07:18	10
1,4-Dichlorobenzene	ND		20		ug/L			07/04/13 07:18	10
2,2-Dichloropropane	ND		20		ug/L			07/04/13 07:18	10
2-Chlorotoluene	ND		50		ug/L			07/04/13 07:18	10
4-Chlorotoluene	ND		50		ug/L			07/04/13 07:18	10
Benzene	ND		20		ug/L			07/04/13 07:18	10
Bromobenzene	ND		50		ug/L			07/04/13 07:18	10
Bromoform	ND		50		ug/L			07/04/13 07:18	10
Bromomethane	ND		50		ug/L			07/04/13 07:18	10
Carbon tetrachloride	ND		50		ug/L			07/04/13 07:18	10
Chlorobenzene	ND		20		ug/L			07/04/13 07:18	10
Chloroethane	ND		50		ug/L			07/04/13 07:18	10
Chloroform	ND		20		ug/L			07/04/13 07:18	10
Chloromethane	ND		50		ug/L			07/04/13 07:18	10
cis-1,2-Dichloroethene	ND		20		ug/L			07/04/13 07:18	10
cis-1,3-Dichloropropene	ND		20		ug/L			07/04/13 07:18	10
Dibromomethane	ND		20		ug/L			07/04/13 07:18	10
Dichlorodifluoromethane	ND		50		ug/L			07/04/13 07:18	10
Ethylbenzene	ND		20		ug/L			07/04/13 07:18	10
Hexachlorobutadiene	ND		50		ug/L			07/04/13 07:18	10
Isopropylbenzene	ND		20		ug/L			07/04/13 07:18	10
m,p-Xylene	ND		20		ug/L			07/04/13 07:18	10
Methylene Chloride	ND		50		ug/L			07/04/13 07:18	10
Naphthalene	ND		50		ug/L			07/04/13 07:18	10
n-Butylbenzene	ND		50		ug/L			07/04/13 07:18	10
N-Propylbenzene	ND		20		ug/L			07/04/13 07:18	10
o-Xylene	ND		20		ug/L			07/04/13 07:18	10
sec-Butylbenzene	ND		50		ug/L			07/04/13 07:18	10
Styrene	ND		20		ug/L			07/04/13 07:18	10
tert-Butylbenzene	ND		50		ug/L			07/04/13 07:18	10
Tetrachloroethene	**470**		20		ug/L			07/04/13 07:18	10
Toluene	ND		20		ug/L			07/04/13 07:18	10

Client Sample ID: MW2

Lab Sample ID: 440-50508-16

Date Collected: 07/01/13 09:50

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		20		ug/L			07/04/13 07:18	10
trans-1,3-Dichloropropene	ND		20		ug/L			07/04/13 07:18	10
Trichloroethene	**49**		20		ug/L			07/04/13 07:18	10
Trichlorofluoromethane	ND		50		ug/L			07/04/13 07:18	10
Vinyl chloride	ND		50		ug/L			07/04/13 07:18	10
1,2-Dibromoethane (EDB)	ND		20		ug/L			07/04/13 07:18	10
Bromochloromethane	ND		50		ug/L			07/04/13 07:18	10
Bromodichloromethane	ND		20		ug/L			07/04/13 07:18	10
Dibromochloromethane	ND		20		ug/L			07/04/13 07:18	10
p-Isopropyltoluene	ND		20		ug/L			07/04/13 07:18	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*112*		*80 - 120*		*07/04/13 07:18*	*10*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*07/04/13 07:18*	*10*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*07/04/13 07:18*	*10*

Client Sample ID: MW4

Lab Sample ID: 440-50508-17

Date Collected: 07/01/13 10:03

Matrix: Water

Date Received: 07/01/13 18:25

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		50		ug/L			07/04/13 07:47	10
1,1,1-Trichloroethane	ND		20		ug/L			07/04/13 07:47	10
1,1,2,2-Tetrachloroethane	ND		20		ug/L			07/04/13 07:47	10
1,1,2-Trichloroethane	ND		20		ug/L			07/04/13 07:47	10
1,1-Dichloroethane	ND		20		ug/L			07/04/13 07:47	10
1,1-Dichloroethene	ND		50		ug/L			07/04/13 07:47	10
1,1-Dichloropropene	ND		20		ug/L			07/04/13 07:47	10
1,2,3-Trichlorobenzene	ND		50		ug/L			07/04/13 07:47	10
1,2,3-Trichloropropane	ND		100		ug/L			07/04/13 07:47	10
1,2,4-Trichlorobenzene	ND		50		ug/L			07/04/13 07:47	10
1,2,4-Trimethylbenzene	ND		20		ug/L			07/04/13 07:47	10
1,2-Dibromo-3-Chloropropane	ND		50		ug/L			07/04/13 07:47	10
1,2-Dichlorobenzene	ND		20		ug/L			07/04/13 07:47	10
1,2-Dichloroethane	ND		20		ug/L			07/04/13 07:47	10
1,2-Dichloropropane	ND		20		ug/L			07/04/13 07:47	10
1,3,5-Trimethylbenzene	ND		20		ug/L			07/04/13 07:47	10
1,3-Dichlorobenzene	ND		20		ug/L			07/04/13 07:47	10
1,3-Dichloropropane	ND		20		ug/L			07/04/13 07:47	10
1,4-Dichlorobenzene	ND		20		ug/L			07/04/13 07:47	10
2,2-Dichloropropane	ND		20		ug/L			07/04/13 07:47	10
2-Chlorotoluene	ND		50		ug/L			07/04/13 07:47	10
4-Chlorotoluene	ND		50		ug/L			07/04/13 07:47	10
Benzene	ND		20		ug/L			07/04/13 07:47	10
Bromobenzene	ND		50		ug/L			07/04/13 07:47	10
Bromoform	ND		50		ug/L			07/04/13 07:47	10
Bromomethane	ND		50		ug/L			07/04/13 07:47	10
Carbon tetrachloride	ND		50		ug/L			07/04/13 07:47	10
Chlorobenzene	ND		20		ug/L			07/04/13 07:47	10

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW4
Date Collected: 07/01/13 10:03
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-17
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		50		ug/L			07/04/13 07:47	10
Chloroform	ND		20		ug/L			07/04/13 07:47	10
Chloromethane	ND		50		ug/L			07/04/13 07:47	10
cis-1,2-Dichloroethene	**70**		20		ug/L			07/04/13 07:47	10
cis-1,3-Dichloropropene	ND		20		ug/L			07/04/13 07:47	10
Dibromomethane	ND		20		ug/L			07/04/13 07:47	10
Dichlorodifluoromethane	ND		50		ug/L			07/04/13 07:47	10
Ethylbenzene	ND		20		ug/L			07/04/13 07:47	10
Hexachlorobutadiene	ND		50		ug/L			07/04/13 07:47	10
Isopropylbenzene	ND		20		ug/L			07/04/13 07:47	10
m,p-Xylene	ND		20		ug/L			07/04/13 07:47	10
Methylene Chloride	ND		50		ug/L			07/04/13 07:47	10
Naphthalene	ND		50		ug/L			07/04/13 07:47	10
n-Butylbenzene	ND		50		ug/L			07/04/13 07:47	10
N-Propylbenzene	ND		20		ug/L			07/04/13 07:47	10
o-Xylene	ND		20		ug/L			07/04/13 07:47	10
sec-Butylbenzene	ND		50		ug/L			07/04/13 07:47	10
Styrene	ND		20		ug/L			07/04/13 07:47	10
tert-Butylbenzene	ND		50		ug/L			07/04/13 07:47	10
Tetrachloroethene	**580**		20		ug/L			07/04/13 07:47	10
Toluene	ND		20		ug/L			07/04/13 07:47	10
trans-1,2-Dichloroethene	ND		20		ug/L			07/04/13 07:47	10
trans-1,3-Dichloropropene	ND		20		ug/L			07/04/13 07:47	10
Trichloroethene	**110**		20		ug/L			07/04/13 07:47	10
Trichlorofluoromethane	ND		50		ug/L			07/04/13 07:47	10
Vinyl chloride	ND		50		ug/L			07/04/13 07:47	10
1,2-Dibromoethane (EDB)	ND		20		ug/L			07/04/13 07:47	10
Bromochloromethane	ND		50		ug/L			07/04/13 07:47	10
Bromodichloromethane	ND		20		ug/L			07/04/13 07:47	10
Dibromochloromethane	ND		20		ug/L			07/04/13 07:47	10
p-Isopropyltoluene	ND		20		ug/L			07/04/13 07:47	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*112*		*80 - 120*		*07/04/13 07:47*	*10*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*07/04/13 07:47*	*10*
Dibromofluoromethane (Surr)	*111*		*80 - 120*		*07/04/13 07:47*	*10*

Method Summary

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: TB1

Lab Sample ID: 440-50508-1

Date Collected: 07/01/13 07:00
Matrix: Water
Date Received: 07/01/13 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115313	07/03/13 02:31	NS	TAL IRV

Client Sample ID: MW1

Lab Sample ID: 440-50508-2

Date Collected: 07/01/13 11:40
Matrix: Water
Date Received: 07/01/13 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	115578	07/03/13 20:58	MP	TAL IRV

Client Sample ID: MW8

Lab Sample ID: 440-50508-3

Date Collected: 07/01/13 07:45
Matrix: Water
Date Received: 07/01/13 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115407	07/03/13 13:54	TN	TAL IRV

Client Sample ID: MW7

Lab Sample ID: 440-50508-4

Date Collected: 07/01/13 08:05
Matrix: Water
Date Received: 07/01/13 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115313	07/03/13 03:58	NS	TAL IRV

Client Sample ID: MW3

Lab Sample ID: 440-50508-5

Date Collected: 07/01/13 08:25
Matrix: Water
Date Received: 07/01/13 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115313	07/03/13 04:27	NS	TAL IRV

Client Sample ID: MW6

Lab Sample ID: 440-50508-6

Date Collected: 07/01/13 10:18
Matrix: Water
Date Received: 07/01/13 18:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115313	07/03/13 04:56	NS	TAL IRV

Lab Chronicle

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: MW5

Date Collected: 07/01/13 10:35
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115321	07/03/13 02:03	MP	TAL IRV

Client Sample ID: MW11A

Date Collected: 07/01/13 10:49
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	10 mL	10 mL	115606	07/04/13 06:50	MR	TAL IRV

Client Sample ID: MW11B

Date Collected: 07/01/13 10:57
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115606	07/04/13 06:22	MR	TAL IRV

Client Sample ID: MW10A

Date Collected: 07/01/13 11:18
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	115606	07/04/13 05:53	MR	TAL IRV

Client Sample ID: MW10B

Date Collected: 07/01/13 11:28
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115606	07/04/13 05:25	MR	TAL IRV

Client Sample ID: EW3

Date Collected: 07/01/13 08:35
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115321	07/03/13 02:33	MP	TAL IRV

Lab Chronicle

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Client Sample ID: EW2

Date Collected: 07/01/13 08:50
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115321	07/03/13 03:02	MP	TAL IRV

Client Sample ID: MW9

Date Collected: 07/01/13 09:20
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	115321	07/03/13 03:32	MP	TAL IRV

Client Sample ID: EW1

Date Collected: 07/01/13 09:35
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	10 mL	10 mL	115578	07/03/13 21:28	MP	TAL IRV

Client Sample ID: MW2

Date Collected: 07/01/13 09:50
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-16
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	115606	07/04/13 07:18	MR	TAL IRV

Client Sample ID: MW4

Date Collected: 07/01/13 10:03
Date Received: 07/01/13 18:25

Lab Sample ID: 440-50508-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	115606	07/04/13 07:47	MR	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-115313/4
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/02/13 18:46	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/02/13 18:46	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/02/13 18:46	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/02/13 18:46	1
1,1-Dichloroethane	ND		2.0		ug/L			07/02/13 18:46	1
1,1-Dichloroethene	ND		5.0		ug/L			07/02/13 18:46	1
1,1-Dichloropropene	ND		2.0		ug/L			07/02/13 18:46	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/02/13 18:46	1
1,2,3-Trichloropropane	ND		10		ug/L			07/02/13 18:46	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/02/13 18:46	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/02/13 18:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/02/13 18:46	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/02/13 18:46	1
1,2-Dichloroethane	ND		2.0		ug/L			07/02/13 18:46	1
1,2-Dichloropropane	ND		2.0		ug/L			07/02/13 18:46	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/02/13 18:46	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/02/13 18:46	1
1,3-Dichloropropane	ND		2.0		ug/L			07/02/13 18:46	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/02/13 18:46	1
2,2-Dichloropropane	ND		2.0		ug/L			07/02/13 18:46	1
2-Chlorotoluene	ND		5.0		ug/L			07/02/13 18:46	1
4-Chlorotoluene	ND		5.0		ug/L			07/02/13 18:46	1
Benzene	ND		2.0		ug/L			07/02/13 18:46	1
Bromobenzene	ND		5.0		ug/L			07/02/13 18:46	1
Bromoform	ND		5.0		ug/L			07/02/13 18:46	1
Bromomethane	ND		5.0		ug/L			07/02/13 18:46	1
Carbon tetrachloride	ND		5.0		ug/L			07/02/13 18:46	1
Chlorobenzene	ND		2.0		ug/L			07/02/13 18:46	1
Chloroethane	ND		5.0		ug/L			07/02/13 18:46	1
Chloroform	ND		2.0		ug/L			07/02/13 18:46	1
Chloromethane	ND		5.0		ug/L			07/02/13 18:46	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/02/13 18:46	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/02/13 18:46	1
Dibromomethane	ND		2.0		ug/L			07/02/13 18:46	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/02/13 18:46	1
Ethylbenzene	ND		2.0		ug/L			07/02/13 18:46	1
Hexachlorobutadiene	ND		5.0		ug/L			07/02/13 18:46	1
Isopropylbenzene	ND		2.0		ug/L			07/02/13 18:46	1
m,p-Xylene	ND		2.0		ug/L			07/02/13 18:46	1
Methylene Chloride	ND		5.0		ug/L			07/02/13 18:46	1
Naphthalene	ND		5.0		ug/L			07/02/13 18:46	1
n-Butylbenzene	ND		5.0		ug/L			07/02/13 18:46	1
N-Propylbenzene	ND		2.0		ug/L			07/02/13 18:46	1
o-Xylene	ND		2.0		ug/L			07/02/13 18:46	1
sec-Butylbenzene	ND		5.0		ug/L			07/02/13 18:46	1
Styrene	ND		2.0		ug/L			07/02/13 18:46	1
tert-Butylbenzene	ND		5.0		ug/L			07/02/13 18:46	1
Tetrachloroethene	ND		2.0		ug/L			07/02/13 18:46	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-115313/4
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		2.0		ug/L			07/02/13 18:46	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/02/13 18:46	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/02/13 18:46	1
Trichloroethene	ND		2.0		ug/L			07/02/13 18:46	1
Trichlorofluoromethane	ND		5.0		ug/L			07/02/13 18:46	1
Vinyl chloride	ND		5.0		ug/L			07/02/13 18:46	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/02/13 18:46	1
Bromochloromethane	ND		5.0		ug/L			07/02/13 18:46	1
Bromodichloromethane	ND		2.0		ug/L			07/02/13 18:46	1
Dibromochloromethane	ND		2.0		ug/L			07/02/13 18:46	1
p-Isopropyltoluene	ND		2.0		ug/L			07/02/13 18:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/02/13 18:46*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*07/02/13 18:46*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*07/02/13 18:46*	*1*

Lab Sample ID: LCS 440-115313/5
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	28.8		ug/L		115	70 - 130
1,1,1-Trichloroethane	25.0	22.8		ug/L		91	65 - 135
1,1,2,2-Tetrachloroethane	25.0	26.2		ug/L		105	55 - 130
1,1,2-Trichloroethane	25.0	24.4		ug/L		98	70 - 125
1,1-Dichloroethane	25.0	21.4		ug/L		85	70 - 125
1,1-Dichloroethene	25.0	25.6		ug/L		102	70 - 125
1,1-Dichloropropene	25.0	21.1		ug/L		84	75 - 130
1,2,3-Trichlorobenzene	25.0	26.8		ug/L		107	65 - 125
1,2,3-Trichloropropane	25.0	23.0		ug/L		92	60 - 130
1,2,4-Trichlorobenzene	25.0	27.3		ug/L		109	70 - 135
1,2,4-Trimethylbenzene	25.0	24.2		ug/L		97	75 - 125
1,2-Dibromo-3-Chloropropane	25.0	21.2		ug/L		85	50 - 135
1,2-Dichlorobenzene	25.0	26.7		ug/L		107	75 - 120
1,2-Dichloroethane	25.0	24.7		ug/L		99	60 - 140
1,2-Dichloropropane	25.0	22.4		ug/L		90	70 - 125
1,3,5-Trimethylbenzene	25.0	23.3		ug/L		93	75 - 125
1,3-Dichlorobenzene	25.0	26.0		ug/L		104	75 - 120
1,3-Dichloropropane	25.0	23.6		ug/L		94	70 - 120
1,4-Dichlorobenzene	25.0	26.2		ug/L		105	75 - 120
2,2-Dichloropropane	25.0	19.1		ug/L		76	65 - 140
2-Chlorotoluene	25.0	21.4		ug/L		86	70 - 125
4-Chlorotoluene	25.0	22.1		ug/L		88	75 - 125
Benzene	25.0	19.7		ug/L		79	70 - 120
Bromobenzene	25.0	27.0		ug/L		108	75 - 120
Bromoform	25.0	31.6		ug/L		126	55 - 130
Bromomethane	25.0	28.9		ug/L		116	65 - 140

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-115313/5
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	25.0	24.7		ug/L		99	65 - 140
Chlorobenzene	25.0	25.4		ug/L		102	75 - 120
Chloroethane	25.0	25.1		ug/L		100	60 - 140
Chloroform	25.0	22.8		ug/L		91	70 - 130
Chloromethane	25.0	27.0		ug/L		108	50 - 140
cis-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 125
cis-1,3-Dichloropropene	25.0	23.6		ug/L		95	75 - 125
Dibromomethane	25.0	25.9		ug/L		103	70 - 125
Dichlorodifluoromethane	25.0	24.7		ug/L		99	35 - 155
Ethylbenzene	25.0	23.2		ug/L		93	75 - 125
Hexachlorobutadiene	25.0	23.9		ug/L		96	65 - 135
Isopropylbenzene	25.0	24.3		ug/L		97	75 - 130
m,p-Xylene	50.0	50.7		ug/L		101	75 - 125
Methylene Chloride	25.0	22.8		ug/L		91	55 - 130
Naphthalene	25.0	27.3		ug/L		109	55 - 135
n-Butylbenzene	25.0	21.0		ug/L		84	70 - 130
N-Propylbenzene	25.0	21.2		ug/L		85	75 - 130
o-Xylene	25.0	25.0		ug/L		100	75 - 125
sec-Butylbenzene	25.0	22.7		ug/L		91	70 - 125
Styrene	25.0	24.0		ug/L		96	75 - 130
tert-Butylbenzene	25.0	22.5		ug/L		90	70 - 125
Tetrachloroethene	25.0	25.5		ug/L		102	70 - 125
Toluene	25.0	21.7		ug/L		87	70 - 120
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	70 - 125
trans-1,3-Dichloropropene	25.0	24.3		ug/L		97	70 - 125
Trichloroethene	25.0	25.2		ug/L		101	70 - 125
Trichlorofluoromethane	25.0	29.8		ug/L		119	65 - 145
Vinyl chloride	25.0	27.5		ug/L		110	55 - 135
1,2-Dibromoethane (EDB)	25.0	28.6		ug/L		114	75 - 125
Bromochloromethane	25.0	29.7		ug/L		119	70 - 130
Bromodichloromethane	25.0	24.1		ug/L		96	70 - 135
Dibromochloromethane	25.0	27.0		ug/L		108	70 - 140
p-Isopropyltoluene	25.0	22.8		ug/L		91	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*

Lab Sample ID: 440-50103-A-1 MS
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	30.0		ug/L		120	65 - 140
1,1,1-Trichloroethane	ND		25.0	23.2		ug/L		93	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	25.2		ug/L		101	55 - 135
1,1,2-Trichloroethane	ND		25.0	23.7		ug/L		95	65 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50103-A-1 MS
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		25.0	22.1		ug/L		88	65 - 130
1,1-Dichloroethene	ND		25.0	25.3		ug/L		101	60 - 130
1,1-Dichloropropene	ND		25.0	20.9		ug/L		84	70 - 135
1,2,3-Trichlorobenzene	ND		25.0	24.3		ug/L		97	60 - 135
1,2,3-Trichloropropane	ND		25.0	21.5		ug/L		86	55 - 135
1,2,4-Trichlorobenzene	ND		25.0	26.0		ug/L		104	65 - 135
1,2,4-Trimethylbenzene	ND		25.0	24.7		ug/L		99	55 - 135
1,2-Dibromo-3-Chloropropane	ND		25.0	18.7		ug/L		75	45 - 145
1,2-Dichlorobenzene	ND		25.0	26.3		ug/L		105	75 - 125
1,2-Dichloroethane	ND		25.0	24.2		ug/L		97	60 - 140
1,2-Dichloropropane	ND		25.0	22.2		ug/L		89	65 - 130
1,3,5-Trimethylbenzene	ND		25.0	23.2		ug/L		93	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.2		ug/L		105	75 - 125
1,3-Dichloropropane	ND		25.0	24.5		ug/L		98	65 - 135
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	75 - 125
2,2-Dichloropropane	ND		25.0	19.5		ug/L		78	60 - 145
2-Chlorotoluene	ND		25.0	21.8		ug/L		87	65 - 135
4-Chlorotoluene	ND		25.0	22.0		ug/L		88	70 - 135
Benzene	ND		25.0	19.4		ug/L		78	65 - 125
Bromobenzene	ND		25.0	27.4		ug/L		110	70 - 125
Bromoform	ND		25.0	31.9		ug/L		128	55 - 135
Bromomethane	ND		25.0	29.1		ug/L		116	55 - 145
Carbon tetrachloride	ND		25.0	25.0		ug/L		100	65 - 140
Chlorobenzene	ND		25.0	26.4		ug/L		106	75 - 125
Chloroethane	ND		25.0	23.3		ug/L		93	55 - 140
Chloroform	ND		25.0	22.9		ug/L		91	65 - 135
Chloromethane	ND		25.0	28.8		ug/L		115	45 - 145
cis-1,2-Dichloroethene	ND		25.0	26.3		ug/L		105	65 - 130
cis-1,3-Dichloropropene	ND		25.0	23.4		ug/L		94	70 - 130
Dibromomethane	ND		25.0	25.6		ug/L		102	65 - 135
Dichlorodifluoromethane	ND		25.0	24.3		ug/L		97	25 - 155
Ethylbenzene	ND		25.0	24.1		ug/L		96	65 - 130
Hexachlorobutadiene	ND		25.0	21.9		ug/L		88	60 - 135
Isopropylbenzene	ND		25.0	24.7		ug/L		99	70 - 135
m,p-Xylene	ND		50.0	52.5		ug/L		105	65 - 130
Methylene Chloride	ND		25.0	23.6		ug/L		94	50 - 135
Naphthalene	ND		25.0	24.1		ug/L		96	50 - 140
n-Butylbenzene	ND		25.0	20.5		ug/L		82	65 - 135
N-Propylbenzene	ND		25.0	21.4		ug/L		86	70 - 135
o-Xylene	ND		25.0	26.0		ug/L		104	65 - 125
sec-Butylbenzene	ND		25.0	22.5		ug/L		90	70 - 125
Styrene	ND		25.0	19.9		ug/L		80	50 - 145
tert-Butylbenzene	ND		25.0	23.1		ug/L		92	65 - 130
Tetrachloroethene	ND		25.0	26.7		ug/L		107	65 - 130
Toluene	ND		25.0	21.6		ug/L		86	70 - 125
trans-1,2-Dichloroethene	ND		25.0	25.3		ug/L		101	65 - 130
trans-1,3-Dichloropropene	ND		25.0	25.0		ug/L		100	65 - 135
Trichloroethene	ND		25.0	24.6		ug/L		98	65 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50103-A-1 MS
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	ND		25.0	29.9		ug/L		120	60 - 145
Vinyl chloride	ND		25.0	27.5		ug/L		110	45 - 140
1,2-Dibromoethane (EDB)	ND		25.0	28.6		ug/L		114	70 - 130
Bromochloromethane	ND		25.0	28.8		ug/L		115	65 - 135
Bromodichloromethane	ND		25.0	24.7		ug/L		99	70 - 135
Dibromochloromethane	ND		25.0	28.4		ug/L		113	65 - 140
p-Isopropyltoluene	ND		25.0	22.9		ug/L		92	65 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*80 - 120*

Lab Sample ID: 440-50103-A-1 MSD
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	30.4		ug/L		122	65 - 140	1	20
1,1,1-Trichloroethane	ND		25.0	24.6		ug/L		99	65 - 140	6	20
1,1,2,2-Tetrachloroethane	ND		25.0	29.1		ug/L		116	55 - 135	14	30
1,1,2-Trichloroethane	ND		25.0	27.2		ug/L		109	65 - 130	14	25
1,1-Dichloroethane	ND		25.0	22.8		ug/L		91	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	26.9		ug/L		108	60 - 130	6	20
1,1-Dichloropropene	ND		25.0	22.1		ug/L		89	70 - 135	6	20
1,2,3-Trichlorobenzene	ND		25.0	27.1		ug/L		108	60 - 135	11	20
1,2,3-Trichloropropane	ND		25.0	24.9		ug/L		100	55 - 135	14	30
1,2,4-Trichlorobenzene	ND		25.0	27.8		ug/L		111	65 - 135	7	20
1,2,4-Trimethylbenzene	ND		25.0	24.8		ug/L		99	55 - 135	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	21.9		ug/L		88	45 - 145	16	30
1,2-Dichlorobenzene	ND		25.0	27.0		ug/L		108	75 - 125	3	20
1,2-Dichloroethane	ND		25.0	27.0		ug/L		108	60 - 140	11	20
1,2-Dichloropropane	ND		25.0	23.6		ug/L		94	65 - 130	6	20
1,3,5-Trimethylbenzene	ND		25.0	23.6		ug/L		94	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	26.5		ug/L		106	75 - 125	1	20
1,3-Dichloropropane	ND		25.0	25.5		ug/L		102	65 - 135	4	25
1,4-Dichlorobenzene	ND		25.0	26.8		ug/L		107	75 - 125	2	20
2,2-Dichloropropane	ND		25.0	20.7		ug/L		83	60 - 145	6	25
2-Chlorotoluene	ND		25.0	22.0		ug/L		88	65 - 135	1	20
4-Chlorotoluene	ND		25.0	22.3		ug/L		89	70 - 135	1	20
Benzene	ND		25.0	20.5		ug/L		82	65 - 125	5	20
Bromobenzene	ND		25.0	28.1		ug/L		113	70 - 125	2	20
Bromoform	ND		25.0	34.6	F	ug/L		138	55 - 135	8	25
Bromomethane	ND		25.0	30.6		ug/L		123	55 - 145	5	25
Carbon tetrachloride	ND		25.0	26.6		ug/L		106	65 - 140	6	25
Chlorobenzene	ND		25.0	25.9		ug/L		104	75 - 125	2	20
Chloroethane	ND		25.0	25.3		ug/L		101	55 - 140	8	25
Chloroform	ND		25.0	24.8		ug/L		99	65 - 135	8	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50103-A-1 MSD
Matrix: Water
Analysis Batch: 115313

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	ND		25.0	30.0		ug/L		120	45 - 145	4	25
cis-1,2-Dichloroethene	ND		25.0	28.3		ug/L		113	65 - 130	7	20
cis-1,3-Dichloropropene	ND		25.0	25.6		ug/L		102	70 - 130	9	20
Dibromomethane	ND		25.0	28.9		ug/L		115	65 - 135	12	25
Dichlorodifluoromethane	ND		25.0	25.9		ug/L		104	25 - 155	6	30
Ethylbenzene	ND		25.0	23.9		ug/L		96	65 - 130	1	20
Hexachlorobutadiene	ND		25.0	23.7		ug/L		95	60 - 135	8	20
Isopropylbenzene	ND		25.0	24.8		ug/L		99	70 - 135	1	20
m,p-Xylene	ND		50.0	51.6		ug/L		103	65 - 130	2	25
Methylene Chloride	ND		25.0	24.6		ug/L		99	50 - 135	4	20
Naphthalene	ND		25.0	28.6		ug/L		114	50 - 140	17	30
n-Butylbenzene	ND		25.0	21.1		ug/L		84	65 - 135	3	20
N-Propylbenzene	ND		25.0	21.7		ug/L		87	70 - 135	1	20
o-Xylene	ND		25.0	26.3		ug/L		105	65 - 125	1	20
sec-Butylbenzene	ND		25.0	22.7		ug/L		91	70 - 125	1	20
Styrene	ND		25.0	20.6		ug/L		82	50 - 145	4	30
tert-Butylbenzene	ND		25.0	23.3		ug/L		93	65 - 130	1	20
Tetrachloroethene	ND		25.0	27.2		ug/L		109	65 - 130	2	20
Toluene	ND		25.0	22.8		ug/L		91	70 - 125	6	20
trans-1,2-Dichloroethene	ND		25.0	26.4		ug/L		106	65 - 130	4	20
trans-1,3-Dichloropropene	ND		25.0	27.4		ug/L		110	65 - 135	9	25
Trichloroethene	ND		25.0	25.7		ug/L		103	65 - 125	4	20
Trichlorofluoromethane	ND		25.0	31.9		ug/L		128	60 - 145	6	25
Vinyl chloride	ND		25.0	28.1		ug/L		112	45 - 140	2	30
1,2-Dibromoethane (EDB)	ND		25.0	31.1		ug/L		124	70 - 130	8	25
Bromochloromethane	ND		25.0	31.6		ug/L		126	65 - 135	9	25
Bromodichloromethane	ND		25.0	26.5		ug/L		106	70 - 135	7	20
Dibromochloromethane	ND		25.0	30.6		ug/L		122	65 - 140	8	25
p-Isopropyltoluene	ND		25.0	23.1		ug/L		92	65 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*106*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*108*		*80 - 120*

Lab Sample ID: MB 440-115321/4
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/02/13 19:00	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/02/13 19:00	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/02/13 19:00	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/02/13 19:00	1
1,1-Dichloroethane	ND		2.0		ug/L			07/02/13 19:00	1
1,1-Dichloroethene	ND		5.0		ug/L			07/02/13 19:00	1
1,1-Dichloropropene	ND		2.0		ug/L			07/02/13 19:00	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/02/13 19:00	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-115321/4
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		10		ug/L			07/02/13 19:00	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/02/13 19:00	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/02/13 19:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/02/13 19:00	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/02/13 19:00	1
1,2-Dichloroethane	ND		2.0		ug/L			07/02/13 19:00	1
1,2-Dichloropropane	ND		2.0		ug/L			07/02/13 19:00	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/02/13 19:00	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/02/13 19:00	1
1,3-Dichloropropane	ND		2.0		ug/L			07/02/13 19:00	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/02/13 19:00	1
2,2-Dichloropropane	ND		2.0		ug/L			07/02/13 19:00	1
2-Chlorotoluene	ND		5.0		ug/L			07/02/13 19:00	1
4-Chlorotoluene	ND		5.0		ug/L			07/02/13 19:00	1
Benzene	ND		2.0		ug/L			07/02/13 19:00	1
Bromobenzene	ND		5.0		ug/L			07/02/13 19:00	1
Bromoform	ND		5.0		ug/L			07/02/13 19:00	1
Bromomethane	ND		5.0		ug/L			07/02/13 19:00	1
Carbon tetrachloride	ND		5.0		ug/L			07/02/13 19:00	1
Chlorobenzene	ND		2.0		ug/L			07/02/13 19:00	1
Chloroethane	ND		5.0		ug/L			07/02/13 19:00	1
Chloroform	ND		2.0		ug/L			07/02/13 19:00	1
Chloromethane	ND		5.0		ug/L			07/02/13 19:00	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/02/13 19:00	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/02/13 19:00	1
Dibromomethane	ND		2.0		ug/L			07/02/13 19:00	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/02/13 19:00	1
Ethylbenzene	ND		2.0		ug/L			07/02/13 19:00	1
Hexachlorobutadiene	ND		5.0		ug/L			07/02/13 19:00	1
Isopropylbenzene	ND		2.0		ug/L			07/02/13 19:00	1
m,p-Xylene	ND		2.0		ug/L			07/02/13 19:00	1
Methylene Chloride	ND		5.0		ug/L			07/02/13 19:00	1
Naphthalene	ND		5.0		ug/L			07/02/13 19:00	1
n-Butylbenzene	ND		5.0		ug/L			07/02/13 19:00	1
N-Propylbenzene	ND		2.0		ug/L			07/02/13 19:00	1
o-Xylene	ND		2.0		ug/L			07/02/13 19:00	1
sec-Butylbenzene	ND		5.0		ug/L			07/02/13 19:00	1
Styrene	ND		2.0		ug/L			07/02/13 19:00	1
tert-Butylbenzene	ND		5.0		ug/L			07/02/13 19:00	1
Tetrachloroethene	ND		2.0		ug/L			07/02/13 19:00	1
Toluene	ND		2.0		ug/L			07/02/13 19:00	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/02/13 19:00	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/02/13 19:00	1
Trichloroethene	ND		2.0		ug/L			07/02/13 19:00	1
Trichlorofluoromethane	ND		5.0		ug/L			07/02/13 19:00	1
Vinyl chloride	ND		5.0		ug/L			07/02/13 19:00	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/02/13 19:00	1
Bromochloromethane	ND		5.0		ug/L			07/02/13 19:00	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-115321/4
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		2.0		ug/L			07/02/13 19:00	1
Dibromochloromethane	ND		2.0		ug/L			07/02/13 19:00	1
p-Isopropyltoluene	ND		2.0		ug/L			07/02/13 19:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*108*		*80 - 120*		*07/02/13 19:00*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*07/02/13 19:00*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*07/02/13 19:00*	*1*

Lab Sample ID: LCS 440-115321/5
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	27.8		ug/L		111	70 - 130
1,1,1-Trichloroethane	25.0	22.4		ug/L		89	65 - 135
1,1,2,2-Tetrachloroethane	25.0	21.5		ug/L		86	55 - 130
1,1,2-Trichloroethane	25.0	23.0		ug/L		92	70 - 125
1,1-Dichloroethane	25.0	20.6		ug/L		82	70 - 125
1,1-Dichloroethene	25.0	21.3		ug/L		85	70 - 125
1,1-Dichloropropene	25.0	20.5		ug/L		82	75 - 130
1,2,3-Trichlorobenzene	25.0	23.4		ug/L		93	65 - 125
1,2,3-Trichloropropane	25.0	21.1		ug/L		84	60 - 130
1,2,4-Trichlorobenzene	25.0	23.9		ug/L		96	70 - 135
1,2,4-Trimethylbenzene	25.0	23.5		ug/L		94	75 - 125
1,2-Dibromo-3-Chloropropane	25.0	20.5		ug/L		82	50 - 135
1,2-Dichlorobenzene	25.0	23.7		ug/L		95	75 - 120
1,2-Dichloroethane	25.0	26.6		ug/L		106	60 - 140
1,2-Dichloropropane	25.0	21.8		ug/L		87	70 - 125
1,3,5-Trimethylbenzene	25.0	23.6		ug/L		94	75 - 125
1,3-Dichlorobenzene	25.0	24.9		ug/L		99	75 - 120
1,3-Dichloropropane	25.0	23.5		ug/L		94	70 - 120
1,4-Dichlorobenzene	25.0	24.5		ug/L		98	75 - 120
2,2-Dichloropropane	25.0	23.3		ug/L		93	65 - 140
2-Chlorotoluene	25.0	22.9		ug/L		92	70 - 125
4-Chlorotoluene	25.0	23.5		ug/L		94	75 - 125
Benzene	25.0	21.8		ug/L		87	70 - 120
Bromobenzene	25.0	24.1		ug/L		96	75 - 120
Bromoform	25.0	28.6		ug/L		114	55 - 130
Bromomethane	25.0	18.6		ug/L		74	65 - 140
Carbon tetrachloride	25.0	28.4		ug/L		114	65 - 140
Chlorobenzene	25.0	24.1		ug/L		97	75 - 120
Chloroethane	25.0	19.2		ug/L		77	60 - 140
Chloroform	25.0	22.9		ug/L		92	70 - 130
Chloromethane	25.0	21.3		ug/L		85	50 - 140
cis-1,2-Dichloroethene	25.0	20.8		ug/L		83	70 - 125
cis-1,3-Dichloropropene	25.0	24.4		ug/L		98	75 - 125
Dibromomethane	25.0	24.3		ug/L		97	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-115321/5
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	25.0	15.9		ug/L		64	35 - 155
Ethylbenzene	25.0	23.0		ug/L		92	75 - 125
Hexachlorobutadiene	25.0	26.0		ug/L		104	65 - 135
Isopropylbenzene	25.0	23.2		ug/L		93	75 - 130
m,p-Xylene	50.0	46.2		ug/L		92	75 - 125
Methylene Chloride	25.0	22.4		ug/L		90	55 - 130
Naphthalene	25.0	22.9		ug/L		92	55 - 135
n-Butylbenzene	25.0	23.1		ug/L		93	70 - 130
N-Propylbenzene	25.0	22.6		ug/L		90	75 - 130
o-Xylene	25.0	23.1		ug/L		92	75 - 125
sec-Butylbenzene	25.0	22.0		ug/L		88	70 - 125
Styrene	25.0	24.6		ug/L		98	75 - 130
tert-Butylbenzene	25.0	23.3		ug/L		93	70 - 125
Tetrachloroethene	25.0	26.4		ug/L		106	70 - 125
Toluene	25.0	23.5		ug/L		94	70 - 120
trans-1,2-Dichloroethene	25.0	19.4		ug/L		78	70 - 125
trans-1,3-Dichloropropene	25.0	25.6		ug/L		102	70 - 125
Trichloroethene	25.0	25.0		ug/L		100	70 - 125
Trichlorofluoromethane	25.0	29.4		ug/L		118	65 - 145
Vinyl chloride	25.0	20.0		ug/L		80	55 - 135
1,2-Dibromoethane (EDB)	25.0	23.1		ug/L		92	75 - 125
Bromochloromethane	25.0	22.3		ug/L		89	70 - 130
Bromodichloromethane	25.0	25.9		ug/L		103	70 - 135
Dibromochloromethane	25.0	26.7		ug/L		107	70 - 140
p-Isopropyltoluene	25.0	23.2		ug/L		93	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*107*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 120*

Lab Sample ID: 440-50456-A-2 MS
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	30.3		ug/L		121	65 - 140
1,1,1-Trichloroethane	ND		25.0	24.9		ug/L		100	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	23.8		ug/L		95	55 - 135
1,1,2-Trichloroethane	ND		25.0	26.2		ug/L		105	65 - 130
1,1-Dichloroethane	ND		25.0	22.7		ug/L		91	65 - 130
1,1-Dichloroethene	ND		25.0	23.2		ug/L		93	60 - 130
1,1-Dichloropropene	ND		25.0	23.1		ug/L		92	70 - 135
1,2,3-Trichlorobenzene	ND		25.0	25.3		ug/L		101	60 - 135
1,2,3-Trichloropropane	ND		25.0	23.7		ug/L		95	55 - 135
1,2,4-Trichlorobenzene	ND		25.0	25.9		ug/L		104	65 - 135
1,2,4-Trimethylbenzene	ND		25.0	26.0		ug/L		104	55 - 135
1,2-Dibromo-3-Chloropropane	ND		25.0	22.5		ug/L		90	45 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50456-A-2 MS
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	ND		25.0	26.1		ug/L		105	75 - 125
1,2-Dichloroethane	ND		25.0	28.5		ug/L		114	60 - 140
1,2-Dichloropropane	ND		25.0	24.0		ug/L		96	65 - 130
1,3,5-Trimethylbenzene	ND		25.0	25.4		ug/L		102	70 - 130
1,3-Dichlorobenzene	ND		25.0	27.0		ug/L		108	75 - 125
1,3-Dichloropropane	ND		25.0	26.0		ug/L		104	65 - 135
1,4-Dichlorobenzene	ND		25.0	26.8		ug/L		107	75 - 125
2,2-Dichloropropane	ND		25.0	26.5		ug/L		106	60 - 145
2-Chlorotoluene	ND		25.0	24.8		ug/L		99	65 - 135
4-Chlorotoluene	ND		25.0	25.8		ug/L		103	70 - 135
Benzene	ND		25.0	23.2		ug/L		93	65 - 125
Bromobenzene	ND		25.0	25.8		ug/L		103	70 - 125
Bromoform	ND		25.0	31.8		ug/L		127	55 - 135
Bromomethane	ND		25.0	20.3		ug/L		81	55 - 145
Carbon tetrachloride	ND		25.0	31.2		ug/L		125	65 - 140
Chlorobenzene	ND		25.0	26.8		ug/L		107	75 - 125
Chloroethane	ND		25.0	21.6		ug/L		87	55 - 140
Chloroform	ND		25.0	25.2		ug/L		101	65 - 135
Chloromethane	ND		25.0	23.6		ug/L		94	45 - 145
cis-1,2-Dichloroethene	ND		25.0	23.1		ug/L		93	65 - 130
cis-1,3-Dichloropropene	ND		25.0	25.9		ug/L		104	70 - 130
Dibromomethane	ND		25.0	26.8		ug/L		107	65 - 135
Dichlorodifluoromethane	ND		25.0	18.1		ug/L		73	25 - 155
Ethylbenzene	ND		25.0	25.3		ug/L		101	65 - 130
Hexachlorobutadiene	ND		25.0	27.7		ug/L		111	60 - 135
Isopropylbenzene	ND		25.0	25.0		ug/L		100	70 - 135
m,p-Xylene	ND		50.0	50.8		ug/L		102	65 - 130
Methylene Chloride	ND		25.0	24.2		ug/L		97	50 - 135
Naphthalene	ND		25.0	25.2		ug/L		101	50 - 140
n-Butylbenzene	ND		25.0	25.5		ug/L		102	65 - 135
N-Propylbenzene	ND		25.0	24.5		ug/L		98	70 - 135
o-Xylene	ND		25.0	25.6		ug/L		103	65 - 125
sec-Butylbenzene	ND		25.0	24.1		ug/L		96	70 - 125
Styrene	ND		25.0	26.7		ug/L		107	50 - 145
tert-Butylbenzene	ND		25.0	25.2		ug/L		101	65 - 130
Tetrachloroethene	ND		25.0	28.7		ug/L		115	65 - 130
Toluene	ND		25.0	25.6		ug/L		103	70 - 125
trans-1,2-Dichloroethene	ND		25.0	22.0		ug/L		88	65 - 130
trans-1,3-Dichloropropene	ND		25.0	27.6		ug/L		110	65 - 135
Trichloroethene	ND		25.0	27.4		ug/L		108	65 - 125
Trichlorofluoromethane	ND		25.0	33.0		ug/L		132	60 - 145
Vinyl chloride	ND		25.0	22.6		ug/L		91	45 - 140
1,2-Dibromoethane (EDB)	ND		25.0	26.1		ug/L		105	70 - 130
Bromochloromethane	ND		25.0	24.8		ug/L		99	65 - 135
Bromodichloromethane	ND		25.0	28.6		ug/L		114	70 - 135
Dibromochloromethane	ND		25.0	29.7		ug/L		119	65 - 140
p-Isopropyltoluene	ND		25.0	25.5		ug/L		102	65 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50456-A-2 MS
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	108		80 - 120
4-Bromofluorobenzene (Surr)	107		80 - 120
Dibromofluoromethane (Surr)	106		80 - 120

Lab Sample ID: 440-50456-A-2 MSD
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	29.6		ug/L		118	65 - 140	2	20
1,1,1-Trichloroethane	ND		25.0	24.0		ug/L		96	65 - 140	4	20
1,1,2,2-Tetrachloroethane	ND		25.0	23.1		ug/L		92	55 - 135	3	30
1,1,2-Trichloroethane	ND		25.0	25.6		ug/L		102	65 - 130	2	25
1,1-Dichloroethane	ND		25.0	22.1		ug/L		88	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	22.1		ug/L		88	60 - 130	5	20
1,1-Dichloropropene	ND		25.0	22.0		ug/L		88	70 - 135	5	20
1,2,3-Trichlorobenzene	ND		25.0	25.1		ug/L		100	60 - 135	1	20
1,2,3-Trichloropropane	ND		25.0	23.2		ug/L		93	55 - 135	2	30
1,2,4-Trichlorobenzene	ND		25.0	25.4		ug/L		101	65 - 135	2	20
1,2,4-Trimethylbenzene	ND		25.0	24.9		ug/L		100	55 - 135	4	25
1,2-Dibromo-3-Chloropropane	ND		25.0	23.2		ug/L		93	45 - 145	3	30
1,2-Dichlorobenzene	ND		25.0	24.9		ug/L		100	75 - 125	5	20
1,2-Dichloroethane	ND		25.0	28.6		ug/L		114	60 - 140	0	20
1,2-Dichloropropane	ND		25.0	23.8		ug/L		95	65 - 130	1	20
1,3,5-Trimethylbenzene	ND		25.0	24.7		ug/L		99	70 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	75 - 125	3	20
1,3-Dichloropropane	ND		25.0	26.2		ug/L		105	65 - 135	1	25
1,4-Dichlorobenzene	ND		25.0	25.9		ug/L		103	75 - 125	4	20
2,2-Dichloropropane	ND		25.0	26.4		ug/L		106	60 - 145	0	25
2-Chlorotoluene	ND		25.0	23.7		ug/L		95	65 - 135	5	20
4-Chlorotoluene	ND		25.0	23.9		ug/L		95	70 - 135	8	20
Benzene	ND		25.0	22.8		ug/L		91	65 - 125	2	20
Bromobenzene	ND		25.0	24.7		ug/L		99	70 - 125	4	20
Bromoform	ND		25.0	32.8		ug/L		131	55 - 135	3	25
Bromomethane	ND		25.0	19.7		ug/L		79	55 - 145	3	25
Carbon tetrachloride	ND		25.0	30.0		ug/L		120	65 - 140	4	25
Chlorobenzene	ND		25.0	26.2		ug/L		105	75 - 125	2	20
Chloroethane	ND		25.0	23.3		ug/L		93	55 - 140	7	25
Chloroform	ND		25.0	24.4		ug/L		98	65 - 135	3	20
Chloromethane	ND		25.0	22.1		ug/L		89	45 - 145	6	25
cis-1,2-Dichloroethene	ND		25.0	22.6		ug/L		90	65 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	26.5		ug/L		106	70 - 130	2	20
Dibromomethane	ND		25.0	27.6		ug/L		110	65 - 135	3	25
Dichlorodifluoromethane	ND		25.0	17.5		ug/L		70	25 - 155	4	30
Ethylbenzene	ND		25.0	24.7		ug/L		99	65 - 130	2	20
Hexachlorobutadiene	ND		25.0	27.4		ug/L		110	60 - 135	1	20
Isopropylbenzene	ND		25.0	23.7		ug/L		95	70 - 135	5	20
m,p-Xylene	ND		50.0	49.8		ug/L		100	65 - 130	2	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50456-A-2 MSD
Matrix: Water
Analysis Batch: 115321

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Chloride	ND		25.0	23.1		ug/L		93	50 - 135	4	20
Naphthalene	ND		25.0	25.0		ug/L		100	50 - 140	0	30
n-Butylbenzene	ND		25.0	24.3		ug/L		97	65 - 135	5	20
N-Propylbenzene	ND		25.0	23.4		ug/L		93	70 - 135	5	20
o-Xylene	ND		25.0	24.9		ug/L		100	65 - 125	3	20
sec-Butylbenzene	ND		25.0	22.9		ug/L		91	70 - 125	5	20
Styrene	ND		25.0	26.5		ug/L		106	50 - 145	1	30
tert-Butylbenzene	ND		25.0	24.3		ug/L		97	65 - 130	4	20
Tetrachloroethene	ND		25.0	27.7		ug/L		111	65 - 130	4	20
Toluene	ND		25.0	25.4		ug/L		102	70 - 125	1	20
trans-1,2-Dichloroethene	ND		25.0	20.7		ug/L		83	65 - 130	6	20
trans-1,3-Dichloropropene	ND		25.0	28.2		ug/L		113	65 - 135	2	25
Trichloroethene	ND		25.0	27.0		ug/L		106	65 - 125	1	20
Trichlorofluoromethane	ND		25.0	31.7		ug/L		127	60 - 145	4	25
Vinyl chloride	ND		25.0	21.7		ug/L		87	45 - 140	4	30
1,2-Dibromoethane (EDB)	ND		25.0	26.3		ug/L		105	70 - 130	1	25
Bromochloromethane	ND		25.0	24.5		ug/L		98	65 - 135	1	25
Bromodichloromethane	ND		25.0	27.7		ug/L		111	70 - 135	3	20
Dibromochloromethane	ND		25.0	30.2		ug/L		121	65 - 140	2	25
p-Isopropyltoluene	ND		25.0	24.4		ug/L		98	65 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*111*		*80 - 120*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*80 - 120*

Lab Sample ID: MB 440-115407/4
Matrix: Water
Analysis Batch: 115407

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 08:57	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 08:57	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 08:57	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 08:57	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 08:57	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 08:57	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 08:57	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 08:57	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 08:57	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 08:57	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 08:57	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 08:57	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 08:57	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 08:57	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 08:57	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 08:57	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 08:57	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-115407/4
Matrix: Water
Analysis Batch: 115407

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 08:57	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 08:57	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 08:57	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 08:57	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 08:57	1
Benzene	ND		2.0		ug/L			07/03/13 08:57	1
Bromobenzene	ND		5.0		ug/L			07/03/13 08:57	1
Bromoform	ND		5.0		ug/L			07/03/13 08:57	1
Bromomethane	ND		5.0		ug/L			07/03/13 08:57	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 08:57	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 08:57	1
Chloroethane	ND		5.0		ug/L			07/03/13 08:57	1
Chloroform	ND		2.0		ug/L			07/03/13 08:57	1
Chloromethane	ND		5.0		ug/L			07/03/13 08:57	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 08:57	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 08:57	1
Dibromomethane	ND		2.0		ug/L			07/03/13 08:57	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 08:57	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 08:57	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 08:57	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 08:57	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 08:57	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 08:57	1
Naphthalene	ND		5.0		ug/L			07/03/13 08:57	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 08:57	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 08:57	1
o-Xylene	ND		2.0		ug/L			07/03/13 08:57	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 08:57	1
Styrene	ND		2.0		ug/L			07/03/13 08:57	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 08:57	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 08:57	1
Toluene	ND		2.0		ug/L			07/03/13 08:57	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 08:57	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 08:57	1
Trichloroethene	ND		2.0		ug/L			07/03/13 08:57	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 08:57	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 08:57	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 08:57	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 08:57	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 08:57	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 08:57	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 08:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*07/03/13 08:57*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*07/03/13 08:57*	*1*
Dibromofluoromethane (Surr)	*107*		*80 - 120*		*07/03/13 08:57*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-115407/5
Matrix: Water
Analysis Batch: 115407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	29.4		ug/L		118	70 - 130
1,1,1-Trichloroethane	25.0	23.4		ug/L		94	65 - 135
1,1,2,2-Tetrachloroethane	25.0	25.9		ug/L		104	55 - 130
1,1,2-Trichloroethane	25.0	25.4		ug/L		102	70 - 125
1,1-Dichloroethane	25.0	23.2		ug/L		93	70 - 125
1,1-Dichloroethene	25.0	25.2		ug/L		101	70 - 125
1,1-Dichloropropene	25.0	21.3		ug/L		85	75 - 130
1,2,3-Trichlorobenzene	25.0	24.8		ug/L		99	65 - 125
1,2,3-Trichloropropane	25.0	23.3		ug/L		93	60 - 130
1,2,4-Trichlorobenzene	25.0	25.6		ug/L		102	70 - 135
1,2,4-Trimethylbenzene	25.0	23.9		ug/L		96	75 - 125
1,2-Dibromo-3-Chloropropane	25.0	20.0		ug/L		80	50 - 135
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	75 - 120
1,2-Dichloroethane	25.0	26.1		ug/L		105	60 - 140
1,2-Dichloropropane	25.0	23.2		ug/L		93	70 - 125
1,3,5-Trimethylbenzene	25.0	22.9		ug/L		92	75 - 125
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	75 - 120
1,3-Dichloropropane	25.0	25.1		ug/L		100	70 - 120
1,4-Dichlorobenzene	25.0	25.8		ug/L		103	75 - 120
2,2-Dichloropropane	25.0	19.6		ug/L		78	65 - 140
2-Chlorotoluene	25.0	21.4		ug/L		86	70 - 125
4-Chlorotoluene	25.0	21.4		ug/L		86	75 - 125
Benzene	25.0	19.8		ug/L		79	70 - 120
Bromobenzene	25.0	26.8		ug/L		107	75 - 120
Bromoform	25.0	31.9		ug/L		128	55 - 130
Bromomethane	25.0	26.9		ug/L		108	65 - 140
Carbon tetrachloride	25.0	24.3		ug/L		97	65 - 140
Chlorobenzene	25.0	25.8		ug/L		103	75 - 120
Chloroethane	25.0	24.9		ug/L		99	60 - 140
Chloroform	25.0	24.1		ug/L		96	70 - 130
Chloromethane	25.0	25.8		ug/L		103	50 - 140
cis-1,2-Dichloroethene	25.0	26.9		ug/L		107	70 - 125
cis-1,3-Dichloropropene	25.0	23.9		ug/L		95	75 - 125
Dibromomethane	25.0	26.8		ug/L		107	70 - 125
Dichlorodifluoromethane	25.0	21.3		ug/L		85	35 - 155
Ethylbenzene	25.0	23.3		ug/L		93	75 - 125
Hexachlorobutadiene	25.0	22.6		ug/L		90	65 - 135
Isopropylbenzene	25.0	23.8		ug/L		95	75 - 130
m,p-Xylene	50.0	49.9		ug/L		100	75 - 125
Methylene Chloride	25.0	24.4		ug/L		97	55 - 130
Naphthalene	25.0	25.3		ug/L		101	55 - 135
n-Butylbenzene	25.0	20.6		ug/L		82	70 - 130
N-Propylbenzene	25.0	20.8		ug/L		83	75 - 130
o-Xylene	25.0	25.2		ug/L		101	75 - 125
sec-Butylbenzene	25.0	22.5		ug/L		90	70 - 125
Styrene	25.0	24.2		ug/L		97	75 - 130
tert-Butylbenzene	25.0	22.1		ug/L		88	70 - 125
Tetrachloroethene	25.0	26.0		ug/L		104	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-115407/5
Matrix: Water
Analysis Batch: 115407

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	25.0	21.3		ug/L		85	70 - 120
trans-1,2-Dichloroethene	25.0	25.9		ug/L		104	70 - 125
trans-1,3-Dichloropropene	25.0	25.1		ug/L		100	70 - 125
Trichloroethene	25.0	24.8		ug/L		99	70 - 125
Trichlorofluoromethane	25.0	29.8		ug/L		119	65 - 145
Vinyl chloride	25.0	24.9		ug/L		100	55 - 135
1,2-Dibromoethane (EDB)	25.0	29.4		ug/L		118	75 - 125
Bromochloromethane	25.0	30.1		ug/L		121	70 - 130
Bromodichloromethane	25.0	25.5		ug/L		102	70 - 135
Dibromochloromethane	25.0	28.0		ug/L		112	70 - 140
p-Isopropyltoluene	25.0	22.0		ug/L		88	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*108*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*113*		*80 - 120*

Lab Sample ID: 440-50508-3 MS
Matrix: Water
Analysis Batch: 115407

Client Sample ID: MW8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	30.9		ug/L		124	65 - 140
1,1,1-Trichloroethane	ND		25.0	27.2		ug/L		109	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	28.3		ug/L		113	55 - 135
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	65 - 130
1,1-Dichloroethane	ND		25.0	25.3		ug/L		101	65 - 130
1,1-Dichloroethene	ND		25.0	27.0		ug/L		108	60 - 130
1,1-Dichloropropene	ND		25.0	22.4		ug/L		90	70 - 135
1,2,3-Trichlorobenzene	ND		25.0	26.6		ug/L		106	60 - 135
1,2,3-Trichloropropane	ND		25.0	24.6		ug/L		98	55 - 135
1,2,4-Trichlorobenzene	ND		25.0	27.3		ug/L		109	65 - 135
1,2,4-Trimethylbenzene	ND		25.0	20.7		ug/L		83	55 - 135
1,2-Dibromo-3-Chloropropane	ND		25.0	23.2		ug/L		93	45 - 145
1,2-Dichlorobenzene	ND		25.0	26.9		ug/L		108	75 - 125
1,2-Dichloroethane	ND		25.0	29.1		ug/L		117	60 - 140
1,2-Dichloropropane	ND		25.0	24.3		ug/L		97	65 - 130
1,3,5-Trimethylbenzene	ND		25.0	22.5		ug/L		90	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.3		ug/L		105	75 - 125
1,3-Dichloropropane	ND		25.0	26.2		ug/L		105	65 - 135
1,4-Dichlorobenzene	ND		25.0	26.6		ug/L		107	75 - 125
2,2-Dichloropropane	ND		25.0	21.2		ug/L		85	60 - 145
2-Chlorotoluene	ND		25.0	21.6		ug/L		86	65 - 135
4-Chlorotoluene	ND		25.0	22.1		ug/L		88	70 - 135
Benzene	ND		25.0	21.0		ug/L		84	65 - 125
Bromobenzene	ND		25.0	27.6		ug/L		110	70 - 125
Bromoform	ND		25.0	33.7		ug/L		135	55 - 135
Bromomethane	ND		25.0	29.4		ug/L		118	55 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50508-3 MS
Matrix: Water
Analysis Batch: 115407

Client Sample ID: MW8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	ND		25.0	26.8		ug/L		107	65 - 140
Chlorobenzene	ND		25.0	26.3		ug/L		105	75 - 125
Chloroethane	ND		25.0	27.0		ug/L		108	55 - 140
Chloroform	ND		25.0	27.4		ug/L		110	65 - 135
Chloromethane	ND		25.0	27.8		ug/L		111	45 - 145
cis-1,2-Dichloroethene	ND		25.0	29.8		ug/L		119	65 - 130
cis-1,3-Dichloropropene	ND		25.0	25.3		ug/L		101	70 - 130
Dibromomethane	ND		25.0	29.4		ug/L		118	65 - 135
Dichlorodifluoromethane	ND		25.0	23.8		ug/L		95	25 - 155
Ethylbenzene	ND		25.0	24.2		ug/L		97	65 - 130
Hexachlorobutadiene	ND		25.0	22.8		ug/L		91	60 - 135
Isopropylbenzene	ND		25.0	24.0		ug/L		96	70 - 135
m,p-Xylene	ND		50.0	49.9		ug/L		100	65 - 130
Methylene Chloride	ND		25.0	26.2		ug/L		105	50 - 135
Naphthalene	ND		25.0	26.6		ug/L		107	50 - 140
n-Butylbenzene	ND		25.0	21.1		ug/L		84	65 - 135
N-Propylbenzene	ND		25.0	21.1		ug/L		84	70 - 135
o-Xylene	ND		25.0	25.6		ug/L		102	65 - 125
sec-Butylbenzene	ND		25.0	22.4		ug/L		90	70 - 125
Styrene	ND		25.0	15.7		ug/L		63	50 - 145
tert-Butylbenzene	ND		25.0	22.9		ug/L		91	65 - 130
Tetrachloroethene	ND		25.0	27.3		ug/L		109	65 - 130
Toluene	ND		25.0	23.0		ug/L		92	70 - 125
trans-1,2-Dichloroethene	ND		25.0	27.9		ug/L		112	65 - 130
trans-1,3-Dichloropropene	ND		25.0	27.7		ug/L		111	65 - 135
Trichloroethene	ND		25.0	25.9		ug/L		103	65 - 125
Trichlorofluoromethane	ND		25.0	34.2		ug/L		137	60 - 145
Vinyl chloride	ND		25.0	26.9		ug/L		107	45 - 140
1,2-Dibromoethane (EDB)	ND		25.0	31.8		ug/L		127	70 - 130
Bromochloromethane	ND		25.0	34.3	F	ug/L		137	65 - 135
Bromodichloromethane	ND		25.0	27.9		ug/L		111	70 - 135
Dibromochloromethane	ND		25.0	30.1		ug/L		120	65 - 140
p-Isopropyltoluene	ND		25.0	22.4		ug/L		90	65 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*111*		*80 - 120*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*
Dibromofluoromethane (Surr)	*120*		*80 - 120*

Lab Sample ID: 440-50508-3 MSD
Matrix: Water
Analysis Batch: 115407

Client Sample ID: MW8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	31.6		ug/L		126	65 - 140	2	20
1,1,1-Trichloroethane	ND		25.0	23.6		ug/L		94	65 - 140	14	20
1,1,2,2-Tetrachloroethane	ND		25.0	26.7		ug/L		107	55 - 135	6	30
1,1,2-Trichloroethane	ND		25.0	26.4		ug/L		106	65 - 130	5	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50508-3 MSD
Matrix: Water
Analysis Batch: 115407

Client Sample ID: MW8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	ND		25.0	22.8		ug/L		91	65 - 130	11	20
1,1-Dichloroethene	ND		25.0	24.3		ug/L		97	60 - 130	10	20
1,1-Dichloropropene	ND		25.0	20.5		ug/L		82	70 - 135	9	20
1,2,3-Trichlorobenzene	ND		25.0	26.2		ug/L		105	60 - 135	1	20
1,2,3-Trichloropropane	ND		25.0	23.8		ug/L		95	55 - 135	3	30
1,2,4-Trichlorobenzene	ND		25.0	27.3		ug/L		109	65 - 135	0	20
1,2,4-Trimethylbenzene	ND		25.0	20.5		ug/L		82	55 - 135	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	22.0		ug/L		88	45 - 145	5	30
1,2-Dichlorobenzene	ND		25.0	26.2		ug/L		105	75 - 125	3	20
1,2-Dichloroethane	ND		25.0	26.0		ug/L		104	60 - 140	11	20
1,2-Dichloropropane	ND		25.0	23.3		ug/L		93	65 - 130	4	20
1,3,5-Trimethylbenzene	ND		25.0	22.0		ug/L		88	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	25.8		ug/L		103	75 - 125	2	20
1,3-Dichloropropane	ND		25.0	26.2		ug/L		105	65 - 135	0	25
1,4-Dichlorobenzene	ND		25.0	26.2		ug/L		105	75 - 125	2	20
2,2-Dichloropropane	ND		25.0	18.7		ug/L		75	60 - 145	12	25
2-Chlorotoluene	ND		25.0	21.7		ug/L		87	65 - 135	0	20
4-Chlorotoluene	ND		25.0	22.0		ug/L		88	70 - 135	0	20
Benzene	ND		25.0	19.7		ug/L		79	65 - 125	6	20
Bromobenzene	ND		25.0	27.9		ug/L		112	70 - 125	1	20
Bromoform	ND		25.0	33.4		ug/L		134	55 - 135	1	25
Bromomethane	ND		25.0	26.3		ug/L		105	55 - 145	11	25
Carbon tetrachloride	ND		25.0	24.7		ug/L		99	65 - 140	8	25
Chlorobenzene	ND		25.0	26.8		ug/L		107	75 - 125	2	20
Chloroethane	ND		25.0	24.3		ug/L		97	55 - 140	10	25
Chloroform	ND		25.0	24.1		ug/L		97	65 - 135	13	20
Chloromethane	ND		25.0	25.6		ug/L		102	45 - 145	8	25
cis-1,2-Dichloroethene	ND		25.0	26.9		ug/L		107	65 - 130	10	20
cis-1,3-Dichloropropene	ND		25.0	24.2		ug/L		97	70 - 130	5	20
Dibromomethane	ND		25.0	27.4		ug/L		110	65 - 135	7	25
Dichlorodifluoromethane	ND		25.0	20.7		ug/L		83	25 - 155	14	30
Ethylbenzene	ND		25.0	23.9		ug/L		96	65 - 130	1	20
Hexachlorobutadiene	ND		25.0	22.0		ug/L		88	60 - 135	4	20
Isopropylbenzene	ND		25.0	23.7		ug/L		95	70 - 135	1	20
m,p-Xylene	ND		50.0	50.5		ug/L		101	65 - 130	1	25
Methylene Chloride	ND		25.0	24.5		ug/L		98	50 - 135	7	20
Naphthalene	ND		25.0	25.4		ug/L		101	50 - 140	5	30
n-Butylbenzene	ND		25.0	20.5		ug/L		82	65 - 135	3	20
N-Propylbenzene	ND		25.0	20.7		ug/L		83	70 - 135	2	20
o-Xylene	ND		25.0	25.9		ug/L		104	65 - 125	2	20
sec-Butylbenzene	ND		25.0	21.6		ug/L		86	70 - 125	4	20
Styrene	ND		25.0	16.1		ug/L		64	50 - 145	3	30
tert-Butylbenzene	ND		25.0	22.0		ug/L		88	65 - 130	4	20
Tetrachloroethene	ND		25.0	26.4		ug/L		106	65 - 130	3	20
Toluene	ND		25.0	21.3		ug/L		85	70 - 125	8	20
trans-1,2-Dichloroethene	ND		25.0	24.6		ug/L		98	65 - 130	13	20
trans-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	65 - 135	5	25
Trichloroethene	ND		25.0	24.3		ug/L		97	65 - 125	6	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50508-3 MSD
Matrix: Water
Analysis Batch: 115407

Client Sample ID: MW8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	ND		25.0	29.5		ug/L		118	60 - 145	15	25
Vinyl chloride	ND		25.0	25.1		ug/L		100	45 - 140	7	30
1,2-Dibromoethane (EDB)	ND		25.0	30.9		ug/L		124	70 - 130	3	25
Bromochloromethane	ND		25.0	31.5		ug/L		126	65 - 135	8	25
Bromodichloromethane	ND		25.0	25.5		ug/L		102	70 - 135	9	20
Dibromochloromethane	ND		25.0	29.4		ug/L		118	65 - 140	2	25
p-Isopropyltoluene	ND		25.0	21.6		ug/L		86	65 - 130	4	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*80 - 120*

Lab Sample ID: MB 440-115578/6
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 20:28	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 20:28	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 20:28	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 20:28	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 20:28	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 20:28	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 20:28	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 20:28	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 20:28	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 20:28	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 20:28	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 20:28	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 20:28	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 20:28	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 20:28	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 20:28	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 20:28	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 20:28	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 20:28	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 20:28	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 20:28	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 20:28	1
Benzene	ND		2.0		ug/L			07/03/13 20:28	1
Bromobenzene	ND		5.0		ug/L			07/03/13 20:28	1
Bromoform	ND		5.0		ug/L			07/03/13 20:28	1
Bromomethane	ND		5.0		ug/L			07/03/13 20:28	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 20:28	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 20:28	1
Chloroethane	ND		5.0		ug/L			07/03/13 20:28	1
Chloroform	ND		2.0		ug/L			07/03/13 20:28	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-115578/6
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		5.0		ug/L			07/03/13 20:28	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 20:28	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 20:28	1
Dibromomethane	ND		2.0		ug/L			07/03/13 20:28	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 20:28	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 20:28	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 20:28	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 20:28	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 20:28	1
Methylene Chloride	ND		5.0		ug/L			07/03/13 20:28	1
Naphthalene	ND		5.0		ug/L			07/03/13 20:28	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 20:28	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 20:28	1
o-Xylene	ND		2.0		ug/L			07/03/13 20:28	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 20:28	1
Styrene	ND		2.0		ug/L			07/03/13 20:28	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 20:28	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 20:28	1
Toluene	ND		2.0		ug/L			07/03/13 20:28	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 20:28	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 20:28	1
Trichloroethene	ND		2.0		ug/L			07/03/13 20:28	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 20:28	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 20:28	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 20:28	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 20:28	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 20:28	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 20:28	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 20:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*07/03/13 20:28*	*1*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*		*07/03/13 20:28*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*07/03/13 20:28*	*1*

Lab Sample ID: LCS 440-115578/5
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	31.6		ug/L		127	70 - 130
1,1,1-Trichloroethane	25.0	26.2		ug/L		105	65 - 135
1,1,2,2-Tetrachloroethane	25.0	20.8		ug/L		83	55 - 130
1,1,2-Trichloroethane	25.0	23.0		ug/L		92	70 - 125
1,1-Dichloroethane	25.0	21.7		ug/L		87	70 - 125
1,1-Dichloroethene	25.0	25.4		ug/L		101	70 - 125
1,1-Dichloropropene	25.0	26.2		ug/L		105	75 - 130
1,2,3-Trichlorobenzene	25.0	27.8		ug/L		111	65 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-115578/5
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	25.0	20.7		ug/L		83	60 - 130
1,2,4-Trichlorobenzene	25.0	28.0		ug/L		112	70 - 135
1,2,4-Trimethylbenzene	25.0	24.8		ug/L		99	75 - 125
1,2-Dibromo-3-Chloropropane	25.0	20.9		ug/L		83	50 - 135
1,2-Dichlorobenzene	25.0	25.9		ug/L		104	75 - 120
1,2-Dichloroethane	25.0	25.7		ug/L		103	60 - 140
1,2-Dichloropropane	25.0	21.8		ug/L		87	70 - 125
1,3,5-Trimethylbenzene	25.0	25.0		ug/L		100	75 - 125
1,3-Dichlorobenzene	25.0	26.4		ug/L		106	75 - 120
1,3-Dichloropropane	25.0	24.1		ug/L		96	70 - 120
1,4-Dichlorobenzene	25.0	26.0		ug/L		104	75 - 120
2,2-Dichloropropane	25.0	27.7		ug/L		111	65 - 140
2-Chlorotoluene	25.0	23.4		ug/L		94	70 - 125
4-Chlorotoluene	25.0	24.0		ug/L		96	75 - 125
Benzene	25.0	22.3		ug/L		89	70 - 120
Bromobenzene	25.0	26.1		ug/L		104	75 - 120
Bromoform	25.0	29.8		ug/L		119	55 - 130
Bromomethane	25.0	25.9		ug/L		103	65 - 140
Carbon tetrachloride	25.0	32.7		ug/L		131	65 - 140
Chlorobenzene	25.0	24.7		ug/L		99	75 - 120
Chloroethane	25.0	23.0		ug/L		92	60 - 140
Chloroform	25.0	24.5		ug/L		98	70 - 130
Chloromethane	25.0	25.8		ug/L		103	50 - 140
cis-1,2-Dichloroethene	25.0	24.7		ug/L		99	70 - 125
cis-1,3-Dichloropropene	25.0	24.9		ug/L		100	75 - 125
Dibromomethane	25.0	25.0		ug/L		100	70 - 125
Dichlorodifluoromethane	25.0	28.5		ug/L		114	35 - 155
Ethylbenzene	25.0	26.5		ug/L		106	75 - 125
Hexachlorobutadiene	25.0	28.5		ug/L		114	65 - 135
Isopropylbenzene	25.0	25.3		ug/L		101	75 - 130
m,p-Xylene	50.0	56.4		ug/L		113	75 - 125
Methylene Chloride	25.0	22.2		ug/L		89	55 - 130
Naphthalene	25.0	22.5		ug/L		90	55 - 135
n-Butylbenzene	25.0	25.1		ug/L		100	70 - 130
N-Propylbenzene	25.0	23.5		ug/L		94	75 - 130
o-Xylene	25.0	28.9		ug/L		116	75 - 125
sec-Butylbenzene	25.0	24.1		ug/L		96	70 - 125
Styrene	25.0	28.0		ug/L		112	75 - 130
tert-Butylbenzene	25.0	25.7		ug/L		103	70 - 125
Tetrachloroethene	25.0	28.3		ug/L		113	70 - 125
Toluene	25.0	24.8		ug/L		99	70 - 120
trans-1,2-Dichloroethene	25.0	23.9		ug/L		96	70 - 125
trans-1,3-Dichloropropene	25.0	25.5		ug/L		102	70 - 125
Trichloroethene	25.0	26.9		ug/L		107	70 - 125
Trichlorofluoromethane	25.0	32.0		ug/L		128	65 - 145
Vinyl chloride	25.0	25.3		ug/L		101	55 - 135
1,2-Dibromoethane (EDB)	25.0	27.3		ug/L		109	75 - 125
Bromochloromethane	25.0	25.0		ug/L		100	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-115578/5
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	25.0	28.2		ug/L		113	70 - 135
Dibromochloromethane	25.0	28.5		ug/L		114	70 - 140
p-Isopropyltoluene	25.0	25.3		ug/L		101	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*117*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 120*

Lab Sample ID: 440-50401-B-4 MS
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	32.5		ug/L		130	65 - 140
1,1,1-Trichloroethane	ND		25.0	27.2		ug/L		109	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	21.4		ug/L		86	55 - 135
1,1,2-Trichloroethane	ND		25.0	25.4		ug/L		101	65 - 130
1,1-Dichloroethane	ND		25.0	22.2		ug/L		89	65 - 130
1,1-Dichloroethene	ND		25.0	26.7		ug/L		105	60 - 130
1,1-Dichloropropene	ND		25.0	26.1		ug/L		104	70 - 135
1,2,3-Trichlorobenzene	ND		25.0	29.6		ug/L		118	60 - 135
1,2,3-Trichloropropane	ND		25.0	21.6		ug/L		86	55 - 135
1,2,4-Trichlorobenzene	ND		25.0	30.0		ug/L		120	65 - 135
1,2,4-Trimethylbenzene	ND		25.0	20.8		ug/L		83	55 - 135
1,2-Dibromo-3-Chloropropane	ND		25.0	22.0		ug/L		88	45 - 145
1,2-Dichlorobenzene	ND		25.0	26.7		ug/L		107	75 - 125
1,2-Dichloroethane	ND		25.0	27.6		ug/L		110	60 - 140
1,2-Dichloropropane	ND		25.0	22.8		ug/L		91	65 - 130
1,3,5-Trimethylbenzene	ND		25.0	23.7		ug/L		95	70 - 130
1,3-Dichlorobenzene	ND		25.0	27.1		ug/L		108	75 - 125
1,3-Dichloropropane	ND		25.0	25.6		ug/L		102	65 - 135
1,4-Dichlorobenzene	ND		25.0	26.6		ug/L		106	75 - 125
2,2-Dichloropropane	ND		25.0	28.0		ug/L		112	60 - 145
2-Chlorotoluene	ND		25.0	23.3		ug/L		93	65 - 135
4-Chlorotoluene	ND		25.0	24.0		ug/L		96	70 - 135
Benzene	ND		25.0	22.8		ug/L		91	65 - 125
Bromobenzene	ND		25.0	26.5		ug/L		106	70 - 125
Bromoform	ND		25.0	31.3		ug/L		125	55 - 135
Bromomethane	ND		25.0	26.9		ug/L		107	55 - 145
Carbon tetrachloride	ND		25.0	33.0		ug/L		132	65 - 140
Chlorobenzene	ND		25.0	25.0		ug/L		100	75 - 125
Chloroethane	ND		25.0	24.2		ug/L		97	55 - 140
Chloroform	ND		25.0	26.5		ug/L		106	65 - 135
Chloromethane	ND		25.0	26.3		ug/L		105	45 - 145
cis-1,2-Dichloroethene	ND		25.0	27.4		ug/L		110	65 - 130
cis-1,3-Dichloropropene	ND		25.0	25.5		ug/L		102	70 - 130
Dibromomethane	ND		25.0	27.2		ug/L		109	65 - 135

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50401-B-4 MS
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND		25.0	30.0		ug/L		120	25 - 155
Ethylbenzene	ND		25.0	26.7		ug/L		107	65 - 130
Hexachlorobutadiene	ND		25.0	29.1		ug/L		116	60 - 135
Isopropylbenzene	ND		25.0	24.6		ug/L		98	70 - 135
m,p-Xylene	ND		50.0	56.2		ug/L		112	65 - 130
Methylene Chloride	ND		25.0	23.0		ug/L		92	50 - 135
Naphthalene	ND		25.0	22.3		ug/L		89	50 - 140
n-Butylbenzene	ND		25.0	24.9		ug/L		100	65 - 135
N-Propylbenzene	ND		25.0	23.3		ug/L		93	70 - 135
o-Xylene	ND		25.0	29.1		ug/L		116	65 - 125
sec-Butylbenzene	ND		25.0	23.6		ug/L		94	70 - 125
Styrene	ND		25.0	18.8		ug/L		75	50 - 145
tert-Butylbenzene	ND		25.0	25.2		ug/L		101	65 - 130
Tetrachloroethene	4.1		25.0	32.3		ug/L		113	65 - 130
Toluene	ND		25.0	25.4		ug/L		102	70 - 125
trans-1,2-Dichloroethene	ND		25.0	25.2		ug/L		101	65 - 130
trans-1,3-Dichloropropene	ND		25.0	27.5		ug/L		110	65 - 135
Trichloroethene	51		25.0	76.3		ug/L		101	65 - 125
Trichlorofluoromethane	ND		25.0	33.1		ug/L		133	60 - 145
Vinyl chloride	ND		25.0	26.2		ug/L		105	45 - 140
1,2-Dibromoethane (EDB)	ND		25.0	29.4		ug/L		118	70 - 130
Bromochloromethane	ND		25.0	27.1		ug/L		108	65 - 135
Bromodichloromethane	ND		25.0	30.0		ug/L		120	70 - 135
Dibromochloromethane	ND		25.0	29.7		ug/L		119	65 - 140
p-Isopropyltoluene	ND		25.0	24.7		ug/L		99	65 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*119*		*80 - 120*
Dibromofluoromethane (Surr)	*112*		*80 - 120*

Lab Sample ID: 440-50401-B-4 MSD
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	32.2		ug/L		129	65 - 140	1	20
1,1,1-Trichloroethane	ND		25.0	26.9		ug/L		108	65 - 140	1	20
1,1,2,2-Tetrachloroethane	ND		25.0	21.0		ug/L		84	55 - 135	2	30
1,1,2-Trichloroethane	ND		25.0	25.0		ug/L		100	65 - 130	1	25
1,1-Dichloroethane	ND		25.0	22.9		ug/L		92	65 - 130	3	20
1,1-Dichloroethene	ND		25.0	26.8		ug/L		105	60 - 130	0	20
1,1-Dichloropropene	ND		25.0	26.3		ug/L		105	70 - 135	1	20
1,2,3-Trichlorobenzene	ND		25.0	29.6		ug/L		118	60 - 135	0	20
1,2,3-Trichloropropane	ND		25.0	20.8		ug/L		83	55 - 135	3	30
1,2,4-Trichlorobenzene	ND		25.0	30.0		ug/L		120	65 - 135	0	20
1,2,4-Trimethylbenzene	ND		25.0	20.4		ug/L		82	55 - 135	2	25
1,2-Dibromo-3-Chloropropane	ND		25.0	20.5		ug/L		82	45 - 145	7	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50401-B-4 MSD
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichlorobenzene	ND		25.0	27.0		ug/L		108	75 - 125	1	20
1,2-Dichloroethane	ND		25.0	27.2		ug/L		109	60 - 140	1	20
1,2-Dichloropropane	ND		25.0	23.7		ug/L		95	65 - 130	4	20
1,3,5-Trimethylbenzene	ND		25.0	23.7		ug/L		95	70 - 130	0	20
1,3-Dichlorobenzene	ND		25.0	27.5		ug/L		110	75 - 125	2	20
1,3-Dichloropropane	ND		25.0	25.4		ug/L		101	65 - 135	1	25
1,4-Dichlorobenzene	ND		25.0	26.8		ug/L		107	75 - 125	1	20
2,2-Dichloropropane	ND		25.0	27.3		ug/L		109	60 - 145	3	25
2-Chlorotoluene	ND		25.0	24.0		ug/L		96	65 - 135	3	20
4-Chlorotoluene	ND		25.0	24.6		ug/L		98	70 - 135	3	20
Benzene	ND		25.0	23.4		ug/L		93	65 - 125	3	20
Bromobenzene	ND		25.0	27.4		ug/L		110	70 - 125	3	20
Bromoform	ND		25.0	30.3		ug/L		121	55 - 135	3	25
Bromomethane	ND		25.0	27.3		ug/L		109	55 - 145	2	25
Carbon tetrachloride	ND		25.0	33.1		ug/L		132	65 - 140	0	25
Chlorobenzene	ND		25.0	24.9		ug/L		100	75 - 125	1	20
Chloroethane	ND		25.0	24.3		ug/L		97	55 - 140	0	25
Chloroform	ND		25.0	26.1		ug/L		104	65 - 135	2	20
Chloromethane	ND		25.0	27.7		ug/L		111	45 - 145	5	25
cis-1,2-Dichloroethene	ND		25.0	27.9		ug/L		111	65 - 130	2	20
cis-1,3-Dichloropropene	ND		25.0	25.8		ug/L		103	70 - 130	1	20
Dibromomethane	ND		25.0	26.8		ug/L		107	65 - 135	1	25
Dichlorodifluoromethane	ND		25.0	29.3		ug/L		117	25 - 155	2	30
Ethylbenzene	ND		25.0	26.5		ug/L		106	65 - 130	1	20
Hexachlorobutadiene	ND		25.0	29.2		ug/L		117	60 - 135	0	20
Isopropylbenzene	ND		25.0	25.5		ug/L		102	70 - 135	4	20
m,p-Xylene	ND		50.0	55.5		ug/L		111	65 - 130	1	25
Methylene Chloride	ND		25.0	22.8		ug/L		91	50 - 135	1	20
Naphthalene	ND		25.0	21.1		ug/L		85	50 - 140	5	30
n-Butylbenzene	ND		25.0	25.2		ug/L		101	65 - 135	1	20
N-Propylbenzene	ND		25.0	23.8		ug/L		95	70 - 135	2	20
o-Xylene	ND		25.0	29.1		ug/L		116	65 - 125	0	20
sec-Butylbenzene	ND		25.0	24.3		ug/L		97	70 - 125	3	20
Styrene	ND		25.0	16.8		ug/L		67	50 - 145	11	30
tert-Butylbenzene	ND		25.0	26.0		ug/L		104	65 - 130	3	20
Tetrachloroethene	4.1		25.0	31.7		ug/L		110	65 - 130	2	20
Toluene	ND		25.0	26.0		ug/L		104	70 - 125	2	20
trans-1,2-Dichloroethene	ND		25.0	25.5		ug/L		102	65 - 130	1	20
trans-1,3-Dichloropropene	ND		25.0	27.1		ug/L		108	65 - 135	2	25
Trichloroethene	51		25.0	75.2		ug/L		97	65 - 125	1	20
Trichlorofluoromethane	ND		25.0	32.0		ug/L		128	60 - 145	3	25
Vinyl chloride	ND		25.0	26.6		ug/L		106	45 - 140	2	30
1,2-Dibromoethane (EDB)	ND		25.0	28.6		ug/L		114	70 - 130	3	25
Bromochloromethane	ND		25.0	26.7		ug/L		107	65 - 135	1	25
Bromodichloromethane	ND		25.0	30.2		ug/L		121	70 - 135	1	20
Dibromochloromethane	ND		25.0	29.1		ug/L		117	65 - 140	2	25
p-Isopropyltoluene	ND		25.0	25.0		ug/L		100	65 - 130	1	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50401-B-4 MSD
Matrix: Water
Analysis Batch: 115578

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	105		80 - 120
4-Bromofluorobenzene (Surr)	116		80 - 120
Dibromofluoromethane (Surr)	112		80 - 120

Lab Sample ID: MB 440-115606/4
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			07/03/13 21:41	1
1,1,1-Trichloroethane	ND		2.0		ug/L			07/03/13 21:41	1
1,1,2,2-Tetrachloroethane	ND		2.0		ug/L			07/03/13 21:41	1
1,1,2-Trichloroethane	ND		2.0		ug/L			07/03/13 21:41	1
1,1-Dichloroethane	ND		2.0		ug/L			07/03/13 21:41	1
1,1-Dichloroethene	ND		5.0		ug/L			07/03/13 21:41	1
1,1-Dichloropropene	ND		2.0		ug/L			07/03/13 21:41	1
1,2,3-Trichlorobenzene	ND		5.0		ug/L			07/03/13 21:41	1
1,2,3-Trichloropropane	ND		10		ug/L			07/03/13 21:41	1
1,2,4-Trichlorobenzene	ND		5.0		ug/L			07/03/13 21:41	1
1,2,4-Trimethylbenzene	ND		2.0		ug/L			07/03/13 21:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			07/03/13 21:41	1
1,2-Dichlorobenzene	ND		2.0		ug/L			07/03/13 21:41	1
1,2-Dichloroethane	ND		2.0		ug/L			07/03/13 21:41	1
1,2-Dichloropropane	ND		2.0		ug/L			07/03/13 21:41	1
1,3,5-Trimethylbenzene	ND		2.0		ug/L			07/03/13 21:41	1
1,3-Dichlorobenzene	ND		2.0		ug/L			07/03/13 21:41	1
1,3-Dichloropropane	ND		2.0		ug/L			07/03/13 21:41	1
1,4-Dichlorobenzene	ND		2.0		ug/L			07/03/13 21:41	1
2,2-Dichloropropane	ND		2.0		ug/L			07/03/13 21:41	1
2-Chlorotoluene	ND		5.0		ug/L			07/03/13 21:41	1
4-Chlorotoluene	ND		5.0		ug/L			07/03/13 21:41	1
Benzene	ND		2.0		ug/L			07/03/13 21:41	1
Bromobenzene	ND		5.0		ug/L			07/03/13 21:41	1
Bromoform	ND		5.0		ug/L			07/03/13 21:41	1
Bromomethane	ND		5.0		ug/L			07/03/13 21:41	1
Carbon tetrachloride	ND		5.0		ug/L			07/03/13 21:41	1
Chlorobenzene	ND		2.0		ug/L			07/03/13 21:41	1
Chloroethane	ND		5.0		ug/L			07/03/13 21:41	1
Chloroform	ND		2.0		ug/L			07/03/13 21:41	1
Chloromethane	ND		5.0		ug/L			07/03/13 21:41	1
cis-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 21:41	1
cis-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 21:41	1
Dibromomethane	ND		2.0		ug/L			07/03/13 21:41	1
Dichlorodifluoromethane	ND		5.0		ug/L			07/03/13 21:41	1
Ethylbenzene	ND		2.0		ug/L			07/03/13 21:41	1
Hexachlorobutadiene	ND		5.0		ug/L			07/03/13 21:41	1
Isopropylbenzene	ND		2.0		ug/L			07/03/13 21:41	1
m,p-Xylene	ND		2.0		ug/L			07/03/13 21:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-115606/4
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0		ug/L			07/03/13 21:41	1
Naphthalene	ND		5.0		ug/L			07/03/13 21:41	1
n-Butylbenzene	ND		5.0		ug/L			07/03/13 21:41	1
N-Propylbenzene	ND		2.0		ug/L			07/03/13 21:41	1
o-Xylene	ND		2.0		ug/L			07/03/13 21:41	1
sec-Butylbenzene	ND		5.0		ug/L			07/03/13 21:41	1
Styrene	ND		2.0		ug/L			07/03/13 21:41	1
tert-Butylbenzene	ND		5.0		ug/L			07/03/13 21:41	1
Tetrachloroethene	ND		2.0		ug/L			07/03/13 21:41	1
Toluene	ND		2.0		ug/L			07/03/13 21:41	1
trans-1,2-Dichloroethene	ND		2.0		ug/L			07/03/13 21:41	1
trans-1,3-Dichloropropene	ND		2.0		ug/L			07/03/13 21:41	1
Trichloroethene	ND		2.0		ug/L			07/03/13 21:41	1
Trichlorofluoromethane	ND		5.0		ug/L			07/03/13 21:41	1
Vinyl chloride	ND		5.0		ug/L			07/03/13 21:41	1
1,2-Dibromoethane (EDB)	ND		2.0		ug/L			07/03/13 21:41	1
Bromochloromethane	ND		5.0		ug/L			07/03/13 21:41	1
Bromodichloromethane	ND		2.0		ug/L			07/03/13 21:41	1
Dibromochloromethane	ND		2.0		ug/L			07/03/13 21:41	1
p-Isopropyltoluene	ND		2.0		ug/L			07/03/13 21:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*110*		*80 - 120*		*07/03/13 21:41*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*07/03/13 21:41*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*07/03/13 21:41*	*1*

Lab Sample ID: LCS 440-115606/5
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	23.2		ug/L		93	70 - 130
1,1,1-Trichloroethane	25.0	21.5		ug/L		86	65 - 135
1,1,2,2-Tetrachloroethane	25.0	26.1		ug/L		104	55 - 130
1,1,2-Trichloroethane	25.0	24.7		ug/L		99	70 - 125
1,1-Dichloroethane	25.0	23.6		ug/L		94	70 - 125
1,1-Dichloroethene	25.0	26.6		ug/L		106	70 - 125
1,1-Dichloropropene	25.0	25.5		ug/L		102	75 - 130
1,2,3-Trichlorobenzene	25.0	23.5		ug/L		94	65 - 125
1,2,3-Trichloropropane	25.0	23.9		ug/L		96	60 - 130
1,2,4-Trichlorobenzene	25.0	23.4		ug/L		94	70 - 135
1,2,4-Trimethylbenzene	25.0	26.8		ug/L		107	75 - 125
1,2-Dibromo-3-Chloropropane	25.0	20.5		ug/L		82	50 - 135
1,2-Dichlorobenzene	25.0	24.4		ug/L		98	75 - 120
1,2-Dichloroethane	25.0	22.5		ug/L		90	60 - 140
1,2-Dichloropropane	25.0	24.5		ug/L		98	70 - 125
1,3,5-Trimethylbenzene	25.0	27.0		ug/L		108	75 - 125
1,3-Dichlorobenzene	25.0	24.2		ug/L		97	75 - 120

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-115606/5
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	25.0	24.1		ug/L		96	70 - 120
1,4-Dichlorobenzene	25.0	23.8		ug/L		95	75 - 120
2,2-Dichloropropane	25.0	22.4		ug/L		89	65 - 140
2-Chlorotoluene	25.0	25.1		ug/L		100	70 - 125
4-Chlorotoluene	25.0	26.6		ug/L		107	75 - 125
Benzene	25.0	24.9		ug/L		100	70 - 120
Bromobenzene	25.0	25.2		ug/L		101	75 - 120
Bromoform	25.0	20.5		ug/L		82	55 - 130
Bromomethane	25.0	21.3		ug/L		85	65 - 140
Carbon tetrachloride	25.0	22.6		ug/L		90	65 - 140
Chlorobenzene	25.0	22.5		ug/L		90	75 - 120
Chloroethane	25.0	25.8		ug/L		103	60 - 140
Chloroform	25.0	23.9		ug/L		96	70 - 130
Chloromethane	25.0	21.2		ug/L		85	50 - 140
cis-1,2-Dichloroethene	25.0	27.7		ug/L		111	70 - 125
cis-1,3-Dichloropropene	25.0	29.6		ug/L		118	75 - 125
Dibromomethane	25.0	25.4		ug/L		101	70 - 125
Dichlorodifluoromethane	25.0	19.1		ug/L		77	35 - 155
Ethylbenzene	25.0	25.7		ug/L		103	75 - 125
Hexachlorobutadiene	25.0	19.4		ug/L		78	65 - 135
Isopropylbenzene	25.0	27.4		ug/L		110	75 - 130
m,p-Xylene	50.0	51.1		ug/L		102	75 - 125
Methylene Chloride	25.0	25.6		ug/L		102	55 - 130
Naphthalene	25.0	24.4		ug/L		98	55 - 135
n-Butylbenzene	25.0	27.2		ug/L		109	70 - 130
N-Propylbenzene	25.0	27.9		ug/L		112	75 - 130
o-Xylene	25.0	25.7		ug/L		103	75 - 125
sec-Butylbenzene	25.0	25.8		ug/L		103	70 - 125
Styrene	25.0	27.4		ug/L		110	75 - 130
tert-Butylbenzene	25.0	26.2		ug/L		105	70 - 125
Tetrachloroethene	25.0	22.4		ug/L		89	70 - 125
Toluene	25.0	25.7		ug/L		103	70 - 120
trans-1,2-Dichloroethene	25.0	26.6		ug/L		106	70 - 125
trans-1,3-Dichloropropene	25.0	26.1		ug/L		105	70 - 125
Trichloroethene	25.0	23.6		ug/L		95	70 - 125
Trichlorofluoromethane	25.0	26.5		ug/L		106	65 - 145
Vinyl chloride	25.0	22.4		ug/L		90	55 - 135
1,2-Dibromoethane (EDB)	25.0	23.6		ug/L		94	75 - 125
Bromochloromethane	25.0	22.4		ug/L		89	70 - 130
Bromodichloromethane	25.0	24.7		ug/L		99	70 - 135
Dibromochloromethane	25.0	23.6		ug/L		94	70 - 140
p-Isopropyltoluene	25.0	23.8		ug/L		95	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*110*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50513-E-1 MS
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	27.7		ug/L		111	65 - 140
1,1,1-Trichloroethane	ND		25.0	24.8		ug/L		99	65 - 140
1,1,2,2-Tetrachloroethane	ND		25.0	28.2		ug/L		113	55 - 135
1,1,2-Trichloroethane	ND		25.0	27.1		ug/L		108	65 - 130
1,1-Dichloroethane	ND		25.0	26.3		ug/L		105	65 - 130
1,1-Dichloroethene	ND		25.0	29.1		ug/L		117	60 - 130
1,1-Dichloropropene	ND		25.0	27.7		ug/L		111	70 - 135
1,2,3-Trichlorobenzene	ND		25.0	26.5		ug/L		106	60 - 135
1,2,3-Trichloropropane	ND		25.0	27.3		ug/L		109	55 - 135
1,2,4-Trichlorobenzene	ND		25.0	26.8		ug/L		107	65 - 135
1,2,4-Trimethylbenzene	ND		25.0	29.9		ug/L		120	55 - 135
1,2-Dibromo-3-Chloropropane	ND		25.0	23.1		ug/L		92	45 - 145
1,2-Dichlorobenzene	ND		25.0	27.5		ug/L		110	75 - 125
1,2-Dichloroethane	ND		25.0	24.2		ug/L		97	60 - 140
1,2-Dichloropropane	ND		25.0	27.9		ug/L		112	65 - 130
1,3,5-Trimethylbenzene	ND		25.0	30.7		ug/L		123	70 - 130
1,3-Dichlorobenzene	ND		25.0	27.8		ug/L		111	75 - 125
1,3-Dichloropropane	ND		25.0	28.1		ug/L		112	65 - 135
1,4-Dichlorobenzene	ND		25.0	26.9		ug/L		107	75 - 125
2,2-Dichloropropane	ND		25.0	26.1		ug/L		104	60 - 145
2-Chlorotoluene	ND		25.0	29.2		ug/L		117	65 - 135
4-Chlorotoluene	ND		25.0	30.4		ug/L		122	70 - 135
Benzene	ND		25.0	27.4		ug/L		110	65 - 125
Bromobenzene	ND		25.0	28.4		ug/L		113	70 - 125
Bromoform	ND		25.0	24.4		ug/L		97	55 - 135
Bromomethane	ND		25.0	23.2		ug/L		93	55 - 145
Carbon tetrachloride	ND		25.0	25.2		ug/L		101	65 - 140
Chlorobenzene	ND		25.0	26.7		ug/L		107	75 - 125
Chloroethane	ND		25.0	27.3		ug/L		109	55 - 140
Chloroform	ND		25.0	25.7		ug/L		103	65 - 135
Chloromethane	ND		25.0	22.1		ug/L		88	45 - 145
cis-1,2-Dichloroethene	ND		25.0	30.6		ug/L		123	65 - 130
cis-1,3-Dichloropropene	ND		25.0	31.4		ug/L		125	70 - 130
Dibromomethane	ND		25.0	27.9		ug/L		112	65 - 135
Dichlorodifluoromethane	ND		25.0	21.7		ug/L		87	25 - 155
Ethylbenzene	ND		25.0	30.0		ug/L		120	65 - 130
Hexachlorobutadiene	ND		25.0	21.9		ug/L		88	60 - 135
Isopropylbenzene	ND		25.0	30.7		ug/L		123	70 - 135
m,p-Xylene	ND		50.0	59.9		ug/L		120	65 - 130
Methylene Chloride	ND		25.0	28.5		ug/L		114	50 - 135
Naphthalene	ND		25.0	27.7		ug/L		111	50 - 140
n-Butylbenzene	ND		25.0	30.9		ug/L		124	65 - 135
N-Propylbenzene	ND		25.0	31.1		ug/L		124	70 - 135
o-Xylene	ND		25.0	29.1		ug/L		116	65 - 125
sec-Butylbenzene	ND		25.0	29.6		ug/L		119	70 - 125
Styrene	ND		25.0	31.1		ug/L		124	50 - 145
tert-Butylbenzene	ND		25.0	29.1		ug/L		116	65 - 130
Tetrachloroethene	ND		25.0	25.6		ug/L		103	65 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50513-E-1 MS
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	ND		25.0	27.6		ug/L		110	70 - 125
trans-1,2-Dichloroethene	ND		25.0	30.2		ug/L		121	65 - 130
trans-1,3-Dichloropropene	ND		25.0	28.6		ug/L		115	65 - 135
Trichloroethene	ND		25.0	26.4		ug/L		106	65 - 125
Trichlorofluoromethane	ND		25.0	30.0		ug/L		120	60 - 145
Vinyl chloride	ND		25.0	24.7		ug/L		99	45 - 140
1,2-Dibromoethane (EDB)	ND		25.0	28.1		ug/L		112	70 - 130
Bromochloromethane	ND		25.0	24.6		ug/L		98	65 - 135
Bromodichloromethane	ND		25.0	26.8		ug/L		107	70 - 135
Dibromochloromethane	ND		25.0	27.9		ug/L		112	65 - 140
p-Isopropyltoluene	ND		25.0	26.4		ug/L		106	65 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*109*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: 440-50513-E-1 MSD
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	26.1		ug/L		104	65 - 140	6	20
1,1,1-Trichloroethane	ND		25.0	25.2		ug/L		101	65 - 140	2	20
1,1,2,2-Tetrachloroethane	ND		25.0	28.8		ug/L		115	55 - 135	2	30
1,1,2-Trichloroethane	ND		25.0	27.1		ug/L		108	65 - 130	0	25
1,1-Dichloroethane	ND		25.0	26.3		ug/L		105	65 - 130	0	20
1,1-Dichloroethene	ND		25.0	30.5		ug/L		122	60 - 130	5	20
1,1-Dichloropropene	ND		25.0	29.0		ug/L		116	70 - 135	5	20
1,2,3-Trichlorobenzene	ND		25.0	26.3		ug/L		105	60 - 135	1	20
1,2,3-Trichloropropane	ND		25.0	26.3		ug/L		105	55 - 135	4	30
1,2,4-Trichlorobenzene	ND		25.0	26.9		ug/L		108	65 - 135	1	20
1,2,4-Trimethylbenzene	ND		25.0	30.2		ug/L		121	55 - 135	1	25
1,2-Dibromo-3-Chloropropane	ND		25.0	23.3		ug/L		93	45 - 145	1	30
1,2-Dichlorobenzene	ND		25.0	27.6		ug/L		110	75 - 125	0	20
1,2-Dichloroethane	ND		25.0	24.8		ug/L		99	60 - 140	3	20
1,2-Dichloropropane	ND		25.0	28.1		ug/L		112	65 - 130	0	20
1,3,5-Trimethylbenzene	ND		25.0	30.0		ug/L		120	70 - 130	2	20
1,3-Dichlorobenzene	ND		25.0	27.6		ug/L		111	75 - 125	1	20
1,3-Dichloropropane	ND		25.0	26.8		ug/L		107	65 - 135	5	25
1,4-Dichlorobenzene	ND		25.0	26.6		ug/L		106	75 - 125	1	20
2,2-Dichloropropane	ND		25.0	28.0		ug/L		112	60 - 145	7	25
2-Chlorotoluene	ND		25.0	28.4		ug/L		114	65 - 135	3	20
4-Chlorotoluene	ND		25.0	30.4		ug/L		121	70 - 135	0	20
Benzene	ND		25.0	28.5		ug/L		114	65 - 125	4	20
Bromobenzene	ND		25.0	28.7		ug/L		115	70 - 125	1	20
Bromoform	ND		25.0	23.7		ug/L		95	55 - 135	3	25
Bromomethane	ND		25.0	24.6		ug/L		99	55 - 145	6	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-50513-E-1 MSD
Matrix: Water
Analysis Batch: 115606

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Carbon tetrachloride	ND		25.0	25.5		ug/L		102	65 - 140	1	25
Chlorobenzene	ND		25.0	24.9		ug/L		99	75 - 125	7	20
Chloroethane	ND		25.0	30.0		ug/L		120	55 - 140	9	25
Chloroform	ND		25.0	26.8		ug/L		107	65 - 135	4	20
Chloromethane	ND		25.0	23.6		ug/L		94	45 - 145	6	25
cis-1,2-Dichloroethene	ND		25.0	30.4		ug/L		122	65 - 130	1	20
cis-1,3-Dichloropropene	ND		25.0	32.6	F	ug/L		131	70 - 130	4	20
Dibromomethane	ND		25.0	27.0		ug/L		108	65 - 135	3	25
Dichlorodifluoromethane	ND		25.0	22.1		ug/L		89	25 - 155	2	30
Ethylbenzene	ND		25.0	28.4		ug/L		113	65 - 130	6	20
Hexachlorobutadiene	ND		25.0	22.6		ug/L		91	60 - 135	3	20
Isopropylbenzene	ND		25.0	30.9		ug/L		123	70 - 135	1	20
m,p-Xylene	ND		50.0	57.3		ug/L		115	65 - 130	4	25
Methylene Chloride	ND		25.0	28.9		ug/L		116	50 - 135	1	20
Naphthalene	ND		25.0	27.7		ug/L		111	50 - 140	0	30
n-Butylbenzene	ND		25.0	30.5		ug/L		122	65 - 135	1	20
N-Propylbenzene	ND		25.0	31.0		ug/L		124	70 - 135	0	20
o-Xylene	ND		25.0	27.8		ug/L		111	65 - 125	5	20
sec-Butylbenzene	ND		25.0	30.0		ug/L		120	70 - 125	1	20
Styrene	ND		25.0	29.3		ug/L		117	50 - 145	6	30
tert-Butylbenzene	ND		25.0	29.3		ug/L		117	65 - 130	1	20
Tetrachloroethene	ND		25.0	24.2		ug/L		97	65 - 130	6	20
Toluene	ND		25.0	28.3		ug/L		113	70 - 125	3	20
trans-1,2-Dichloroethene	ND		25.0	30.9		ug/L		123	65 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	29.5		ug/L		118	65 - 135	3	25
Trichloroethene	ND		25.0	26.4		ug/L		106	65 - 125	0	20
Trichlorofluoromethane	ND		25.0	31.5		ug/L		126	60 - 145	5	25
Vinyl chloride	ND		25.0	25.5		ug/L		102	45 - 140	3	30
1,2-Dibromoethane (EDB)	ND		25.0	26.1		ug/L		104	70 - 130	7	25
Bromochloromethane	ND		25.0	26.3		ug/L		105	65 - 135	7	25
Bromodichloromethane	ND		25.0	26.6		ug/L		107	70 - 135	0	20
Dibromochloromethane	ND		25.0	26.6		ug/L		106	65 - 140	5	25
p-Isopropyltoluene	ND		25.0	26.6		ug/L		107	65 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*113*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

GC/MS VOA

Analysis Batch: 115313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-50103-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-50103-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-50508-1	TB1	Total/NA	Water	8260B	
440-50508-4	MW7	Total/NA	Water	8260B	
440-50508-5	MW3	Total/NA	Water	8260B	
440-50508-6	MW6	Total/NA	Water	8260B	
LCS 440-115313/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-115313/4	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 115321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-50456-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-50456-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-50508-7	MW5	Total/NA	Water	8260B	
440-50508-12	EW3	Total/NA	Water	8260B	
440-50508-13	EW2	Total/NA	Water	8260B	
440-50508-14	MW9	Total/NA	Water	8260B	
LCS 440-115321/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-115321/4	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 115407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-50508-3	MW8	Total/NA	Water	8260B	
440-50508-3 MS	MW8	Total/NA	Water	8260B	
440-50508-3 MSD	MW8	Total/NA	Water	8260B	
LCS 440-115407/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-115407/4	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 115578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-50401-B-4 MS	Matrix Spike	Total/NA	Water	8260B	
440-50401-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-50508-2	MW1	Total/NA	Water	8260B	
440-50508-15	EW1	Total/NA	Water	8260B	
LCS 440-115578/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-115578/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 115606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-50508-8	MW11A	Total/NA	Water	8260B	
440-50508-9	MW11B	Total/NA	Water	8260B	
440-50508-10	MW10A	Total/NA	Water	8260B	
440-50508-11	MW10B	Total/NA	Water	8260B	
440-50508-16	MW2	Total/NA	Water	8260B	
440-50508-17	MW4	Total/NA	Water	8260B	
440-50513-E-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-50513-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-115606/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-115606/4	Method Blank	Total/NA	Water	8260B	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Turner Maclane Inc.
Project/Site: Fremont Dry Cleaners

TestAmerica Job ID: 440-50508-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-14
Arizona	State Program	9	AZ0671	10-13-13
California	LA Cty Sanitation Districts	9	10256	01-31-14
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-28-14 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-13
New Mexico	State Program	6	N/A	01-31-14
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

* Expired certification is currently pending renewal and is considered valid.

440-50508 Chain of Custody

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF BTS #

CLIENT Turner Maclane Inc.

SITE Fremont Cleaners
690 N. Ventura Road
Oxnard, CA

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT

LAB: Test America

DHS #

440-50508

Invoice and Report to: Timothy G. Bodkin, P.G., C.E.G.
tgbodkin@comcast.net
P.O. Box 962
Montara, CA 94037

SAMPLE I.D.	DATE	TIME	MATRIX S = Soil W = H2O	CONTAINERS TOTAL	VOCs (EPA 8260B)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
TB1	7-1-13	0700	W	2	Y				
MW-1		1140	W	3	X				
~~FW-6~~		~~1216~~	~~W~~	~~3~~					
MW-8		0745	W	3	X				
MW-7		0805	W	3	X				
MW-3		0815	W	3	X				00 7/2/13 9:50
MW-6		1018	W	3	X				
MW-5		1035	W	3	X				
MW-11A		1049	W	3	X				
MW-11B	"	1057	W	3	X				

SAMPLING COMPLETED DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED NO LATER THAN:
7-1-13	1400	Ben Stevens	Standard

		DATE	TIME			DATE	TIME
RELEASED BY		7-1-13	1530	➡	Nicole	7/1/13	1530
RELEASED BY	Nicole	7/1/13		➡		7-1-13	1700
RELEASED BY		7-1-13	1825	➡		7-1-13	1825
SHIPPED VIA		DATE SENT	TIME SENT			Page 1 of 2	

5.4 / 4.9

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF BTS #

CLIENT Turner Maclane Inc.

SITE Fremont Cleaners

690 N. Ventura Road

Oxnard, CA

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT

LAB: Test America

DHS #

Invoice and Report to: Timothy G. Bodkin, P.G., C.E.G.
tgbodkin@comcast.net
P.O. Box 962
Montara, CA 94037

SAMPLE I.D.	DATE	TIME	MATRIX S = Soil W = H2O	CONTAINERS TOTAL	VOCs (EPA 8260B)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-10A	7-1-13	1118	W	3	X				
MW-10B		1128	W	3	X				
EW-3		0835	W	3	X				
EW-2		0850	W	3	X				
MW-9		0920	W	3	X				
EW-1		0935	W	3	X				
MW-2		0950	W	3	X				
MW-4		1003	W	3	X				

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY
	7-1-13	1400	Ben Steurai

RESULTS NEEDED NO LATER THAN: Standard

		DATE	TIME			DATE	TIME
RELEASED BY		7-1-13	1530	➡	Nicole	7/1/13	1530
RELEASED BY	Nicole	7/1/13		➡		7-1-13	1645
RELEASED BY		7-1-13	1805	➡		7-1-13	1825
SHIPPED VIA		DATE SENT		TIME SENT			

Page 2 of 2

5.4 / 4.9

Login Sample Receipt Checklist

Client: Turner Maclane Inc.

Job Number: 440-50508-1

Login Number: 50508

List Source: TestAmerica Irvine

List Number: 1

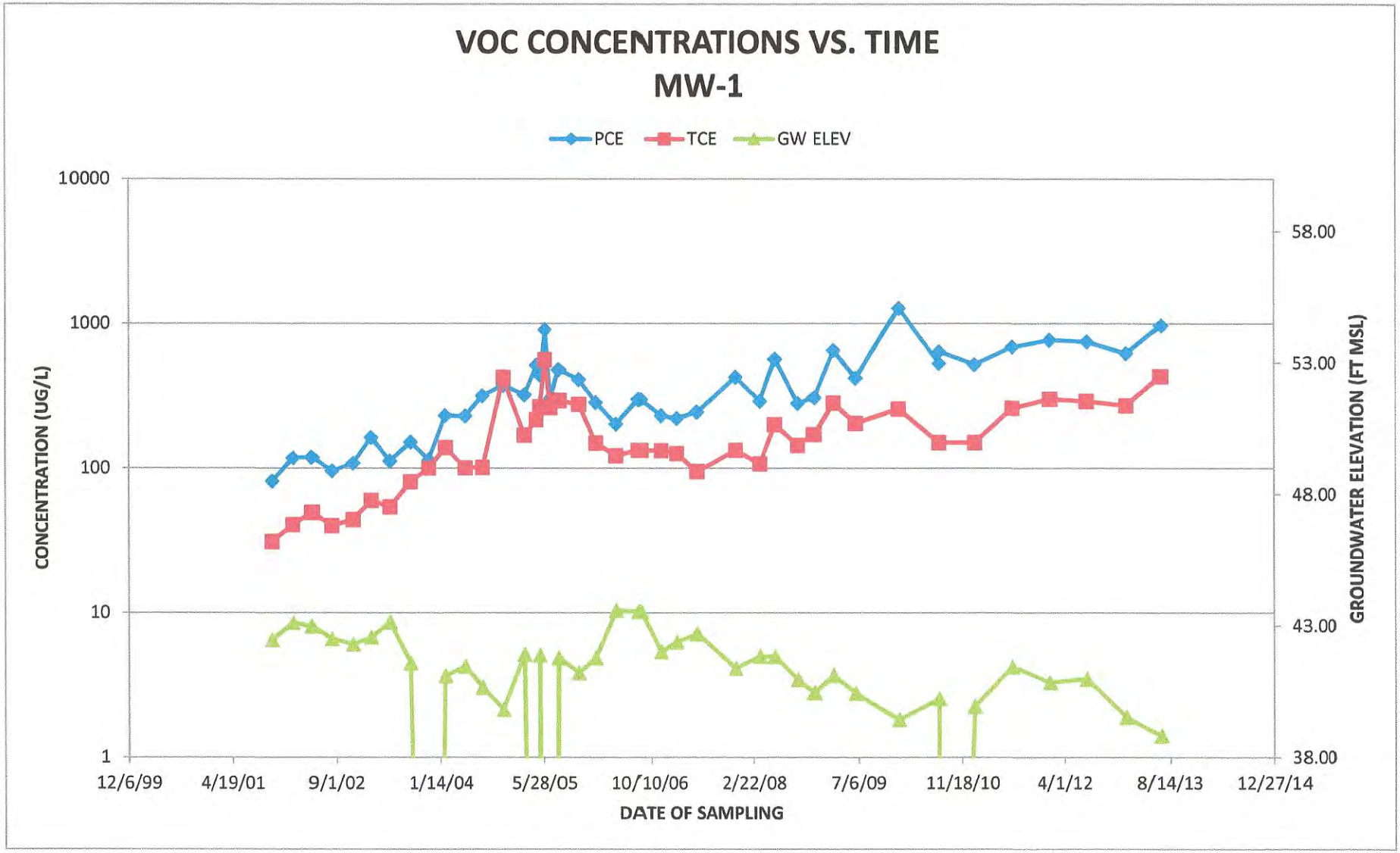
Creator: Chy, Jonathan

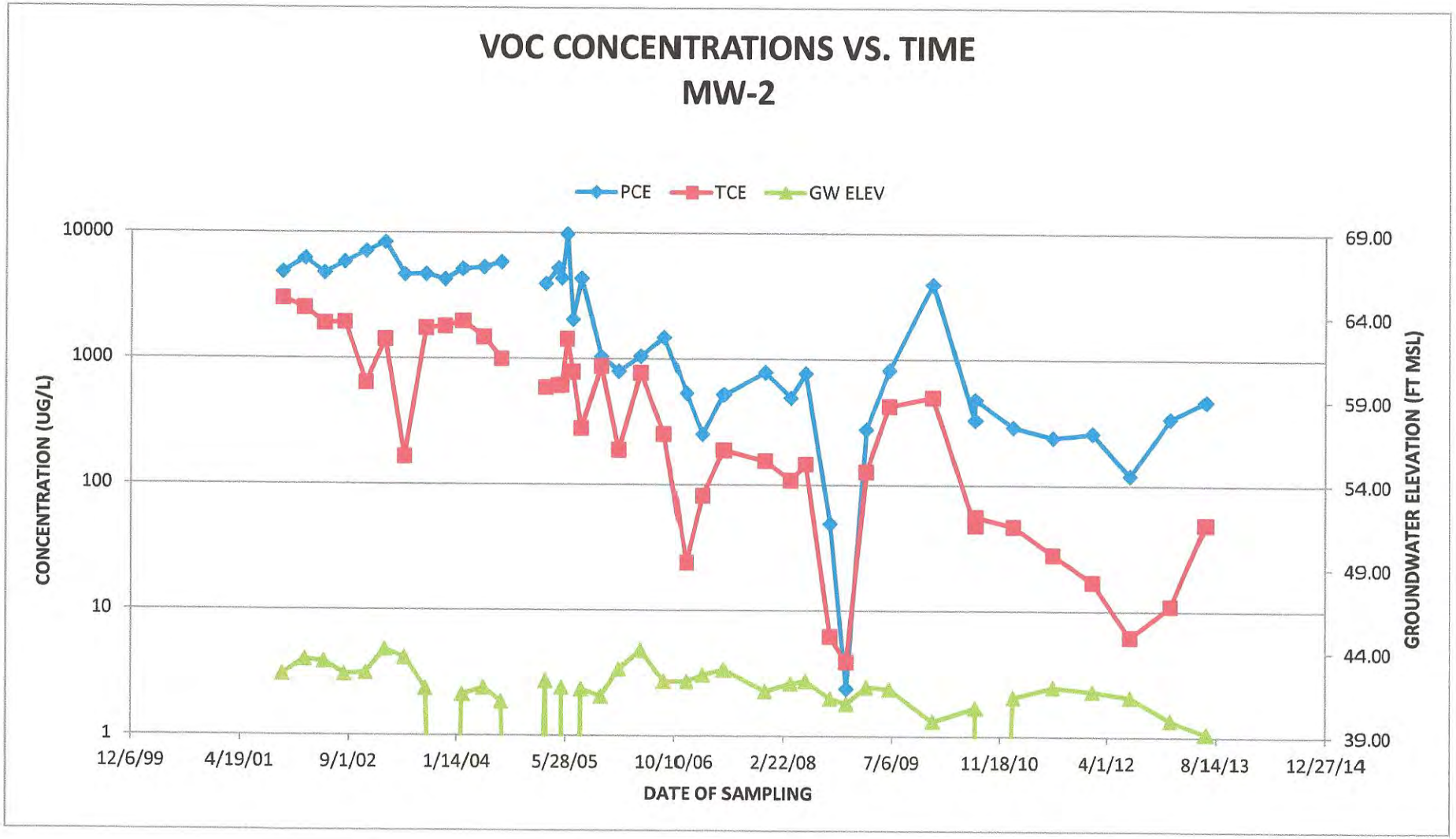
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Ben Stevens
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

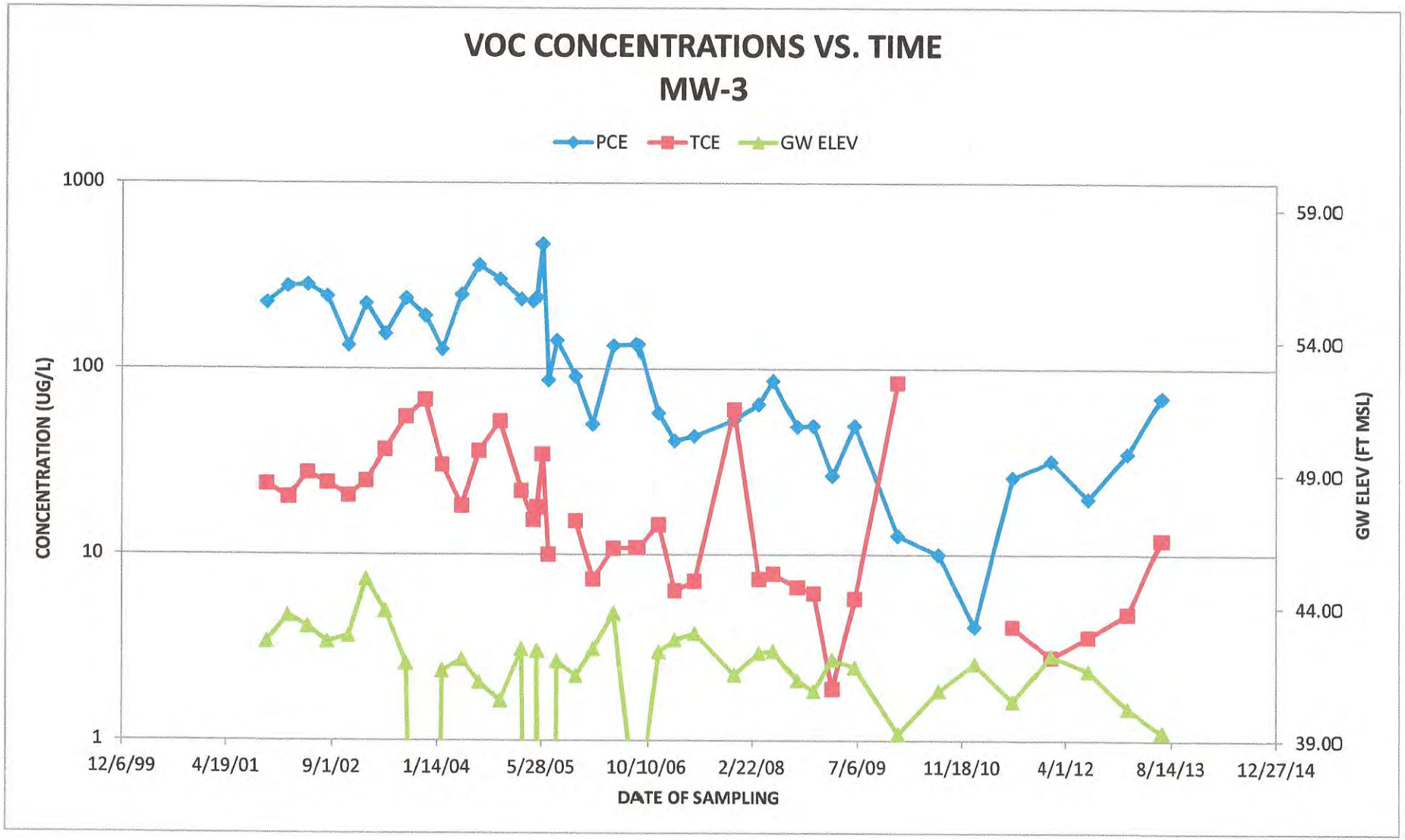
TURNER MACLANE, INC.
ENVIRONMENTAL CONSULTING

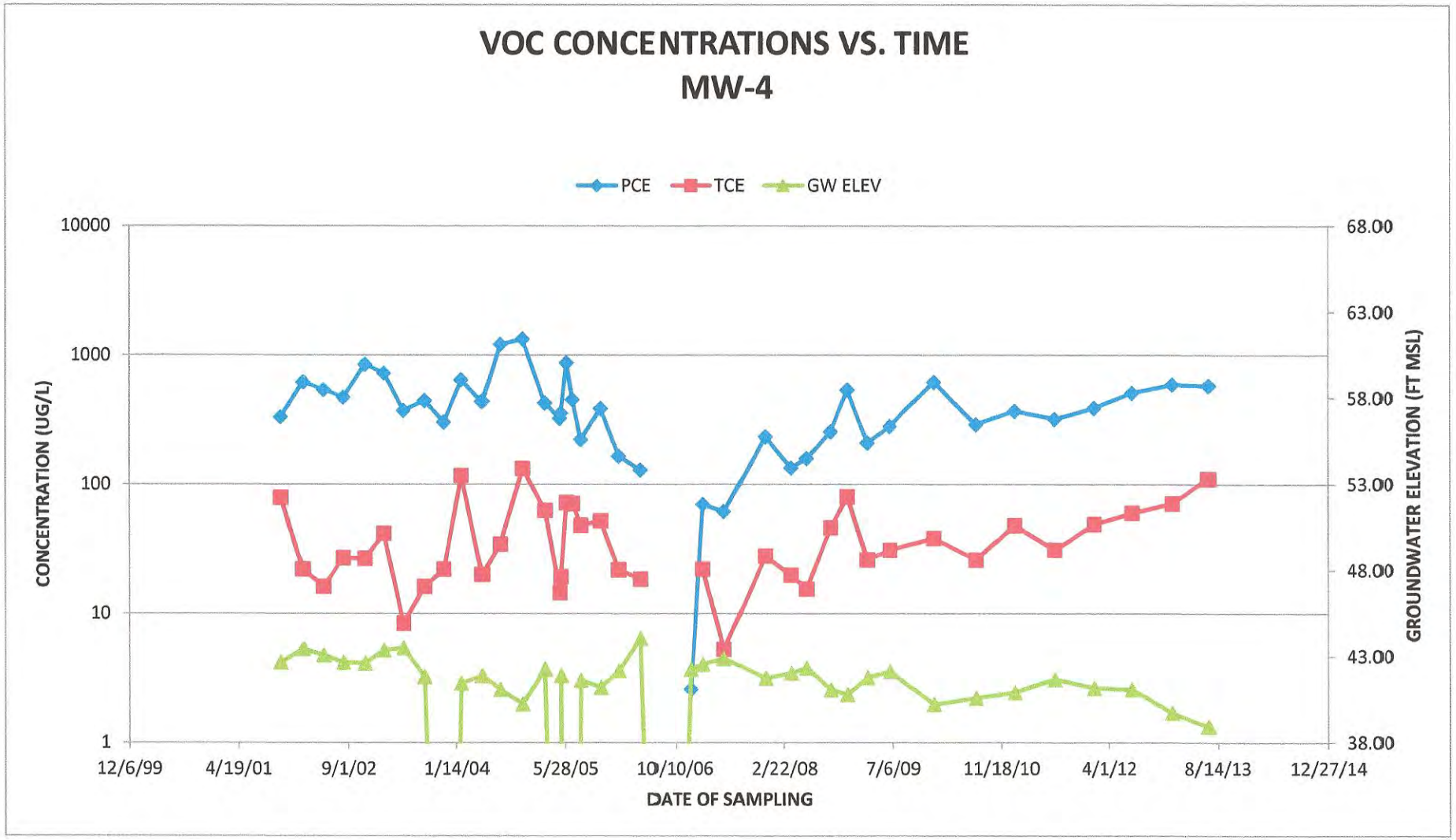
APPENDIX C

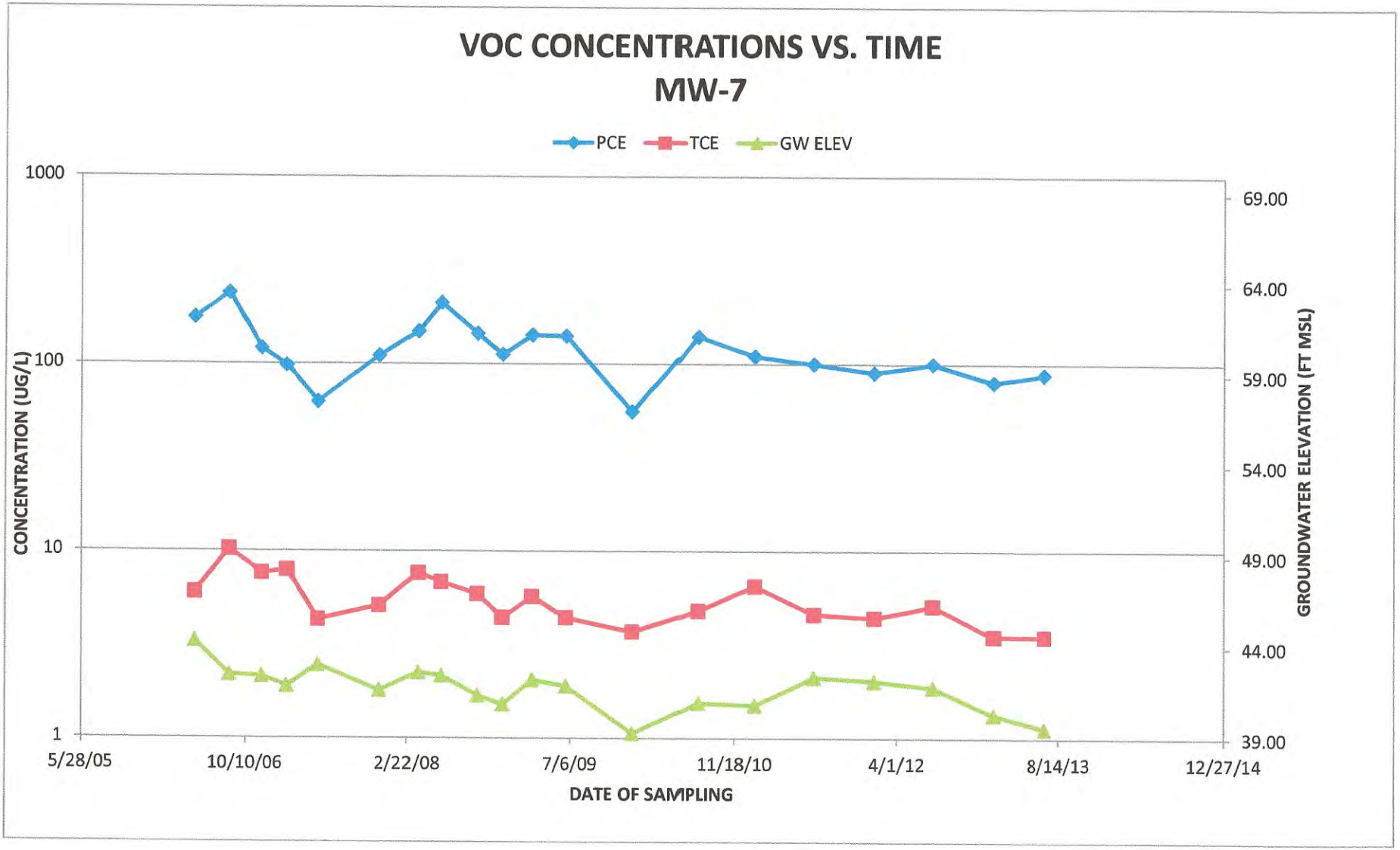
VOC CONCENTRATION VS. TIME GRAPHS

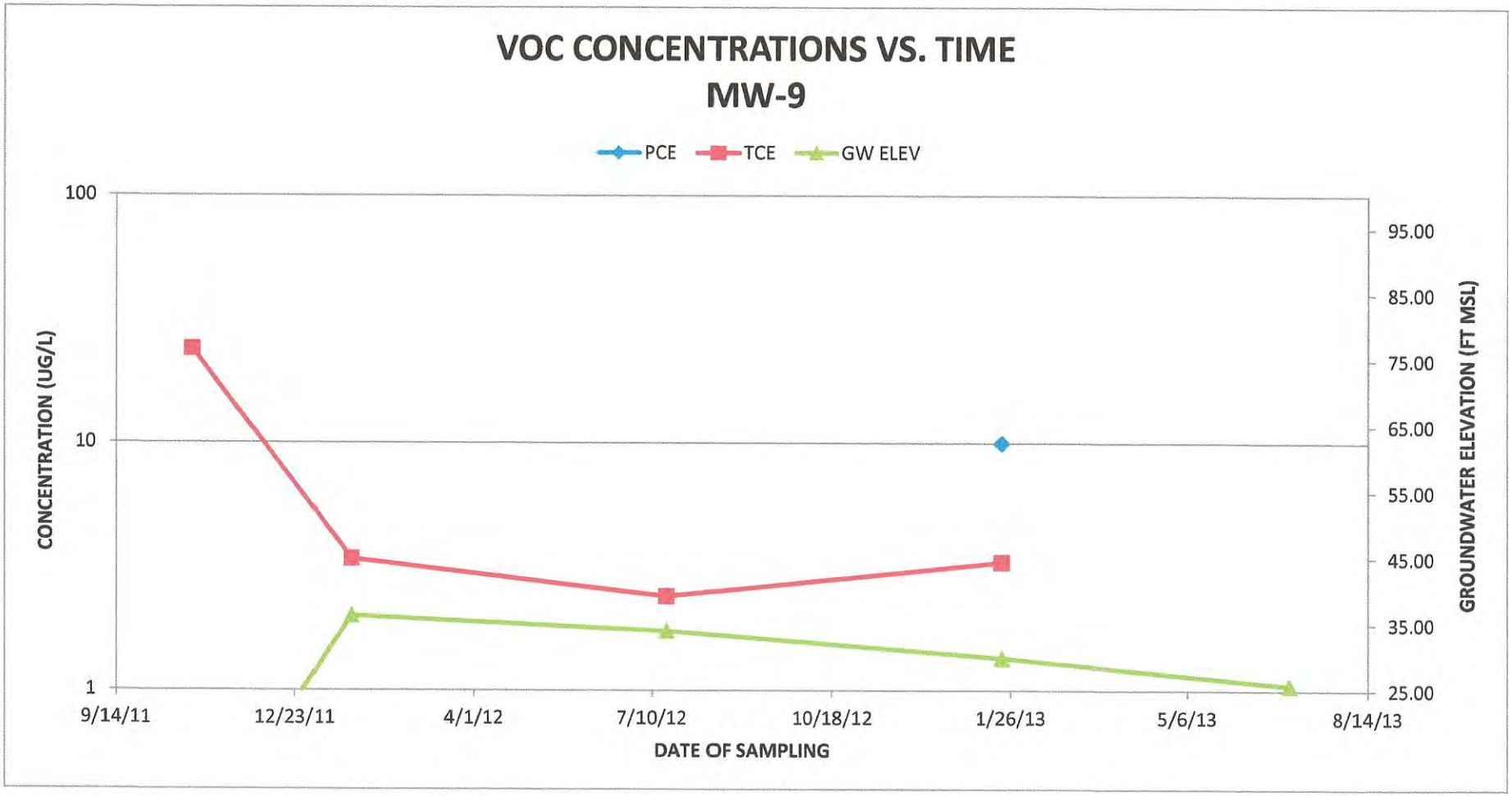

VOC CONCENTRATIONS VS. TIME
MW-1
PCE
TCE
GW ELEV
10000
1000
100
10
1
CONCENTRATION (UG/L)
58.00
53.00
48.00
43.00
38.00
GROUNDWATER ELEVATION (FT MSL)
12/6/99
4/19/01
9/1/02
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING

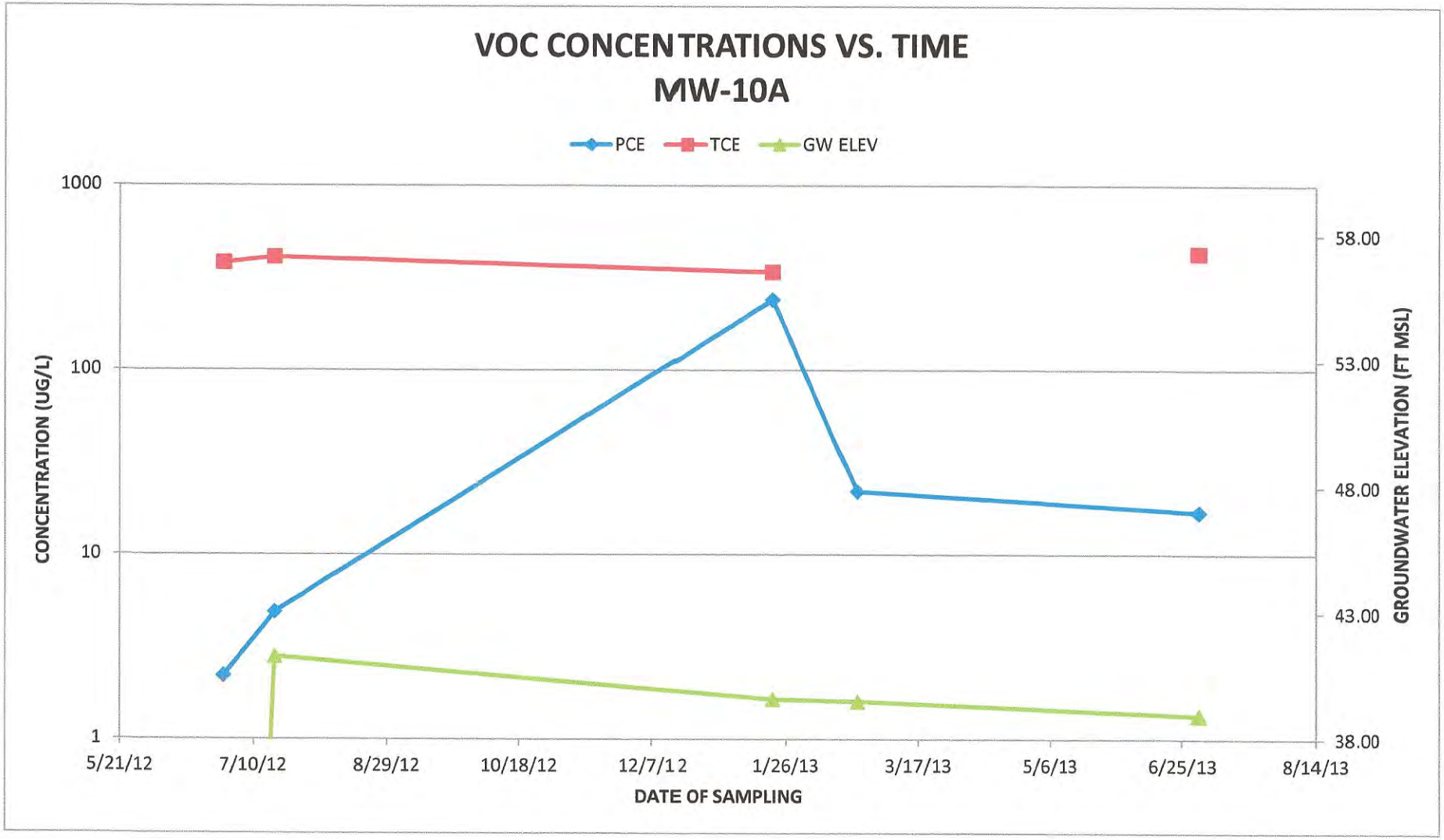

VOC CONCENTRATIONS VS. TIME
MW-2
PCE
TCE
GW ELEV
CONCENTRATION (UG/L)
10000
1000
100
10
1
GROUNDWATER ELEVATION (FT MSL)
69.00
64.00
59.00
54.00
49.00
44.00
39.00
12/6/99
4/19/01
9/1/02
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING

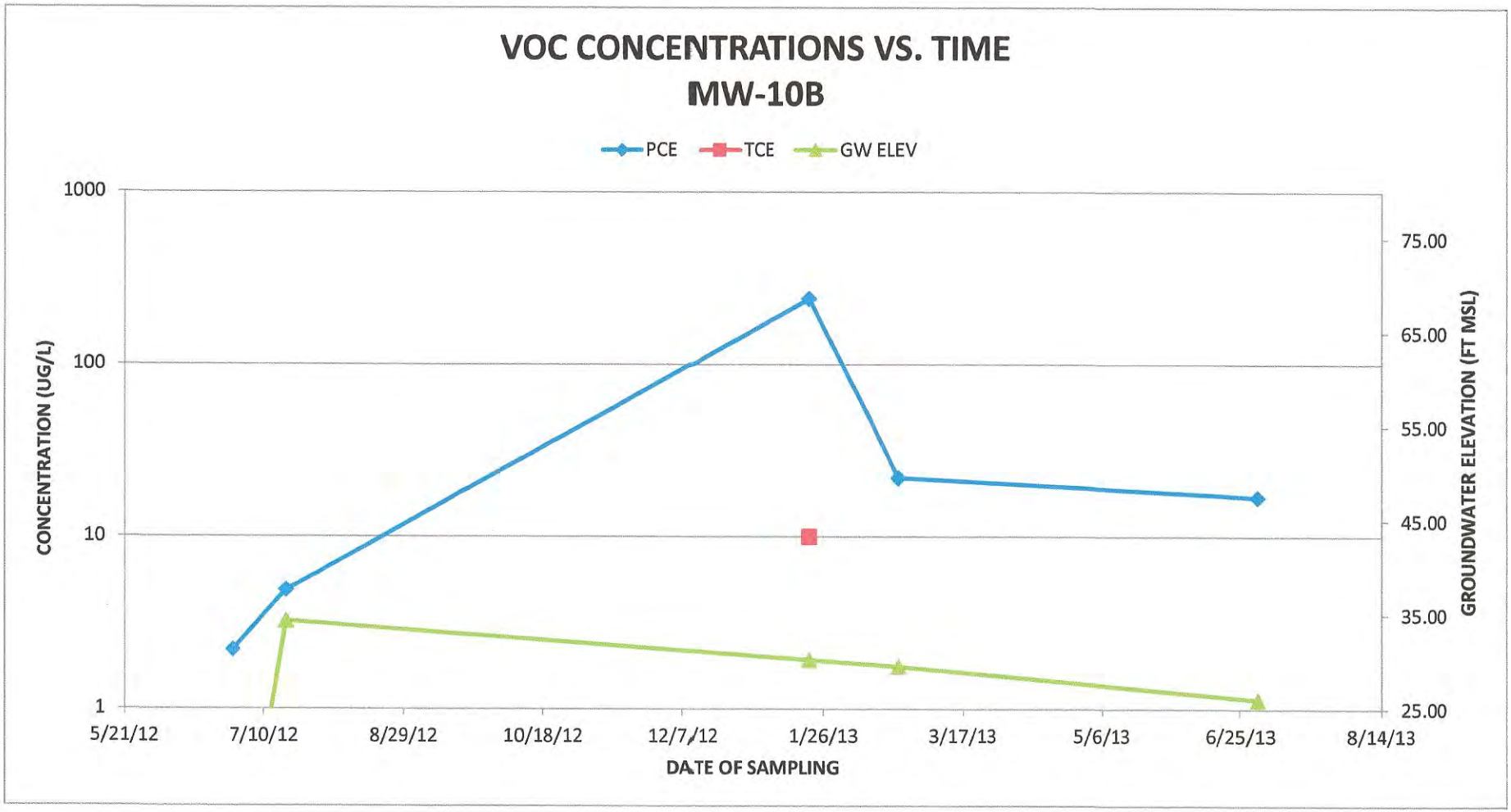

VOC CONCENTRATIONS VS. TIME
MW-3
PCE
TCE
GW ELEV
1000
100
10
1
CONCENTRATION (UG/L)
59.00
54.00
49.00
44.00
39.00
GW ELEV (FT MSL)
12/6/99
4/19/01
9/1/02
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING

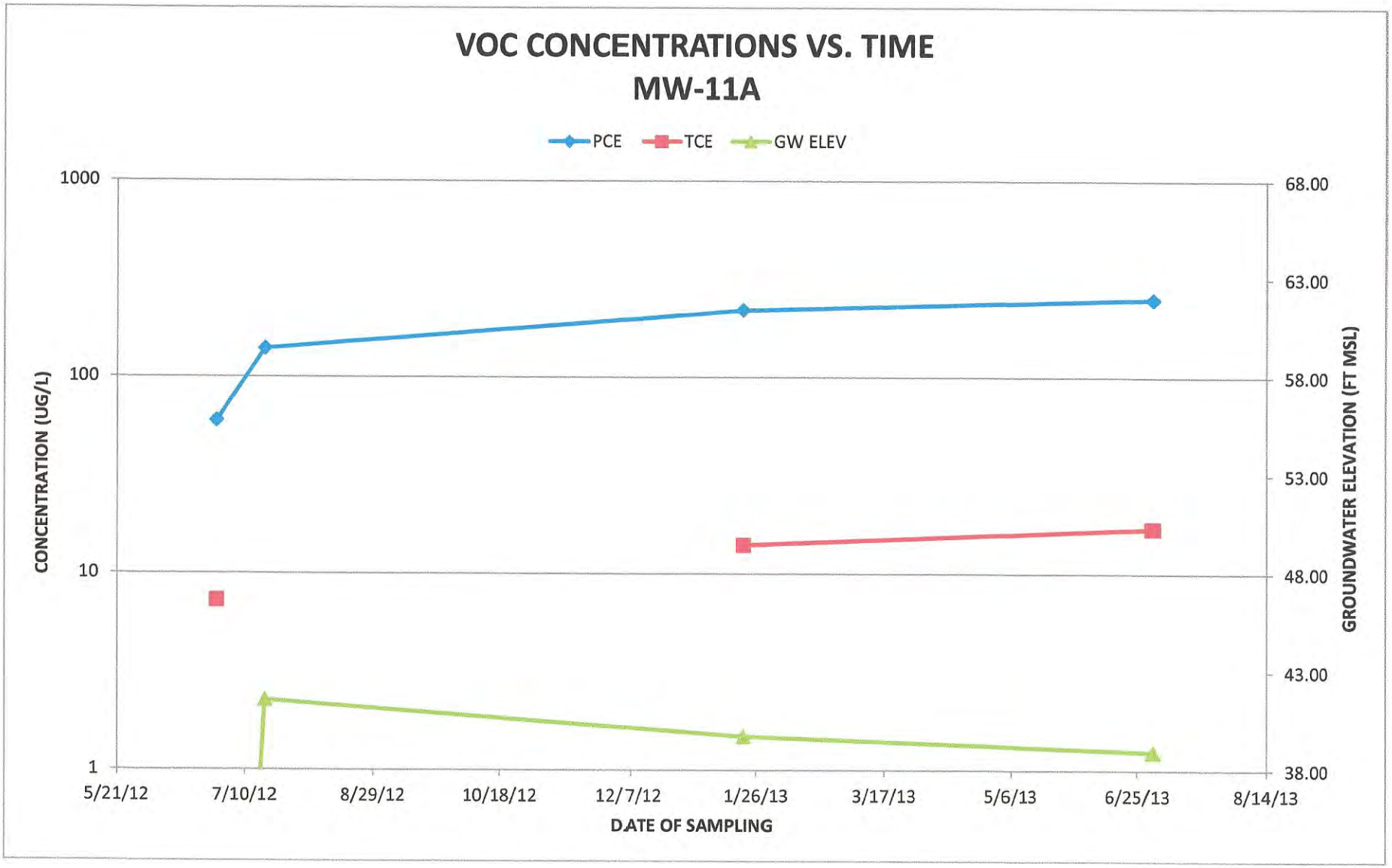

VOC CONCENTRATIONS VS. TIME
MW-4
PCE
TCE
GW ELEV
10000
1000
100
10
1
CONCENTRATION (UG/L)
68.00
63.00
58.00
53.00
48.00
43.00
38.00
GROUNDWATER ELEVATION (FT MSL)
12/6/99
4/19/01
9/1/02
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING

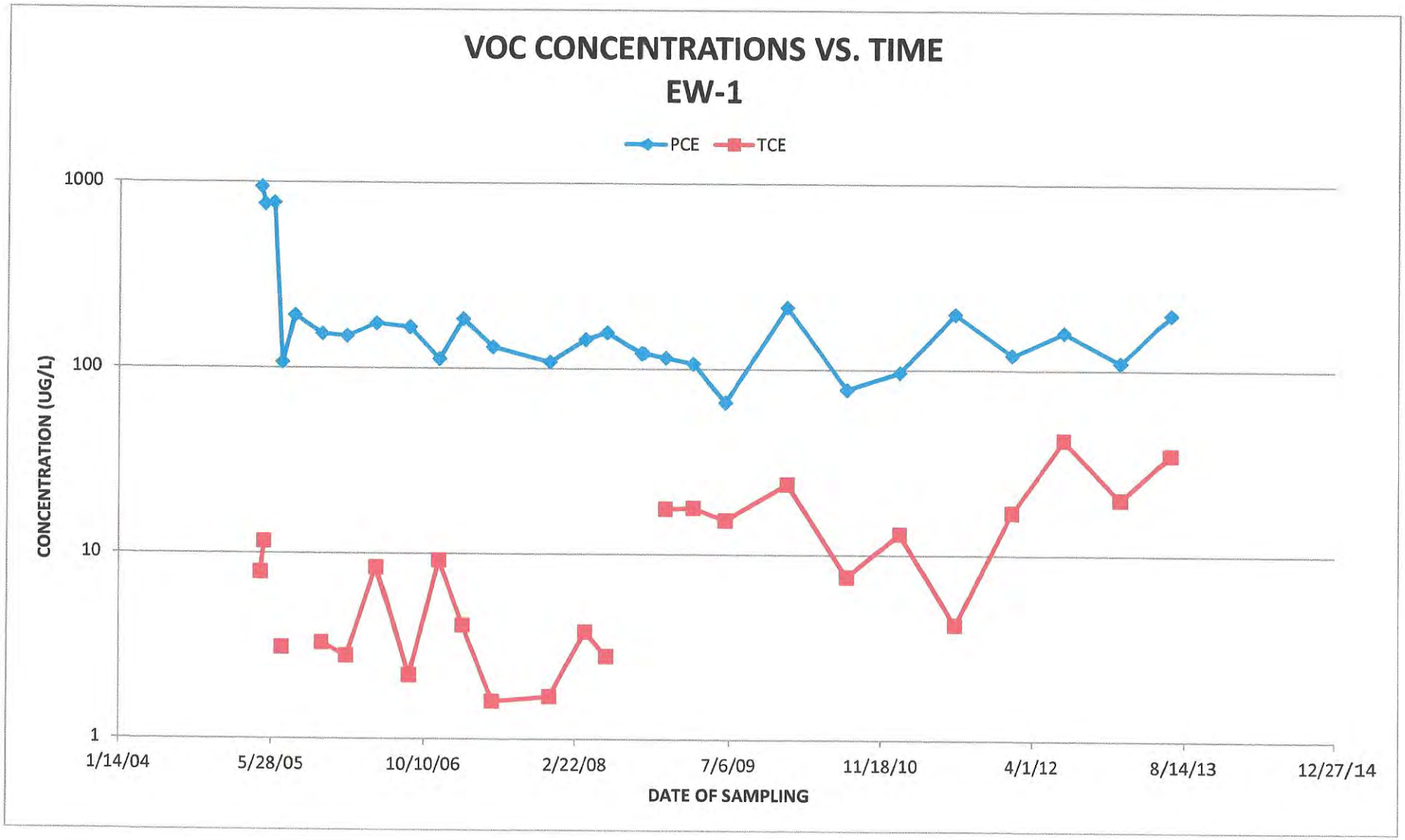

VOC CONCENTRATIONS VS. TIME
MW-7
PCE
TCE
GW ELEV
1000
100
10
1
CONCENTRATION (UG/L)
69.00
64.00
59.00
54.00
49.00
44.00
39.00
GROUNDWATER ELEVATION (FT MSL)
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING

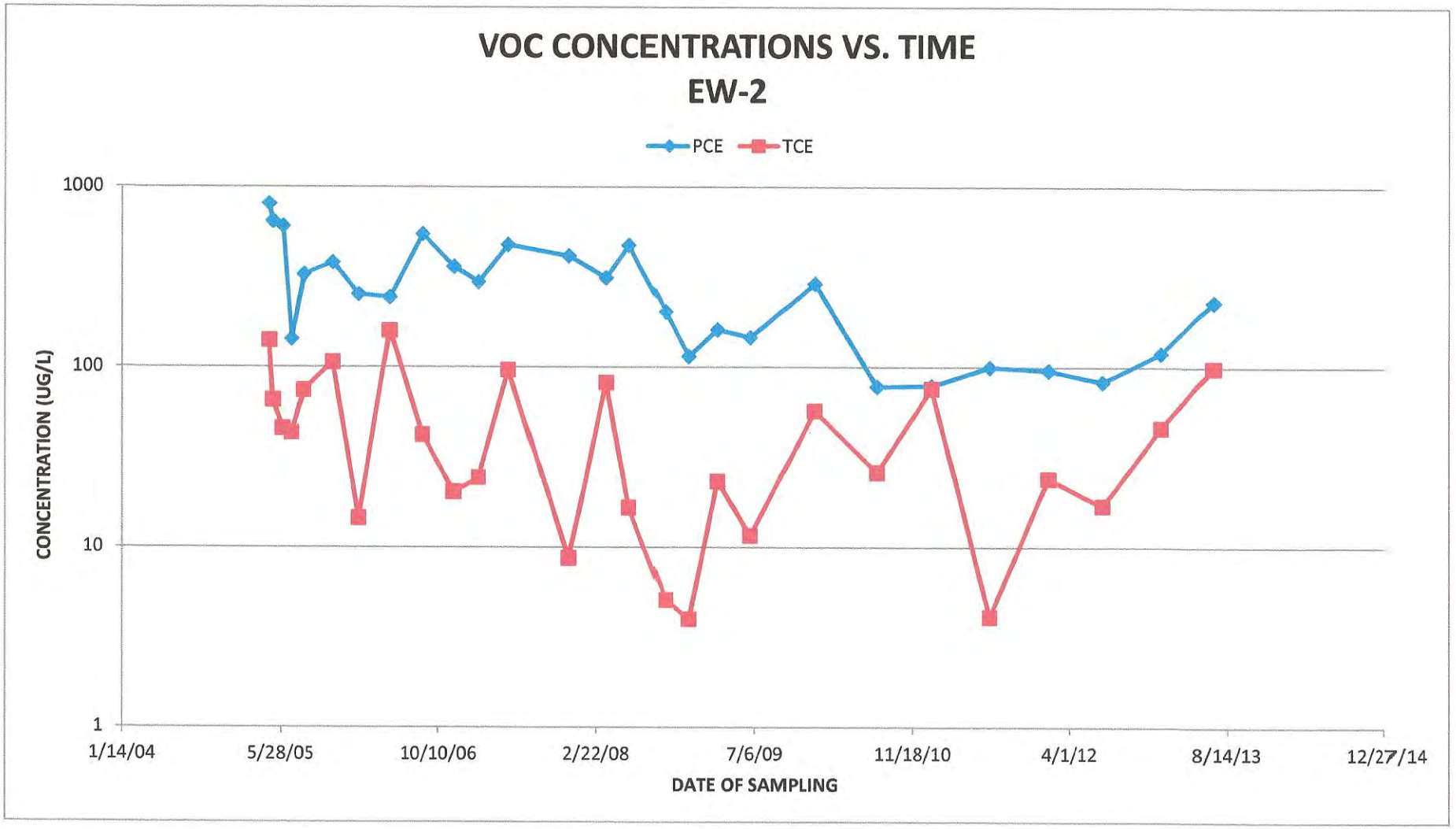

VOC CONCENTRATIONS VS. TIME
MW-9
PCE
TCE
GW ELEV
100
10
1
CONCENTRATION (UG/L)
95.00
85.00
75.00
65.00
55.00
45.00
35.00
25.00
GROUNDWATER ELEVATION (FT MSL)
9/14/11
12/23/11
4/1/12
7/10/12
10/18/12
1/26/13
5/6/13
8/14/13
DATE OF SAMPLING

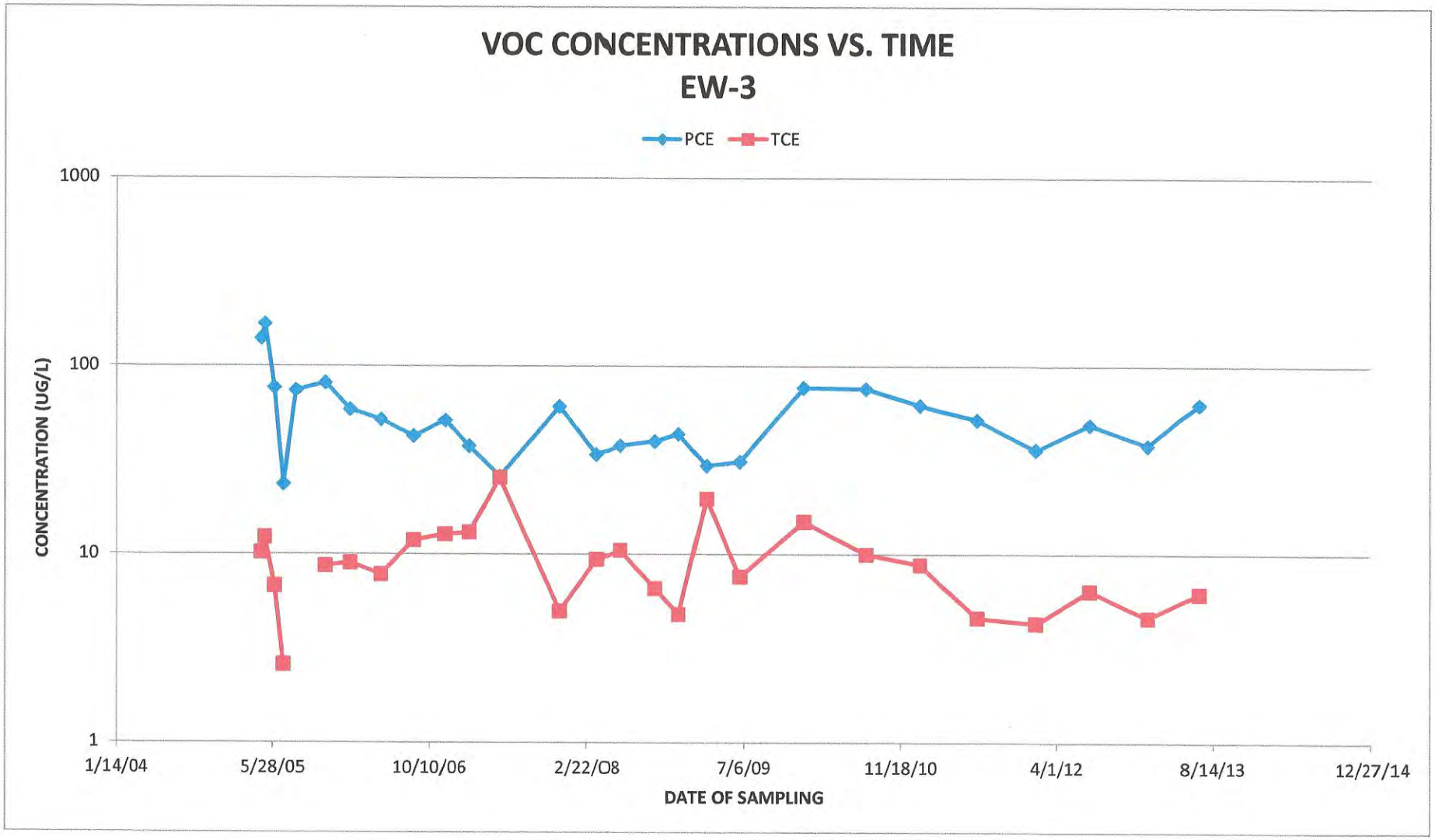

VOC CONCENTRATIONS VS. TIME
MW-10A
PCE
TCE
GW ELEV
1000
100
10
1
CONCENTRATION (UG/L)
58.00
53.00
48.00
43.00
38.00
GROUNDWATER ELEVATION (FT MSL)
5/21/12
7/10/12
8/29/12
10/18/12
12/7/12
1/26/13
3/17/13
5/6/13
6/25/13
8/14/13
DATE OF SAMPLING

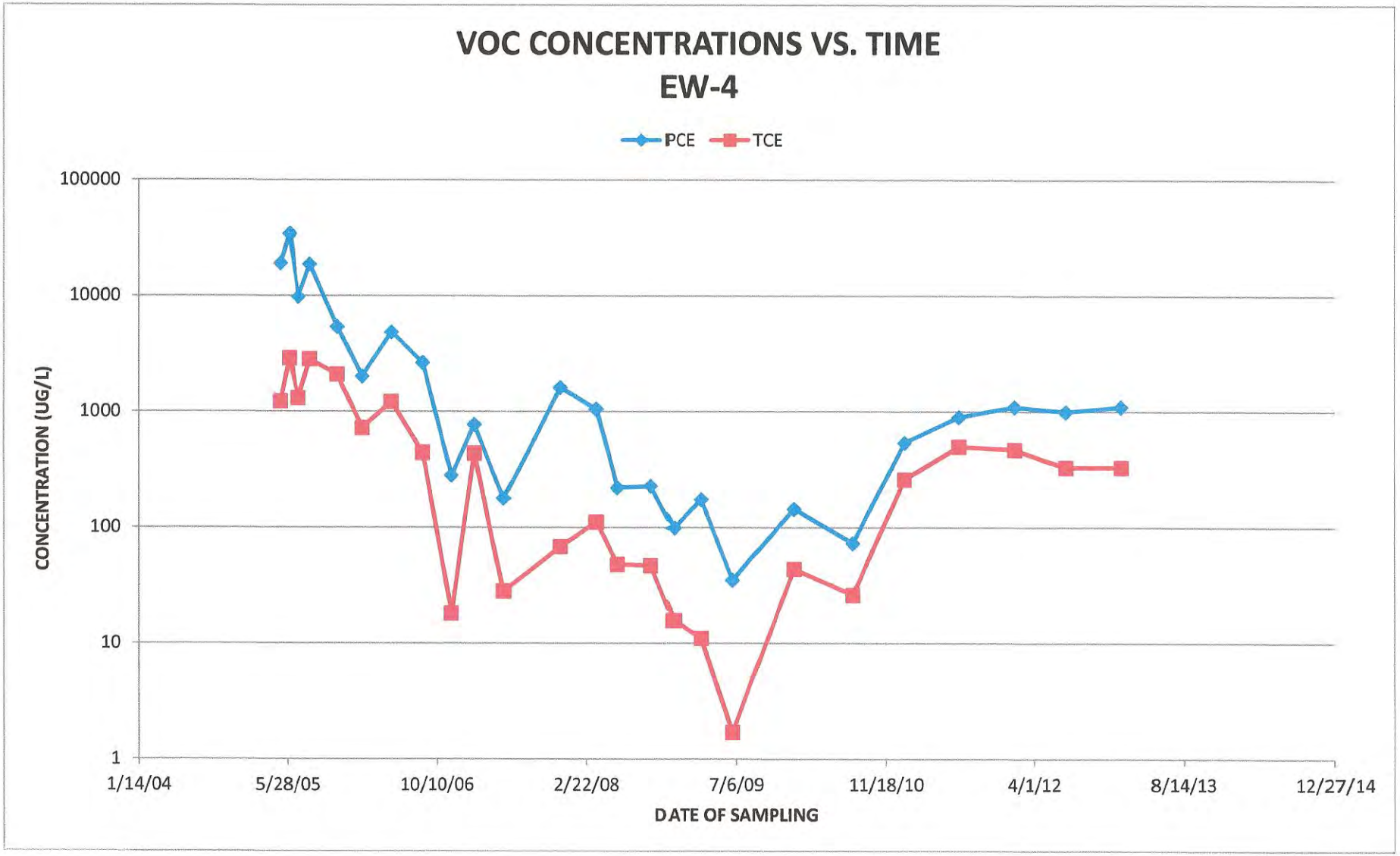

VOC CONCENTRATIONS VS. TIME
MW-10B
PCE
TCE
GW ELEV
1000
100
10
1
CONCENTRATION (UG/L)
75.00
65.00
55.00
45.00
35.00
25.00
GROUNDWATER ELEVATION (FT MSL)
5/21/12
7/10/12
8/29/12
10/18/12
12/7/12
1/26/13
3/17/13
5/6/13
6/25/13
8/14/13
DATE OF SAMPLING

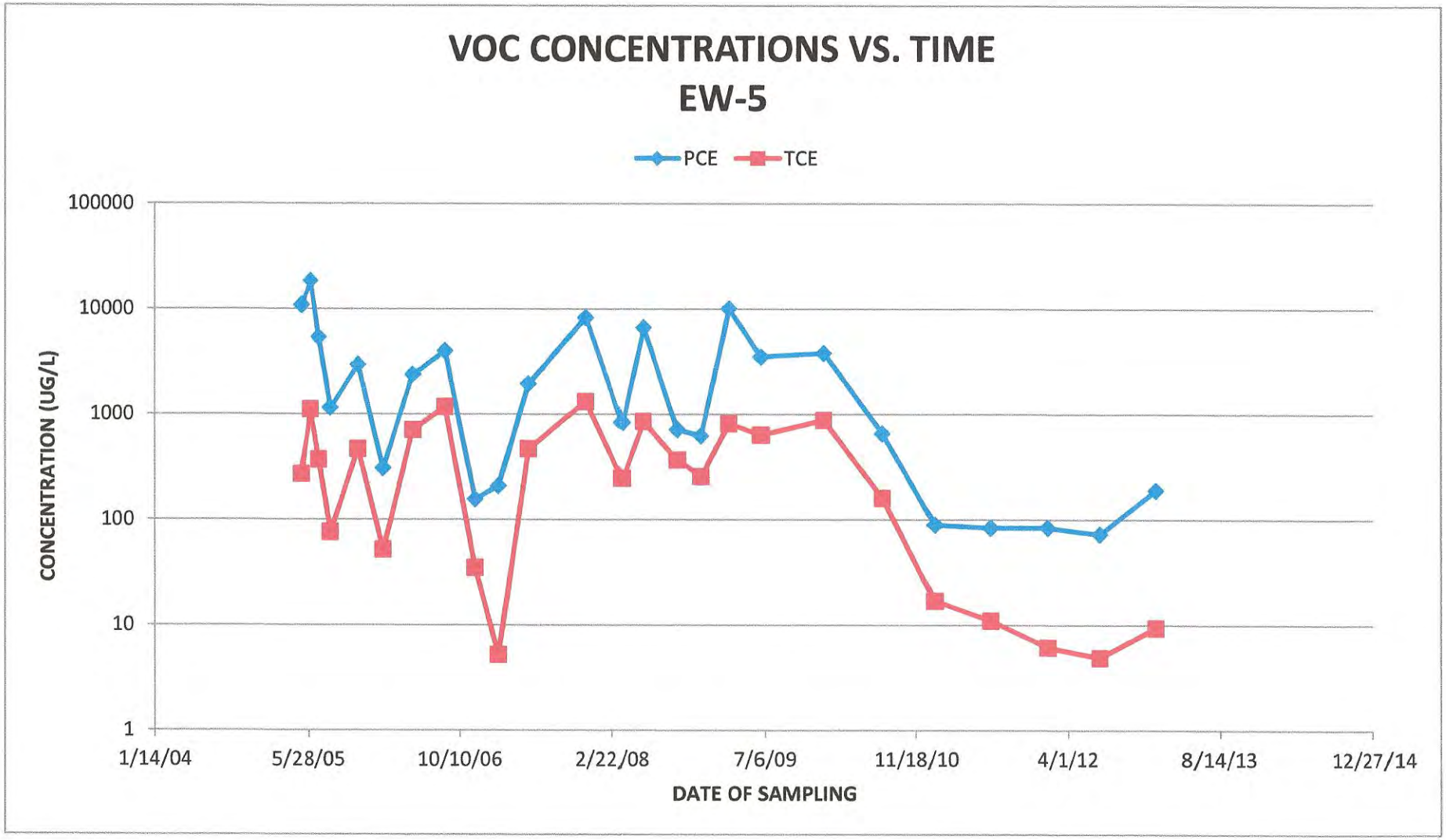

VOC CONCENTRATIONS VS. TIME
MW-11A
PCE
TCE
GW ELEV
1000
100
10
1
CONCENTRATION (UG/L)
68.00
63.00
58.00
53.00
48.00
43.00
38.00
GROUNDWATER ELEVATION (FT MSL)
5/21/12
7/10/12
8/29/12
10/18/12
12/7/12
1/26/13
3/17/13
5/6/13
6/25/13
8/14/13
DATE OF SAMPLING

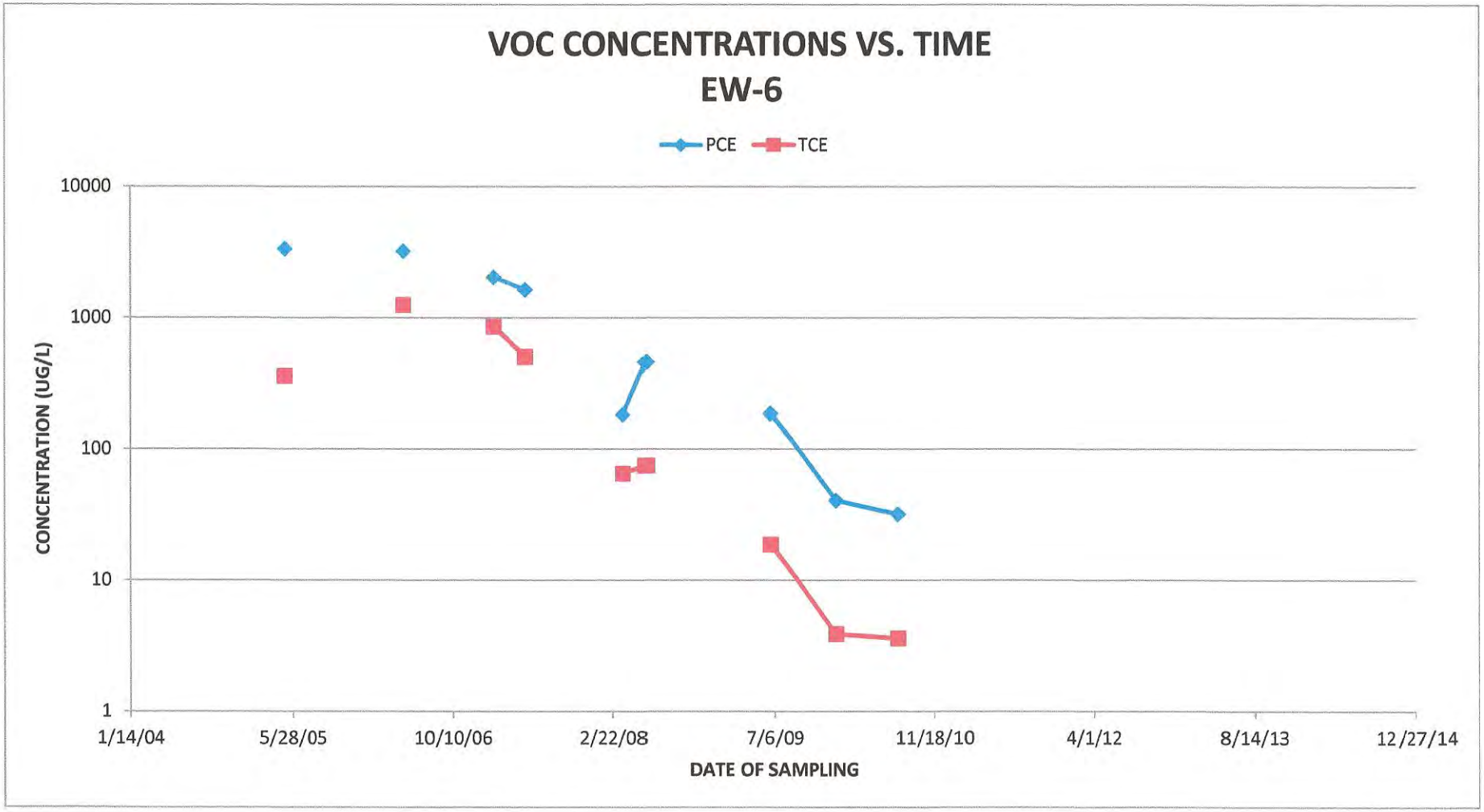

VOC CONCENTRATIONS VS. TIME
EW-1
PCE
TCE
1000
100
10
1
CONCENTRATION (UG/L)
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING


VOC CONCENTRATIONS VS. TIME
EW-2
PCE
TCE
1000
100
10
1
CONCENTRATION (UG/L)
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING


VOC CONCENTRATIONS VS. TIME
EW-3
PCE
TCE
1000
100
10
1
CONCENTRATION (UG/L)
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING


VOC CONCENTRATIONS VS. TIME
EW-4
PCE
TCE
100000
10000
1000
100
10
1
CONCENTRATION (UG/L)
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING


VOC CONCENTRATIONS VS. TIME
EW-5
PCE
TCE
100000
10000
1000
100
10
1
CONCENTRATION (UG/L)
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING


VOC CONCENTRATIONS VS. TIME
EW-6
PCE
TCE
10000
1000
100
10
1
CONCENTRATION (UG/L)
1/14/04
5/28/05
10/10/06
2/22/08
7/6/09
11/18/10
4/1/12
8/14/13
12/27/14
DATE OF SAMPLING

RANCHO EL RIO DE SANTA CLARA O'LA COLONIA

183-07

Bk 181

Bk 200

Bk 202

Tax Rate Area
03002
03019
03021
03042
73013
73021
73026
73029

1" = 400'

04 6 | 8

06 | 10 | 11

09

4 | 5 | 7

1 58.78Ac.

2 39.27 Ac.

3 1.75Ac.

4 37.31Ac.

5 2.507Ac.

6 1.41Ac.

7 2.02Ac.

8 5.32 Ac.

9 107.± 992Ac.

10 43.19 Ac.

11 5 Ac.

12 9.70 Ac.

13 5.32 Ac.

14 15.36Ac.

15 37.52Ac.

16 47.36Ac.

17 28.96Ac.

18 29.57Ac.

19 2.25Ac.

20 TRACT 2247-3

21 TRACT 2247-1

22 TRACT 2247-2

23 TRACT 3051-1

TRACT 3051-2

TRACT 3051-3

93 3 RM 49

157 | 158 | 159 | 160

136 | 135 | 134 | 133

129 | 130 | 131 | 132

56RS73
45RS55

DORIS AVE.

1340 TO ℄ ROAD

DORIS (2147-556)

W. DORIS AVE

TEAL CLUB

PATTERSON ROAD

VENTURA ROAD

JOLIET PL.

IVANHOE AV. (IBIS PL.)

IVANHOE (IBERIS PL.)

WAVERLY (WOOLFLOWER) CT.

CORONADO PL.

IVANHOE AVE

KENSINGTON LN.

DEVONSHIRE AVE.

WEST DEVONSHIRE DRIVE

OXFORD DR.

W. BEVERLY DR.

W. PALM DR

MAGNOLIA AVE.

BOTTLE-BRUSH ROAD

SECOND STREET

N ST.

Portion Patterson Ranch Sub., M.R. Bk.8, Pg.1
Rancho El Rio de Santa Clara O'la Colonia, M.R. Bk.3, Pg.48

Assessor's Block Numbers Shown in Ellipses.
Assessor's Parcel Numbers Shown in Circles.
Assessor's Mineral Numbers Shown in Squares.

NOTE: ASSESSOR PARCELS SHOWN ON THIS PAGE DO NOT NECESSARILY CONSTITUTE LEGAL LOTS. CHECK WITH COUNTY SURVEYOR'S OFFICE OR PLANNING DIVISION TO VERIFY.

CITY OF OXNARD and VICINITY
Ventura County Assessor's Map.

DRAWN		REVISED	2-23-2007
REDRAWN		CREATED	
INKED	PLOTTED	EFFECTIVE	ROLL
Compiled By Ventura County Assessor's Office			

MAP SCALE 1" = 1000'

500 0 1000 2000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0905E

FIRM

FLOOD INSURANCE RATE MAP

VENTURA COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 905 OF 1275
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OXNARD, CITY OF	060417	0905	E
SAN BUENAVENTURA, CITY OF	060419	0905	E
VENTURA COUNTY	060413	0905	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06111C0905E

EFFECTIVE DATE
JANUARY 20, 2010

Federal Emergency Management Agency

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

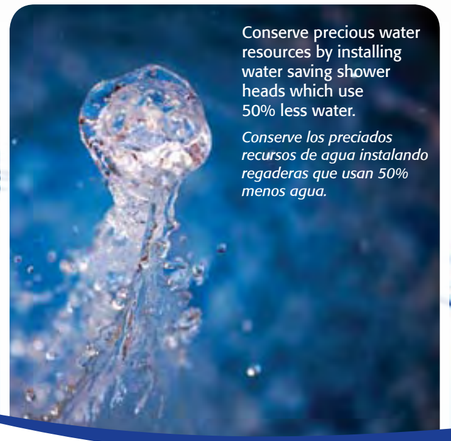
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL. 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — — — — — 23	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4276000 FT	1000-meter Universal Transverse Mercator grid values, zone 11S
6000000 FT	5000-foot grid ticks: California State Plane coordinate system, zone VII (FIPSZONE 0406), Lambert Conformal Conic projection
DX5510	Benchmark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

Water...essential to all life: Past, present and future.



Conserve precious water resources by installing water saving shower heads which use 50% less water.

Conserve los preciados recursos de agua instalando regaderas que usan 50% menos agua.

Consumer Confidence Report

2012 Annual Water Quality Report
for City of Oxnard Water Customers

Informe Anual de Calidad del Agua Para los Clientes Consumidores de Agua en la Ciudad de Oxnard

Informe De Confiabilidad Para El Consumidor 2012

Water Resources Division
Public Works Department

CITY OF OXNARD CALIFORNIA

Informe Anual de Calidad del Agua Para los Clientes Consumidores de Agua en la Ciudad de Oxnard

Informe De Confiabilidad Para El Consumidor 2012

Consumer Confidence Report

2012 Annual Water Quality Report
for City of Oxnard Water Customers

Water Resources Division
Public Works Department

CITY OF OXNARD CALIFORNIA

City Council Office
300 West Third Street
Oxnard, CA 93030

Public Information
You are invited to attend any of the regularly scheduled City Council meetings:

When:
Every Tuesday at 6:00 PM

Where:
City Council Chambers
305 West Third Street
Oxnard, CA 93030
www.cityofoxnard.org

For more information, call:
(805) 385-8136

For additional information:
Environmental Protection Agency
Safe Drinking Water Hotline:
(800) 426-4791

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CITY OF OXNARD CALIFORNIA

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OXNARD, CA
PERMIT NO. 399

ECRWSS
POSTAL CUSTOMER

One Yard at a Time

Ocean Friendly Gardens™ (OFG) classes and hands-on workshops made a splash this year with residents. Over 30 participants learned the principles of C.P.R. (conservation, permeability, retention) to transform their thirsty lawns into beautiful Ocean Friendly Gardens™.

A new component of the program was launched for Oxnard water customer participants: a one dollar per square foot of turf removal rebate. Teaming up with City Corps, the Water Resources Division offered assistance with OFG™ planning, design and installation.

Seven homeowners converted their thirsty-turf front yards to beautiful Ocean Friendly Gardens™ this year. For more information, call (805) 385-8339.

Un jardín a la vez

Las clases y talleres de Ocean Friendly Gardens™ (OFG) fueron un éxito entre los residentes este año. Más de 30 participantes aprendieron los principios de C.P.R. (conservación, permeabilidad, retención) para transformar su sediento pasto en un lindo jardín tipo Ocean Friendly Gardens™.

Se lanzó un nuevo componente del programa para los participantes consumidores de agua de Oxnard: Un reembolso de un dolar por pie cuadrado de cesped eliminado. Al asociarse con City Corps, la División de Recursos del Agua ofreció ayuda con la planificación, diseño e instalación de OFG™.

Siete propietarios de casa convirtieron sus sedientos jardines del frente de su casa en Ocean Friendly Gardens™ este año. Para mayor información, llame al (805) 385-8339.

BEFORE

AFTER

Transform your thirsty lawn into a beautiful OFG™: up to 90% less water, up to 70% less yard waste, up to 70% fewer maintenance hours, zero irrigation run off, and rain water harvesting.

Transforme su sediento pasto en un lindo jardín tipo OFG™: hasta 90% menos agua, hasta 70% menos de desperdicio del jardín, hasta 70% menos horas de mantenimiento, cero escurrimiento por irrigación y captación de agua pluvial.

Drinking Water Sources

The City of Oxnard Water Resources Division is the responsible agency that supervises and maintains the delivery of tap water within the City limits. In 2012 as well as in past years, the City is proud to have successfully met strict water guidelines set by the California Department of Public Health (CDPH) and the US Environmental Protection Agency (USEPA). Oxnard water is a blend of imported water purchased from Calleguas Municipal Water District (CMWD), regional water purchased from United Water Conservation District (UWCD), and water produced by the City's wells.

Calleguas Municipal Water District
CMWD is a member agency of the Metropolitan Water District of Southern California (MWDSC), the major water wholesale agency for Southern California. The water originates in Northern California and is conveyed over 500 miles to Southern California via the State Water Project's system of reservoirs, aqueducts and pump stations. MWDSC then treats the water at its Joseph Jensen Filtration Facility and pumps it to CMWD in Thousand Oaks. CMWD stores some of the water from MWDSC for dry weather use and pumps the balance to the retail water agencies in Ventura County, including Oxnard. CMWD performs regular watershed surveys of the area surrounding its Lake Bard in order to ensure that stored water maintains its high quality. When stored water in Lake Bard is needed, CMWD treats the water first at its Lake Bard Water Filtration Plant and then pumps the water to its retail water agencies. CMWD performs routine sampling and analysis of its treated water product.

United Water Conservation District
UWCD captures Santa Clara River Watershed water in Lake Piru, conveys the water via the Santa Clara River, diverts it at the Freeman Diversion, and recharges the groundwater of the Oxnard Plain via UWCD recharge facilities in El Rio and Saticoy. UWCD then pumps the recharged groundwater, treats it, and conveys it to the retail water agencies of the Oxnard Plain, including Oxnard. UWCD performs regular watershed surveys of the Santa Clara River Watershed in order to ensure that stored and diverted water maintains its high quality, and performs routine sampling and analysis of its treated water product.

City of Oxnard Groundwater Wells
The City operates ten groundwater wells that are tested and monitored on a consistent basis to ensure that the water meets safe drinking water standards. The Water Resources Division also conducts routine source water assessments in order to detect potential contaminants in its groundwater before they become a problem. Potential sources of contaminants include: chemical and petroleum processing and storage facilities, historic gas stations, private septic systems, dry cleaners, metal plating, finishing and fabricating facilities, and agricultural drainage.

Fuentes de Agua Potable

La División de Recursos del Agua de la Ciudad de Oxnard es la agencia responsable de supervisar y suministrar el agua de la llave dentro del perímetro urbano. En 2012 así como en años anteriores estamos muy orgullosos de haber cumplido con éxito las estrictas normas establecidas por el Departamento de Salud Pública de California (CDPH) y la Agencia de Protección al Medio Ambiente de los Estados Unidos (USEPA). El agua de Oxnard es una mezcla de aguas importadas y adquiridas del Sistema de Agua del Distrito Municipal Calleguas (CMWD por sus siglas en inglés), agua regional adquirida del Distrito de Conservación de Aguas Unido (UWCD por sus siglas en inglés) y agua producida por los pozos de la Municipalidad.

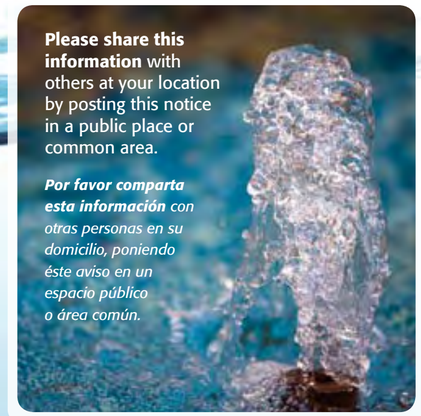
El Sistema de Agua del Distrito Municipal Calleguas
El CMWD es una agencia afiliada al Sistema de Agua del Distrito Metropolitano del Sur de California (MWDSC por sus siglas en inglés), el comercializador mayorista de agua más importante del Sur de California. El agua se origina en el Norte de California y es conducida a lo largo de 500 millas hasta el Sur de California a través de los sistemas de reservorios de los distintos Proyectos Hídricos del Estado, así como por acueductos y estaciones de bombeo. Luego, MWDSC trata el agua en su Instalación de Filtración Joseph Jensen y la bombea hacia CMWD en Thousand Oaks. CMWD almacena parte del agua que recibe de MWDSC para usarse en épocas de clima seco y, el resto, es bombeado hacia las agencias minoristas de agua en regiones en el Condado de Ventura, inclusive Oxnard. CMWD realiza estudios frecuentes de cuenca pluvial en el área que rodea su lago Lake Bard, con el fin de asegurar que el agua almacenada mantenga su alto grado de calidad. Cuando necesita usar el agua almacenada en el lago Lake Bard, CMWD primero la trata en su Planta de Filtración de Agua de Lake Bard y luego bombea el agua hacia sus agencias minoristas de agua. CMWD realiza muestreos y análisis rutinarios de su agua tratada.

El Distrito de Conservación de Agua Unido
El UWCD capta el agua de la Cuenca Pluvial del Río Santa Clara en el lago Piru, la transporta a través del Río Santa Clara y la desvía en el Desvío Freeman, y recarga el agua subterránea de la Planicie de Oxnard mediante las instalaciones de recarga de UWCD en El Río y Saticoy. Luego de esto, UWCD bombea el agua subterránea recargada, la trata, y la transporta a las agencias minoristas comercializadoras de agua de la Planicie de Oxnard, que incluye a Oxnard. UWCD realiza estudios frecuentes de la cuenca fluvial del Río Santa Clara con el fin de asegurar que el agua canalizada y almacenada mantenga su alto grado de calidad, tomando muestreos y análisis rutinarios de su agua tratada.

Los Pozos de Agua Subterránea de la Ciudad de Oxnard.
La Ciudad opera diez pozos de agua subterránea, la cual se analiza y examina de manera consistente para asegurar que el agua satisface estándares de seguros de consumo. Además, la División de Recursos del Agua realiza evaluaciones rutinarias de las fuentes de agua para detectar potenciales contaminantes en sus aguas subterráneas, antes de que se conviertan en un problema. Las fuentes potenciales contaminantes incluyen: instalaciones de procesamiento y almacenaje de productos químicos y petróleo, gasolineras consideradas históricas, sistemas sépticos privados, tintorerías, enchapado de metales, fábricas de acabados y manufactura, y drenaje agrícola.

Please share this information with others at your location by posting this notice in a public place or common area.

***Por favor comparta esta información** con otras personas en su domicilio, poniendo éste aviso en un espacio público o área común.*



Drinking Water Information

In order to ensure that tap water is safe to drink, the USEPA and the CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

The City's water is treated to comply with CDPH regulations. The California Food and Drug Branch also establishes these same limits for contaminants in bottled water.

Special Health Requirements
Nitrate in drinking water at levels above 45mg/L is a health risk for infants less than six months of age. Such nitrate levels can interfere with the capacity of an infant's blood to carry oxygen, resulting in serious illness. Symptoms include shortness of breath and blueness of skin. Nitrate levels above 45mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant or are pregnant, you should seek the advice of a healthcare provider.

Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. Infants and young children are typically more vulnerable to lead in drinking water. Possibly, lead levels at a home residence may be higher than other houses in the community, as a result of materials used in the home's plumbing. If you are concerned about elevated levels in your water, you may want to have your water tested, as well as simply flush your tap for 30 seconds to two minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

Radon is a radioactive gas, found throughout the United States, which occurs naturally in groundwater and is released from water into the air during household use. MCLs are set at very stringent levels. For example, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having possible health effects. For additional information, call the USEPA's Radon hotline at 1-800-55-RADON.

Methyl Tertiary Butyl Ether (MTBE) is a gasoline additive which has not been detected in Oxnard water. However, over the past few years, several underground fuel storage tanks have leaked and released gasoline containing MTBE near UWCD's El Rio Wellfield and near the City's Blending Stations Nos. 1 and 3, threatening these important sources of water for Oxnard. The City and UWCD are actively monitoring the cleanup at these spill sites and coordinating with the County of Ventura Environmental Health Divison's Leaking Underground Fuel Tanks Program, which oversees such cleanup efforts. This coordinated effort will help minimize the chance of contamination of the City's groundwater.

Información Acerca del Agua Potable

Con el fin de asegurar que el agua de la llave sea apta para beber, USEPA y CDPH establecen normas que limitan las cantidades de ciertos contaminantes en el agua de los sistemas públicos de suministro de agua.

El agua de la Ciudad es tratada para cumplir con la normativa de CDPH. Asimismo, la División de Alimentos y Medicamentos de CDPH también establece límites para ciertos contaminantes para el agua embotellada.

Requerimientos especiales de salud
El nitrato en el agua potable, a niveles por encima de 45mg/L, representa un riesgo a la salud para aquellos bebés menores de seis meses de edad. Dichos niveles de nitrato puede interferir con la capacidad de la sangre del bebé de llevar oxígeno, resultando en una seria enfermedad. Los síntomas pueden incluir una falta de aliento y piel azulada. De igual forma, niveles de nitrato por encima de los 45mg/L también pueden afectar la capacidad de transportar la sangre de ciertas personas como mujeres embarazadas y aquellos con ciertas deficiencias, específicas de sus enzimas. Si usted está a cargo de un bebé o si está embarazada, usted debe consultar con su médico.

El plomo en el agua potable raramente es la única causa de intoxicación por plomo, pero sí puede aumentar el nivel de exposición total de una persona al plomo. Todas las fuentes potenciales de plomo en el hogar deben ser identificadas y retiradas, remplazadas o reducidas. Por lo general, los bebés y los niños pequeños son más vulnerables al plomo en el agua potable. Posiblemente los niveles de plomo en una determinada residencia puedan ser más altos que en otras residencias en la misma comunidad; como resultado de los materiales utilizados en la plomería de la casa. Si usted está preocupado por los altos niveles de plomo en el agua de su casa, usted también podría solicitar una prueba, así como también dejar que el agua de la llave corra de 30 segundos a dos minutos antes de usarla. Si usted desea información adicional llame a la línea de asistencia de Agua Potable (800) 426-4791.

El radón es un gas radioactivo que se encuentra en todos los Estados Unidos y que se presenta en forma natural en el agua subterránea, el mismo que se libera del agua hacia el aire durante el uso doméstico. Los máximos niveles de MCL se fijan a niveles muy rigurosos. Por ejemplo, una persona tendría que beber dos litros de agua diarios, de por vida, al nivel MCL, para tener una posibilidad en un millón de contraer un posible efecto sobre su salud. Para mayor información comuníquese con la línea de asistencia de USEPA para el Radón al 1-800-55-RADON.

El éter metilo tert-butílico (MTBE) es un aditivo para la gasolina que no ha sido detectado en el agua de Oxnard. Sin embargo, durante los últimos años, varios de los tanques de almacenaje de combustible subterráneos han tenido fugas de gasolina que contiene MTBE cerca del Wellfield de El Río de UWCD y cerca de las Estaciones Mezcladoras de la Ciudad Números 1 y 3, amenazando estas fuentes importantes de agua para Oxnard. Tanto la Ciudad como UWCD están monitoreando activamente la limpieza de estos sitios con derrames en coordinación con el Programa para detectar Fugas Subterráneas de Tanques de Combustible del Departamento de Salud Ambiental del Condado de Ventura, que supervisa tales trabajos de limpieza. Este esfuerzo coordinado ayudará a minimizar la contaminación de aguas subterráneas de la Ciudad.

Possible Contaminants Before Treatment

The City has sampled its water sources for the presence of both regulated and unregulated contaminants. Following is the City's findings on items present in Oxnard water.

- Microbial contaminants such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides which may come from a variety of sources such as agriculture and residential uses.
- Radioactive contaminants that occur naturally or result from oil and gas production and mining activities.
- Organic chemical contaminants including synthetic and volatile organic chemicals, by-products of industrial processes and petroleum production, derived from gas stations, urban storm water runoff and septic systems.

The City routinely monitors contaminants in its drinking water according to state and federal laws. The tables (pages 2 & 3) show the results for the period of January 1 to December 31, 2012. All drinking water, including bottled drinking water, may reasonably expect to contain at least small amounts of some contaminants. Remember that the presence of these contaminants does not necessarily pose a health risk. As you can see in the table, Oxnard's water system did not have any violations. The City is proud that your drinking water meets or exceeds all federal and state requirements. As such, the USEPA and CDPH have determined that Oxnard water is safe at these levels.

Sampling Results:

Showing the Detection of Lead and Copper in September 2012 (Next Scheduled testing will be in the summer of 2015)

Resultados del muestreo:

Resultados del muestreo: demuestra la detección de Plomo y Cobre en septiembre de 2012 (El próximo muestreo está programado para el verano de 2015)

	AL	MCLG	# of sites exceeding AL	# sample collected	90th percentile
Copper ppb	AL = 1300	1700	0	65	645
Lead ppb	AL = 15	2	0	65	3.35

Caused by
Internal corrosion of household plumbing systems, discharges from industrial manu-facturers, erosion of natural deposits.

Ocasionado por:
Corrosión interna de la plomería de la casa, los sistemas, descargas de fabricantes industriales, erosión de depósitos naturales.

AL = Action Level - Regulatory Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

ppb = parts per billion, or micrograms per liter (ug/L)

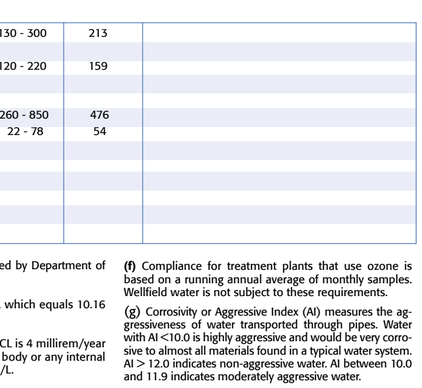
MCLG - Maximum Contaminant Level Goal = The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

Posibles Contaminantes antes del Tratamiento

La Ciudad ha hecho muestreos de sus fuentes de agua para detectar la presencia contaminantes reglamentados y no reglamentados. A continuación se da la lista de lo que encontró la Ciudad en el agua de Oxnard.

- Microbios contaminantes tales como virus y bacteria, los cuales pueden provenir de plantas de tratamiento de aguas residuales, sistemas sépticos, operaciones con ganado agrícola y fauna silvestre.
- Contaminantes inorgánicos, tales como sales y metales, las cuales pueden ocurrir naturalmente o ser el resultado del escurrimiento de aguas residuales urbanas, descargas de aguas residuales industriales o domésticas, producción de gas y petróleo, minería o agricultura.
- Pesticidas y herbicidas que pueden provenir de una variedad de fuentes como usos agrícolas y residenciales.
- Contaminantes radioactivos que ocurren naturalmente o son resultado de la producción de gas y petróleo y actividades de minería.
- Contaminantes químicos orgánicos incluyendo químicos sintéticos y orgánicos volátiles, productos secundarios de procesos industriales y producción de petróleo, que pueden provenir de gasolineras, escurrimiento de aguas residuales urbanas y sistemas sépticos.

La Ciudad rutinariamente monitoréa contaminantes en su agua potable de acuerdo con las leyes estatales y federales. Las tablas (paginas 2 & 3) muestran los resultados del periodo de tiempo correspondiente al 1º de enero al 31 de diciembre de 2012. Es razonable esperar que toda el agua potable, incluyendo el agua potable embotellada, contenga por lo menos pequeñas cantidades de contaminantes. Es importante recordar que la presencia de estos contaminantes no necesariamente presenta un riesgo a la salud. Como puede ver en la tabla, el sistema de agua de Oxnard no cometió ninguna infracción. La Ciudad está orgullosa de que el agua que usted bebe cumple o excede todos los requerimientos federales y estatales. Por ser así, USEPA y CDPH han determinado que a estos niveles el agua es segura.



Primary Drinking Water Standards – Mandatory Health-Related Standards

WATER SOURCE				Calleguas Municipal Water DIstrict				United Water Conservation District		City of Oxnard Wells (Combined Wells)		
				MWD Jensen Plant		Lake Bard Water Filtration Plant						
PERCENT OF SUPPLY				*46%*		*2.0%*		*33%*		*19%*		
	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE	AVG.	RANGE	AVG.	RANGE	AVG.	RANGE	AVG.	MAJOR SOURCES IN DRINKING WATER
Clarity (a)												
Turbidity (NTU)	Highest Single Value			0.06		0.19		0.02 - 0.11	0.07	-	-	Soil Runoff
TT = % of samples <0.3 NTU				100%		100%						
Microbiological												
Total Coliform Bacteria	2							ABSENT	ABSENT	ABSENT	ABSENT	Naturally present in the environment
Fecal Coliform and *E. coli*								ABSENT	ABSENT	ABSENT	ABSENT	Human & animal fecal waste
Disinfection By-products & Disinfectant Residuals												
Total Chlorine Residual (ppm)	[4.0]	[4]	-	Highest Running Annual Average = 2.0, Range = 0.4 - 2.7				1.35 - 2.30	1.83	0.68 - 2.80	1.74	Drinking water disinfectant added for treatment
Bromate	10	0.1	5.0	3.7-6.9	5.2	ND	ND	-	-	-	-	By-product of drinking water disinfection
Haloacetic Acids (ppb)	60	-	1.0	Highest Running Annual Average = 6.3, Range = ND - 11				ND - 8	4.90	3.0 - 10	6.5	
Total Trihalomethanes (ppb)	80	-	1.0	Highest Running Annual Average = 24.9, Range = 9.6 - 47.7				ND - 41.2	25.6	23 - 25	24	
Inorganic Chemicals												
Aluminum (ppb)	1000	600	50	60 - 110	83	ND	ND	0 - 10	5			Erosion of natural deposits; residue from some treatment process
Arsenic (ppb)	10	0.004	2	ND	ND	4	4	ND - 3	1.5			Erosion of natural deposits; runoff from orchards; glass & electronics production wastes
Barium (ppm)	1	2	0.1					22.3 - 22.7	22.5			Discharge from oil & metal refineries; erosion of natural deposits
Fluoride (ppm) (c)	2	1	0.1	Highest Running Annual Average = 0.8, Range = 0.6 - 1.0				0.6 - 0.6	0.6	0.51 - 0.74	0.63	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer & aluminum factories
Nitrate (as NO3) (ppm)	45	45	2					8.3 - 11.8	10.05	ND - 46	18.68	Runoff & leaching from fertilizer use, erosion of natural deposits
Selenium (ppb)	50	30	5	ND	ND	8	8	5-12	8.5			Discharge from petroleum, glas, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Radionuclides												
Gross Alpha Particle Activity (pCi/L)	15	(0)	3.0	ND - 4	ND	ND	ND	6.36 - 7.33	6.94	-	-	Erosion of natural deposits
Gross Beta Particle Activity (pCi/L)(e)	50	(0)	4.0							-	-	Decay of natural and manmade deposits
Uranium (pCi/L)	20	0.43	1.0	ND - 2	1	1 - 2	2	3.63 - 5.4	4.39	-	-	Erosion of natural deposits

NTU = Nephelometric Turbidity Units
ND = None Detected
NS = No Standard
ppm = parts per million, or milligrams per liter (mg/L)
ppb = parts per billion, or micrograms per liter (µg/L)
pCi/L = PicoCuries per Liter
RAA = Running Annual Average

Detection Limit for Reporting (DLR) = The level above which a chemical is to be reported.

Maximum Contaminant Level (MCL) = The highest level of a contaminant that is allowed in drinking water Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.

Maximum Contaminant Level Goal (MCLG) = The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level [MRDL] = The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

Maximum Residual Disinfectant Level Goal [MRDLG] = The level of a disinfectant added for water treatment below which there is no known or expected health risk. MRDLs are set by the U.S. Environmental Protection Agency.

Notification Level NL = The level at which notification of the public water system's governing body is required. Aluminum has both primary and secondary standards.

Primary Drinking Water Standard = MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards – Aesthetic Standards

WATER SOURCE				Calleguas Municipal Water DIstrict				United Water Conservation District		City of Oxnard Wells (Combined Wells)		
				MWD Jensen Plant		Lake Bard Water Filtration Plant						
SECONDARY DRINKING WATER STANDARDS												
Parameter	STATE MCL [MRDL]	PHG (MCLG) [MRDLG]	STATE DLR	RANGE	AVG.	RANGE	AVG.	RANGE	AVG.	RANGE	AVG.	MAJOR SOURCES IN DRINKING WATER
Aluminum (ppb)	200	600	50	60 - 110	83	ND	ND					Erosion of natural deposits; residue from some treatment process
Chloride (ppm)	500	-	-	50 - 63	56	87 - 90	89			45 - 62	53.5	Runoff & leaching from natural deposits, seawater influence
Color (Units)	15	-	-	1 - 2	2	ND	ND					Naturally occurring organic materials
Iron (ppm)	300	-	100									Leaching from natural deposits; industrial wastes
Manganese (ppb)	50	NL=500	20							ND - 0.092	0.03	Leaching from natural deposits
Odor Threshold (Units)	3	-	1	2	2	ND	ND					Naturally occurring organic materials
Specific Conductance (umho/cm)	1600	-	-	400 - 500	440	630	630			1200 - 1800	1500	Substances that form ions when in water, seawater influence
Sulfate (ppm)	500	-	0.5	46 - 50	48	70	70	410 - 470	442.5	280 - 1100	576	Runoff & leaching from natural deposits, industrial wastes
Total Dissolved Solids (ppm)	1000	-	-	240 - 280	260	310 - 340	325	900 - 980	940	940 - 1500	1157	Runoff & leaching from natural deposits
Turbidity (Monthly) (Units)	5	-	-	ND - 0.1	ND	0.1	0.1					Soil runoff
Unregulated Additional Parameters												
Alkalinity (ppm)	NS	-	-	72 - 93	79	90 - 100	95			130 - 300	213	
Boron (ppb)	NS	-	100	0.17	0.17	0.20	0.20	600 - 700	650			
Calcium (ppm)	NS	-	-	23 - 24	24	29	29			120 - 220	159	
Chlorate	NS	-	20									
Corrosivity (g)	NS	-	-	12	12	12	12					
Hardness (Total Hardness) (ppm)	NS	-	-	98 - 110	100	130	130	511 - 544	527.5	260 - 850	476	
Magnesium (ppm)	NS	-	-	11	11	14	14			22 - 78	54	
N-Nitrosodimethylamine (NDMA)	NS	3	2	ND - 3	ND	ND - 9	5					
pH (pH Units)	NS	-	-	7.9 - 8.4	8.3	8.2 - 8.3	8.3					
Potassium (ppm)	NS	-	-	2 - 3	2	3	3					
Radon (pCi/L)	NS		100					295 - 449	373.75			
Sodium (ppm)	NS	-	-	43 - 53	48	71	71	88 - 90	89			
Total Organic Carbon (ppm)	NS	-	0.3	1.7 - 2.1	1.9	1.7 - 1.9	1.8	ND - 1.5	0.93			

Public Health Goal (PHG) = The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Treatment Technique (TT) = A required process intended to reduce the level of a contaminant in drinking water.

(a) The turbidity level of filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU. ASR water is not subject to these requirements.

(b) Compliance is based on a running annual average of quarterly distribution system samples.

(c) The Metropolitan Water District treats its water by adding fluoride to the naturally occurring level in order to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.7 - 1.3 ppm, as required by Department of Public Health regulations.

(d) State MCL is 45 mg/L as Nitrate, which equals 10.16 mg/L as Nitrogen.

(e) The gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. The screening level is 50 pCi/L.

(f) Compliance for treatment plants that use ozone is based on a running annual average of monthly samples. Wellfield water is not subject to these requirements.

(g) Corrosivity or Aggressive Index (AI) measures the aggressiveness of water transported through pipes. Water with AI <10.0 is highly aggressive and would be very corrosive to almost all materials found in a typical water system. AI > 12.0 indicates non-aggressive water. AI between 10.0 and 11.9 indicates moderately aggressive water.

APPENDIX M

TERMINOLOGY

TERMINOLOGY

The following provides definitions and descriptions of certain terms that may be used in this report. Italics indicate terms that are defined by ASTM Standard Practice E 1527-05. The Standard Practice should be referenced for further detail (such as the precise wording), related definitions or additional explanation regarding the meaning of terms.

recognized environmental condition(s) (REC) - the presence or likely presence of any *hazardous substances* or *petroleum products* on a *property* under conditions that indicate an existing release, a past release, or a *material threat* of a release of any *hazardous substances* or *petroleum products* into structures on the *property* or into the ground, ground water, or surface water of the *property*. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions.

de minimis conditions – are conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions*.

historical recognized environmental condition(s) (HREC) - environmental condition which in the past would have been considered a *recognized environmental condition*, but which may or may not be considered a *recognized environmental condition* currently. The final decision rests with the *environmental professional* and will be influenced by the current impact of the *historical recognized environmental condition* on the *property*. If a past release of any *hazardous substances* or *petroleum products* has occurred in connection with the property and has been remediated, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered a *historical recognized environmental condition*.

material threat – a physically observable or *obvious* threat which is reasonably likely to lead to a release that, in the opinion of the *environmental professional*, is threatening and might result in impact to public health or the environment. An example might include an aboveground storage tank system that contains a *hazardous substance* and which shows evidence of damage such that it may cause or contribute to tank integrity failure with a release of contents to the environment.

threat to human health or the environment – a substantial risk of harm to public health or the environment resulting from the presence or likely presence of an existing release, a past release, or a *material threat* of a release of any *hazardous substances* or *petroleum products* into structures on the *property* or into the ground, ground water, or surface water of the *property*. An example might include a release of a *hazardous substance* in concentrations exceeding applicable governmental agency standards under conditions that could reasonably and foreseeably result in substantial exposure to humans or substantial damage to natural resources. The risk of that exposure or damage would represent a threat to human health or the environment.

generally would not be the subject of an enforcement action – the likelihood that an environmental condition would not be subject to enforcement action if brought to the attention of appropriate governmental agencies. If the circumstances suggest an enforcement action would be less likely than not, then the condition is considered to be generally not the likely the subject of an enforcement action.

APPENDIX C

EDR ENVIRONMENTAL LIEN AND AUL SEARCH REPORT

Doris Patterson New Academy Site Aquisition
Southeast Corner of N Patterson Rd and Doris Ave
Oxnard, CA 93030

Inquiry Number: 4216502.11
February 25, 2015

EDR Environmental Lien and AUL Search

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

Southeast Corner of N Patterson Rd and Doris Ave
Doris Patterson New Academy Site Aquisition
Oxnard, CA 93030

RESEARCH SOURCE

Source 1:

Ventura Recorder
Ventura, CA

PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Joan Henson Margaret M Anderson Ralph Borchard Jr
Title received from:	Joan Henson Trustee
Deed Dated	1/19/2010
Deed Recorded:	1/22/2010
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	Joan Henson Margaret M Anderson Ralph Borchard Jr Trustee
Parcel # / Property Identifier:	183-0-070-090
Comments:	See Exhibit

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

Deed Exhibit 1

RECORDING REQUESTED BY AND
WHEN RECORDED, RETURN TO:
NORMAN DOWLER, LLP
840 County Square Dr., 3rd Fl
Ventura, California 93003
23093.001 lmb:ah mmi/ah

20100122-00009999-0 1/4
Ventura County Clerk and Recorder
James B. Becker, Assistant
01/22/2010 02:38:41 PM
383664 $28.00 PE

MAIL TAX STATEMENTS TO:

JOAN HENSON, et al.
506 North H Street
Oxnard, California 93030

APN 183-0-070-090 & 183-0-070-140 "The Ranch"

TRUST TRANSFER DEED

GRANT DEED (Excluded from Reappraisal Under Proposition 13, i.e., Calif. Art 13A§1 et. seq.)

The undersigned Grantors declare under penalty of perjury that the following is true and correct: **THERE IS NO CONSIDERATION FOR THIS TRANSFER.**

DOCUMENTARY TRANSFER TAX IS $ NONE . Pursuant to State law, Ventura County Ordinance, and County Counsel's opinions: There is no documentary transfer tax due as deed given by Trustee in accordance with the terms of a Trust, conveyance transfers property to beneficiaries of the trust. Revenue & Taxation Code Section 11930.

This is a Trust Transfer under §63.1 of the Revenue & Taxation Code: Conveyance is a transfer from parent to a child; exempt from reassessment.

GRANTORS: **JOAN HENSON, Trustee, of the RALPH W. BORCHARD SURVIVOR'S TRUST U/D/T JULY 23, 1985**, as to an undivided one-half (½) interest; and,

JOAN HENSON, Trustee, of the RALPH W. BORCHARD DECEDENT'S TRUST U/D/T JULY 23, 1985, as to an undivided one-half (½) interest,

hereby GRANT to: **JOAN HENSON, a married woman, as her sole and separate property,** as to an undivided one-third (1/3) interest in said property,

MARGARET M. ANDERSON, a married woman, as her sole and separate property, as to an undivided one-third (1/3) interest in said property,

RALPH W. BORCHARD, JR., Trustee of the RALPH "BILL" BORCHARD, JR. SEPARATE PROPERTY TRUST DATED JULY 9, 2009, as to an undivided one-third (1/3) interest in said property,

the following described real property in the County of Ventura, State of California:

LEGAL DESCRIPTION ATTACHED HERETO AS EXHIBIT "A", INCORPORATED HEREIN BY THIS REFERENCE.

DATED: January 19, 2010.

RALPH W. BORCHARD SURVIVOR'S TRUST UDT DTD JULY 23, 1985

By: Joan Henson
JOAN HENSON, Trustee

RALPH W. BORCHARD DECEDENT'S TRUST UDT DTD JULY 23, 1985

By: Joan Henson
JOAN HENSON, Trustee

STATE OF CALIFORNIA)
) **ss.**
COUNTY OF VENTURA)

On January 19, 2010, before me, Abigail Hament, a Notary Public, personally appeared JOAN M. HENSON, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under penalty of perjury under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Abigail Hament
(Signature of Notary)

ABIGAIL HAMENT
Commission # 1687714
Notary Public - California
Ventura County
My Comm. Expires Sep 11, 2010

EXHIBIT A
LEGAL DESCRIPTION
APN 183-0-070-060 & 183-0-070-70

Lots 133, 158, 159, 160, partly in the City of Oxnard, County of Ventura, State of California, all as shown on the Map of Patterson Ranch, recorded in Book 8, Page 1 of Maps, in the Office of the County Recorder of said County.

EXCEPT that portion of said Lot 160 lying within the following described land:

Beginning at a county standard monument set at the intersection of the West line of Ventura Road with the South line of the North Road, as designated and delineated upon the above described Map, from which a nail set at the Northeast corner of said Lot 160 bears North 20 feet distant; thence, from said Point of Beginning,

1st : North 89° 59' 30" West 365 feet along the South line of said North Road to a 3/4 inch iron pipe; thence, leaving said South line,

2nd: South 410 feet to a 3/4 inch iron pipe; thence,

3rd: South 89° 59' 30" East 365 feet to a 3/4 inch iron pipe set in the West line of said Ventura Road; thence along said West line,

4th: North 410 feet to the Point of Beginning.

ALSO EXCEPT that portion of said Lot 133 described as follows:

Beginning at the Southeast corner of said Lot 133; thence, along the East line of said Lot,

1st: North 20 feet; thence,

2nd: South 45° 00' 00" West 26.25 feet to a point in the Southerly line of said Lot 133; thence, along said Southerly line,

3rd: East 17 feet to the Point of Beginning.

ALSO EXCEPT the interest in and to those portions of said land lying within Teal Club Road, Patterson Road and North Road, as said roads are shown on said Map, conveyed to Ventura County as and for public highways by deed recorded November 7, 1913, in Book 139, Page 169 of Deeds.

ALSO EXCEPT all tile, pipe, conduits and drains now laid, installed or placed in, through or across said land, or any portion thereof, as reserved by the Patterson Ranch Company in Deeds recorded December 15, 1913, in book 142, Page 40 of Deeds; December 5, 1913, in Book 142, Page 41 of Deeds; December 8, 1913, in Book 142, Page 52 of Deeds; and January 10, 1917, in Book 155, Page 43 of Deeds.

ALSO EXCEPT the oil, gas, other hydrocarbon substances and minerals in and under the above described property but without the right to enter on the surface thereof or within five hundred (500) feet beneath the surface.

ALSO EXCEPT an undivided 7/120 interest in the water well and pumping plant located on Lot 160.

APPENDIX D

HISTORICAL RESEARCH DOCUMENTATION

Doris Patterson New Academy Site Aquisition
Southeast Corner of N Patterson Rd and Doris Ave
Oxnard, CA 93030

Inquiry Number: 4216502.9
February 25, 2015

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography February 25, 2015

Target Property:

Southeast Corner of N Patterson Rd and Doris Ave

Oxnard, CA 93030

Year	***Scale***	***Details***	***Source***
1938	Aerial Photograph. Scale: 1"=500'	Flight Year: 1938 Best Copy Available from original source	Laval
1947	Aerial Photograph. Scale: 1"=500'	Flight Year: 1947	USGS
1953	Aerial Photograph. Scale: 1"=500'	Flight Year: 1953	USGS
1959	Aerial Photograph. Scale: 1"=500'	Flight Year: 1959	Robinson
1967	Aerial Photograph. Scale: 1"=500'	Flight Year: 1967	USGS
1977	Aerial Photograph. Scale: 1"=500'	Flight Year: 1977	Teledyne
1985	Aerial Photograph. Scale: 1"=500'	Flight Year: 1985	USGS
1994	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1994	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP

INQUIRY #: 4216502.9

YEAR: 1938

= 500'

N

EDR


INQUIRY #: 4216502.9
YEAR: 1947
= 500'
N
EDR


INQUIRY #: 4216502.9
YEAR: 1953
= 500'
N
EDR


INQUIRY #: 4216502.9
YEAR: 1959
= 500'
N
EDR

INQUIRY #: 4216502.9

YEAR: 1967

= 500'

N

EDR

INQUIRY #: 4216502.9

YEAR: 1977

= 500'

N

EDR


INQUIRY #: 4216502.9
YEAR: 1985
= 500'
N
EDR
OXNARD


INQUIRY #: 4216502.9
YEAR: 1994
= 500'
N
EDR

INQUIRY #: 4216502.9

YEAR: 2005

= 500'

N

EDR

INQUIRY #: 4216502.9

YEAR: 2009

= 500'

N

EDR

INQUIRY #: 4216502.9

YEAR: 2010

= 500'

N

EDR

INQUIRY #: 4216502.9

YEAR: 2012

= 500'

N

EDR

Doris Patterson New Academy Site Aquisition
Southeast Corner of N Patterson Rd and Doris Ave
Oxnard, CA 93030

Inquiry Number: 4216502.3
February 24, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

2/24/15

Site Name:
Doris Patterson New Academy
Southeast Corner of N
Oxnard, CA 93030

Client Name:
Ninyo & Moore
475 Goddard
Irvine, CA 92618

EDR Inquiry # 4216502.3

Contact: Patrick Cullip

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Ninyo & Moore were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Doris Patterson New Academy Site Aquisition
Address: Southeast Corner of N Patterson Rd and Doris
City, State, Zip: Oxnard, CA 93030
Cross Street:
P.O. # 209348001
Project: Doris Patterson New Academy
Certification # 1543-4446-86E7

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results
Certification # 1543-4446-86E7

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Ninyo & Moore (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Doris Patterson New Academy Site Aquisition
Southeast Corner of N Patterson Rd and Doris Ave
Oxnard, CA 93030

Inquiry Number: 4216502.5
February 24, 2015

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1926 through 2013. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2013	Cole Information Services	-	-	-	-
2008	Cole Information Services	-	-	-	-
2003	Cole Information Services	-	-	-	-
2002	Haines & Company, Inc.	-	X	X	-
2000	Pacific Bell Telephone Co	-	-	-	-
1996	Pacific Bell	-	-	-	-
1993	GTE	-	-	-	-
1986	Pacific Bell	-	-	-	-
1985	Pacific Telephone Co	-	-	-	-
1980	Polk	-	-	-	-
1976	R. L. Polk & Co.	-	X	X	-
1975	Pacific Telephone Co	-	-	-	-
1971	B&G Publications	-	-	-	-
1970	General Telephone Company of California	-	X	X	-
1968	B&G Publications	-	-	-	-
1965	R. L. Polk & Co.	-	X	X	-
1964	Pacific Telephone Co	-	-	-	-
1961	R. L. Polk & Co.	-	-	-	-
1957	R. L. Polk & Co.	-	-	-	-
1953	R. L. Polk & Co. of California	-	-	-	-
1949	Los Angeles Directory Co.	-	-	-	-
1940	Southern California	-	-	-	-
1930	Los Angeles Directory Co.	-	-	-	-
1926	Los Angeles Directory Co.	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Southeast Corner of N Patterson Rd and Doris Ave
Oxnard, CA 93030

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

DORIS AVE

2425 DORIS AVE

Year	*Uses*	*Source*
1976	Morris Bobby	R. L. Polk & Co.
1965	NO RETURN	R. L. Polk & Co.

DORIS CT

2502 DORIS CT

Year	*Uses*	*Source*
2002	MCVE 161 H Sarah	Haines & Company, Inc.

2517 DORIS CT

Year	*Uses*	*Source*
2002	MS 4 RAIAMIIS 6n	Haines & Company, Inc.

W DORIS AVE

2425 W DORIS AVE

Year	*Uses*	*Source*
1970	Fry Lupe	General Telephone Company of California
	Fry M A	General Telephone Company of California

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
Southeast Corner of N Patterson Rd and Doris Ave	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
2425 DORIS AVE	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1975, 1971, 1970, 1968, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2425 W DORIS AVE	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2502 DORIS CT	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
2517 DORIS CT	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

Doris Patterson New Academy Site Aquisition
Southeast Corner of N Patterson Rd and Doris Ave
Oxnard, CA 93030

Inquiry Number: 4216502.4
February 24, 2015

EDR Historical Topographic Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

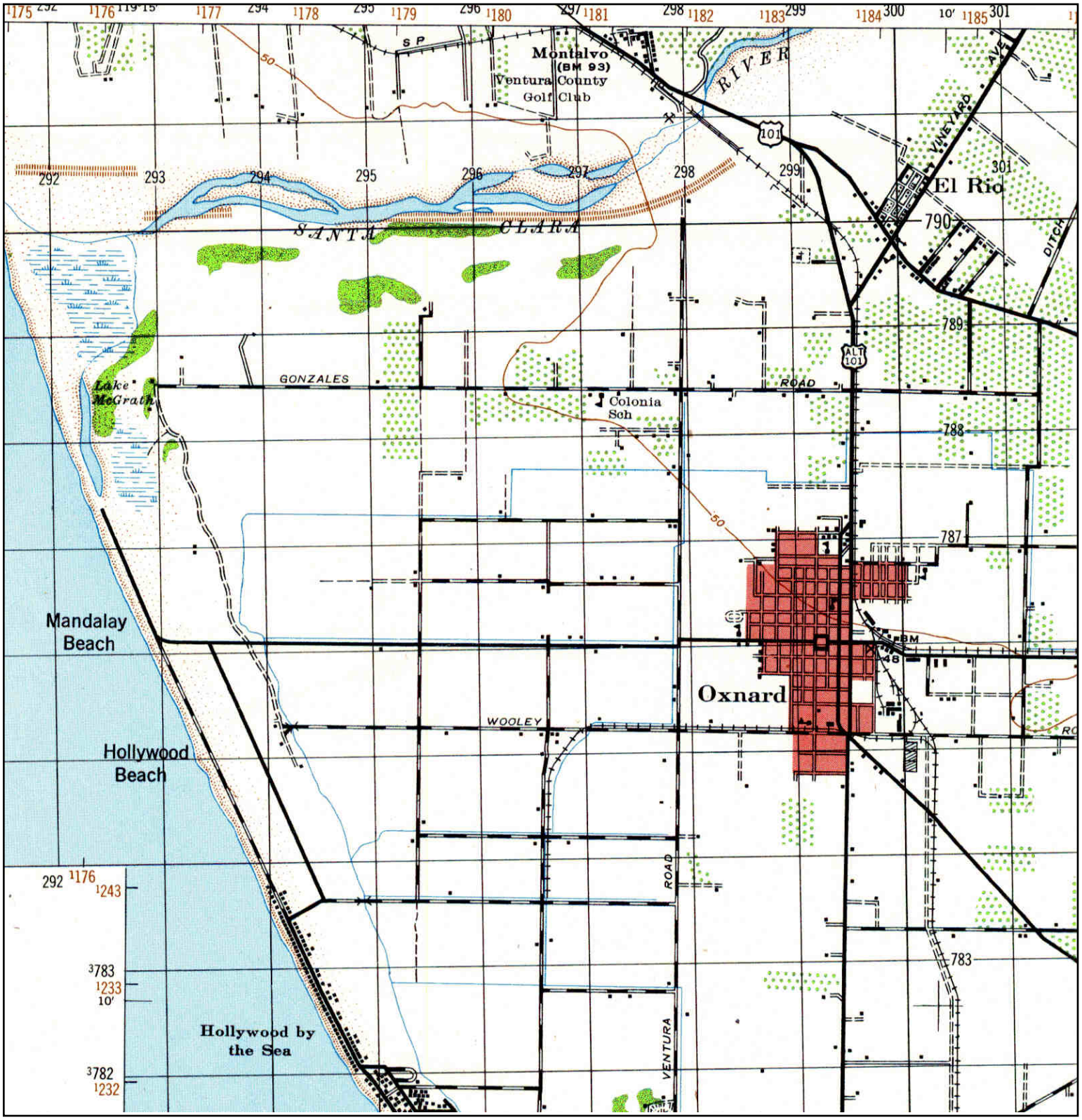
Historical Topographic Map

N	TARGET QUAD NAME: HUENEME MAP YEAR: 1904 SERIES: 15 SCALE: 1:62500	SITE NAME: Doris Patterson New Academy Site Aquisition ADDRESS: Southeast Corner of N Patterson Rd and Doris Ave Oxnard, CA 93030 LAT/LONG: 34.2071 / -119.2059	CLIENT: Ninyo & Moore CONTACT: Patrick Cullip INQUIRY#: 4216502.4 RESEARCH DATE: 02/24/2015

Historical Topographic Map

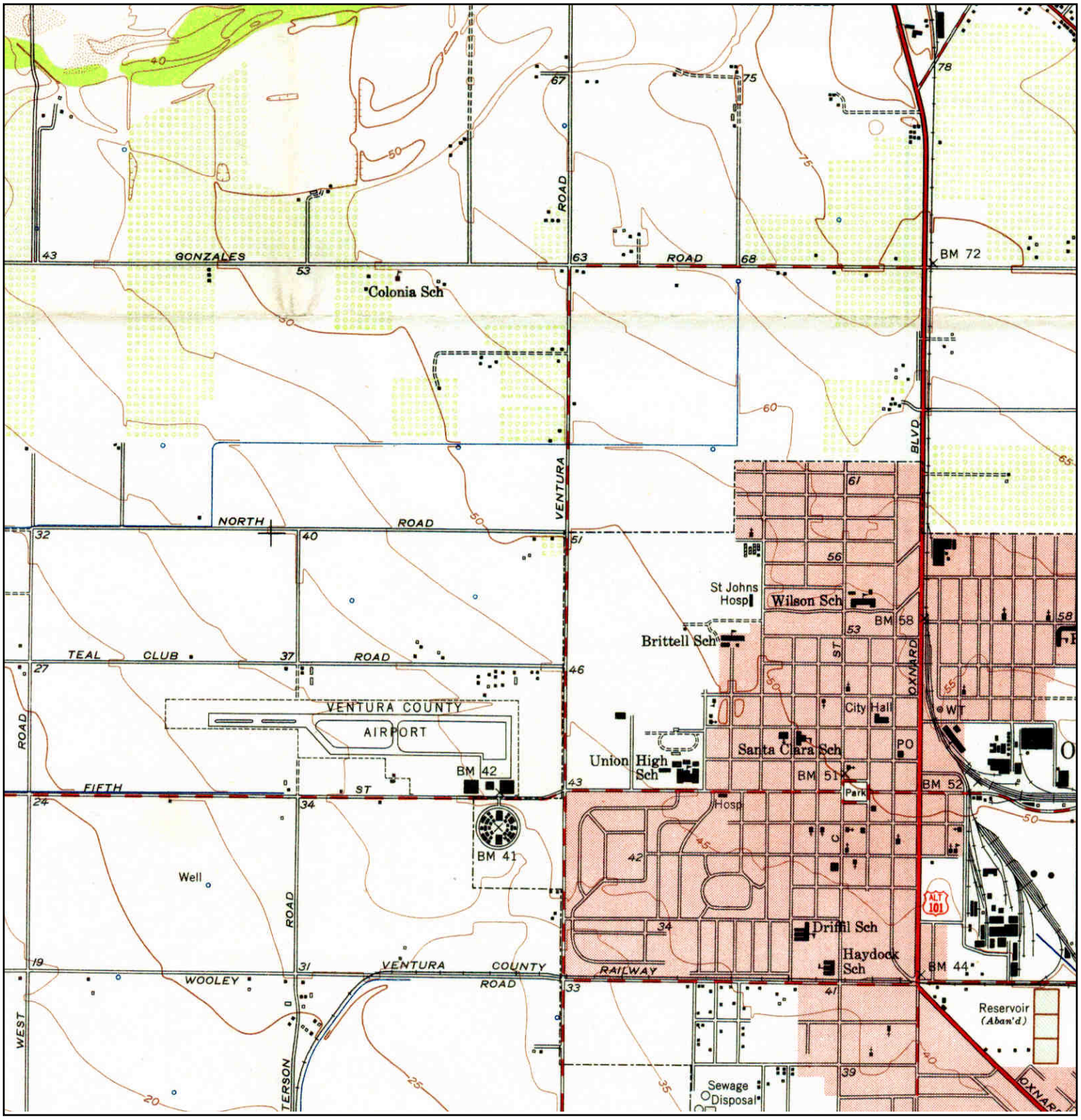
N	TARGET QUAD		SITE NAME:	Doris Patterson New Academy Site Aquisition	CLIENT: Ninyo & Moore
	NAME:	SOUTHERN CA SHEET 3			CONTACT: Patrick Cullip
	MAP YEAR:	1910	ADDRESS:	Southeast Corner of N Patterson Rd and Doris Ave	INQUIRY#: 4216502.4
	SERIES:	60		Oxnard, CA 93030	RESEARCH DATE: 02/24/2015
	SCALE:	1:250000	LAT/LONG:	34.2071 / -119.2059	

Historical Topographic Map



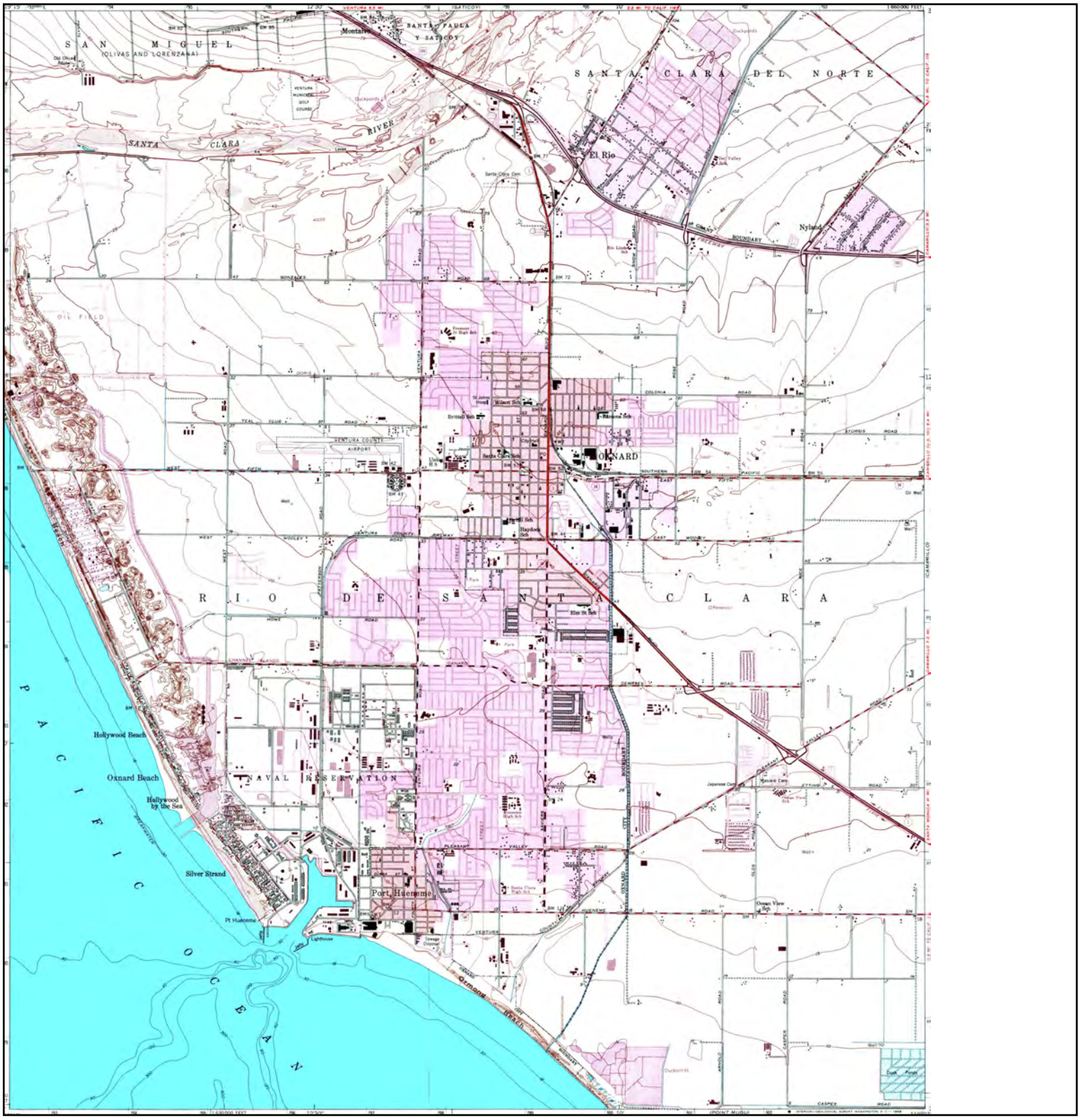
N	TARGET QUAD NAME: HUENEME MAP YEAR: 1947 SERIES: 15 SCALE: 1:50000	SITE NAME: Doris Patterson New Academy Site Aquisition ADDRESS: Southeast Corner of N Patterson Rd and Doris Ave Oxnard, CA 93030 LAT/LONG: 34.2071 / -119.2059	CLIENT: Ninyo & Moore CONTACT: Patrick Cullip INQUIRY#: 4216502.4 RESEARCH DATE: 02/24/2015

Historical Topographic Map



N	TARGET QUAD		SITE NAME:	Doris Patterson New Academy Site Aquisition	CLIENT: Ninyo & Moore
	NAME:	OXNARD			CONTACT: Patrick Cullip
	MAP YEAR:	1951	ADDRESS:	Southeast Corner of N Patterson Rd and Doris Ave	INQUIRY#: 4216502.4
	SERIES:	7.5		Oxnard, CA 93030	RESEARCH DATE: 02/24/2015
	SCALE:	1:24000	LAT/LONG:	34.2071 / -119.2059	

Historical Topographic Map



N	TARGET QUAD				
	NAME:	OXNARD	SITE NAME:	Doris Patterson New Academy Site Aquisition	CLIENT: Ninyo & Moore
	MAP YEAR:	1967	ADDRESS:	Southeast Corner of N Patterson Rd and Doris Ave	CONTACT: Patrick Cullip
	PHOTOREVISED FROM :	1949		Oxnard, CA 93030	INQUIRY#: 4216502.4
	SERIES:	7.5	LAT/LONG:	34.2071 / -119.2059	RESEARCH DATE: 02/24/2015
	SCALE:	1:24000			

APPENDIX E

EDR ENVIRONMENTAL DATABASE REPORT

Doris Patterson New Academy Site Aquisition
Southeast Corner of N Patterson Rd and Doris Ave
Oxnard, CA 93030

Inquiry Number: 4216502.2s
February 24, 2015

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
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with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SOUTHEAST CORNER OF N PATTERSON RD AND DORIS AVE
VENTURA County, CA 93030

COORDINATES

Latitude (North):	34.2071000 - 34° 12' 25.56''
Longitude (West):	119.2059000 - 119° 12' 21.24''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	296762.4
UTM Y (Meters):	3787124.2
Elevation:	44 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	34119-B2 OXNARD, CA
Most Recent Revision:	1967

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120506
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

SLIC ---------- Statewide SLIC Cases
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

AST ---------- Aboveground Petroleum Storage Tank Facilities

INDIAN UST - Underground Storage Tanks on Indian Land
FEMA UST - Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP - Voluntary Cleanup Priority Listing
VCP - Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS - A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI - Open Dump Inventory
DEBRIS REGION 9 - Torres Martinez Reservation Illegal Dump Site Locations
SWRCY - Recycler Database
HAULERS - Registered Waste Tire Haulers Listing
INDIAN ODI - Report on the Status of Open Dumps on Indian Lands
WMUDS/SWAT - Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL - Clandestine Drug Labs
HIST Cal-Sites - Historical Calsites Database
SCH - School Property Evaluation Program
Toxic Pits - Toxic Pits Cleanup Act Sites
CDL - Clandestine Drug Labs
US HIST CDL - National Clandestine Laboratory Register

Local Land Records

LIENS 2 - CERCLA Lien Information
LIENS - Environmental Liens Listing
DEED - Deed Restriction Listing

Records of Emergency Release Reports

HMIRS - Hazardous Materials Information Reporting System
CHMIRS - California Hazardous Material Incident Report System
LDS - Land Disposal Sites Listing
MCS - Military Cleanup Sites Listing
SPILLS 90 - SPILLS 90 data from FirstSearch

Other Ascertainable Records

DOT OPS - Incident and Accident Data
DOD - Department of Defense Sites
CONSENT - Superfund (CERCLA) Consent Decrees
ROD - Records Of Decision
UMTRA - Uranium Mill Tailings Sites
US MINES - Mines Master Index File

TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
UIC	UIC Listing
NPDES	NPDES Permits Listing
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
VENTURA CO. BWT	Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
ENF	Enforcement Action Listing
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
MED WASTE VENTURA	Medical Waste Program List
LEAD SMELTERS	Lead Smelter Sites
MWMP	Medical Waste Management Program Listing
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
Financial Assurance	Financial Assurance Information Listing
PROC	Certified Processors Database
HWT	Registered Hazardous Waste Transporter Database
HWP	EnviroStor Permitted Facilities Listing
WDS	Waste Discharge System
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
2020 COR ACTION	2020 Corrective Action Program List
PRP	Potentially Responsible Parties
COAL ASH DOE	Steam-Electric Plant Operation Data

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat	EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 11/03/2014 has revealed that there are 6 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
STANDARD PACIFIC OF VENTURA Status: No Further Action	***2550 W GONZALES RD***	***N 1/2 - 1 (0.755 mi.)***	***21***	***51***
NORTHWEST ELEMENTARY Status: No Further Action	***GONZALES ROAD/PATTERSON***	***N 1/2 - 1 (0.756 mi.)***	***22***	***55***
OXNARD ILS OTR MK AX Status: Inactive - Needs Evaluation		NE 1/2 - 1 (0.932 mi.)	E25	60

Lower Elevation	Address	Direction / Distance	Map ID	Page
OXNARD CONT SCH Status: Inactive - Needs Evaluation		SE 1/4 - 1/2 (0.428 mi.)	16	42
CONDOR HELICOPTERS & AVIATION Status: Refer: Other Agency	2899 WEST 5TH STREET	S 1/2 - 1 (0.560 mi.)	D18	47
WINGFIELD Status: No Further Action	***5TH STREET/PATTERSON RO***	***S 1/2 - 1 (0.572 mi.)***	***D19***	***49***

EXECUTIVE SUMMARY

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 01/20/2015 has revealed that there are 7 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
F.A. BORCHARD & SONS	***1618 DORIS AVE***	***E 1/4 - 1/2 (0.369 mi.)***	***C14***	***38***
F.A. BORCHARD & SONS	***1618 DORIS***	***E 1/4 - 1/2 (0.369 mi.)***	***C15***	***40***
Status: Completed - Case Closed				
VEN OAKS PLUMBING	***131 MALLARD WAY***	***SE 1/4 - 1/2 (0.446 mi.)***	***17***	***43***
Status: Completed - Case Closed				

Lower Elevation	Address	Direction / Distance	Map ID	Page
PROODOS PROPERTIES INC	***2200 TEAL CLUB ROAD***	***SSE 1/8 - 1/4 (0.196 mi.)***	***B4***	***12***
Status: Completed - Case Closed				
PROODOS PROPERTIES INC	2200 TEAL CLUB RD	SSE 1/8 - 1/4 (0.196 mi.)	B7	16
COACHELLA CITY YARD	***1670 2ND***	***SSE 1/8 - 1/4 (0.234 mi.)***	***B9***	***20***
Status: Completed - Case Closed				
V-OXNARD AIRPORT FUEL FARM	***2889 5TH ST***	***SSE 1/8 - 1/4 (0.234 mi.)***	***B13***	***25***
Status: Completed - Case Closed				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 01/20/2015 has revealed that there are 3 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
AVIATION MARINE SERVICES	2800 TEAL CLUB ROAD	S 1/8 - 1/4 (0.187 mi.)	A2	10
PROODOS PROPERTIES INC	***2200 TEAL CLUB ROAD***	***SSE 1/8 - 1/4 (0.196 mi.)***	***B4***	***12***
VENTURA COUNTY DEPARTMENT OF A	2889 FIFTH STREET	SSE 1/8 - 1/4 (0.234 mi.)	B10	22

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are

3 CA FID UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TRI-COUNTY BUILDERS SUPPLY	***2800 TEAL CLUB***	***S 1/8 - 1/4 (0.187 mi.)***	***A1***	***8***
ROTOR AIDS	***2200 TEAL CLUB RD***	***SSE 1/8 - 1/4 (0.196 mi.)***	***B6***	***15***
VENTURA CO. OXNARD AIRPORT	***2889 W 5TH ST***	***SSE 1/8 - 1/4 (0.234 mi.)***	***B11***	***22***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ROTOR AIDS, INC.	2200 TEAL CLUB RD	SSE 1/8 - 1/4 (0.196 mi.)	B5	14
OXNARD AIRPORT	***2889 W 5TH ST***	***SSE 1/8 - 1/4 (0.234 mi.)***	***B8***	***17***
OXNARD AIR TRAFFIC CONTROL TWR	2889 W 5TH ST	SSE 1/8 - 1/4 (0.234 mi.)	B12	24

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 3 SWEEPS UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TRI-COUNTY BUILDERS SUPPLY	***2800 TEAL CLUB***	***S 1/8 - 1/4 (0.187 mi.)***	***A1***	***8***
ROTOR AIDS	***2200 TEAL CLUB RD***	***SSE 1/8 - 1/4 (0.196 mi.)***	***B6***	***15***
VENTURA CO. OXNARD AIRPORT	***2889 W 5TH ST***	***SSE 1/8 - 1/4 (0.234 mi.)***	***B11***	***22***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/09/2014 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MID CONTINENT OF CA INC	***2834 TEAL CLUB RD***	***S 1/8 - 1/4 (0.188 mi.)***	***A3***	***10***

EXECUTIVE SUMMARY

FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 06/06/2014 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
OXNARD ILS OUTER MARK ANNEX		NE 1/2 - 1 (0.929 mi.)	E24	59

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 5 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
F.A. BORCHARD & SONS	***1618 DORIS***	***E 1/4 - 1/2 (0.369 mi.)***	***C15***	***40***
VEN OAKS PLUMBING	***131 MALLARD WAY***	***SE 1/4 - 1/2 (0.446 mi.)***	***17***	***43***

Lower Elevation	Address	Direction / Distance	Map ID	Page
PROODOS PROPERTIES INC	***2200 TEAL CLUB ROAD***	***SSE 1/8 - 1/4 (0.196 mi.)***	***B4***	***12***
COACHELLA CITY YARD	***1670 2ND***	***SSE 1/8 - 1/4 (0.234 mi.)***	***B9***	***20***
V-OXNARD AIRPORT FUEL FARM	***2889 5TH ST***	***SSE 1/8 - 1/4 (0.234 mi.)***	***B13***	***25***

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there are 3 Notify 65 sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GINA & IVYWOOD DR.	GINA & IVYWOOD DR.	NE 1/2 - 1 (0.697 mi.)	20	51
Not reported	1710 ARLENE	NNE 1/2 - 1 (0.873 mi.)	23	59

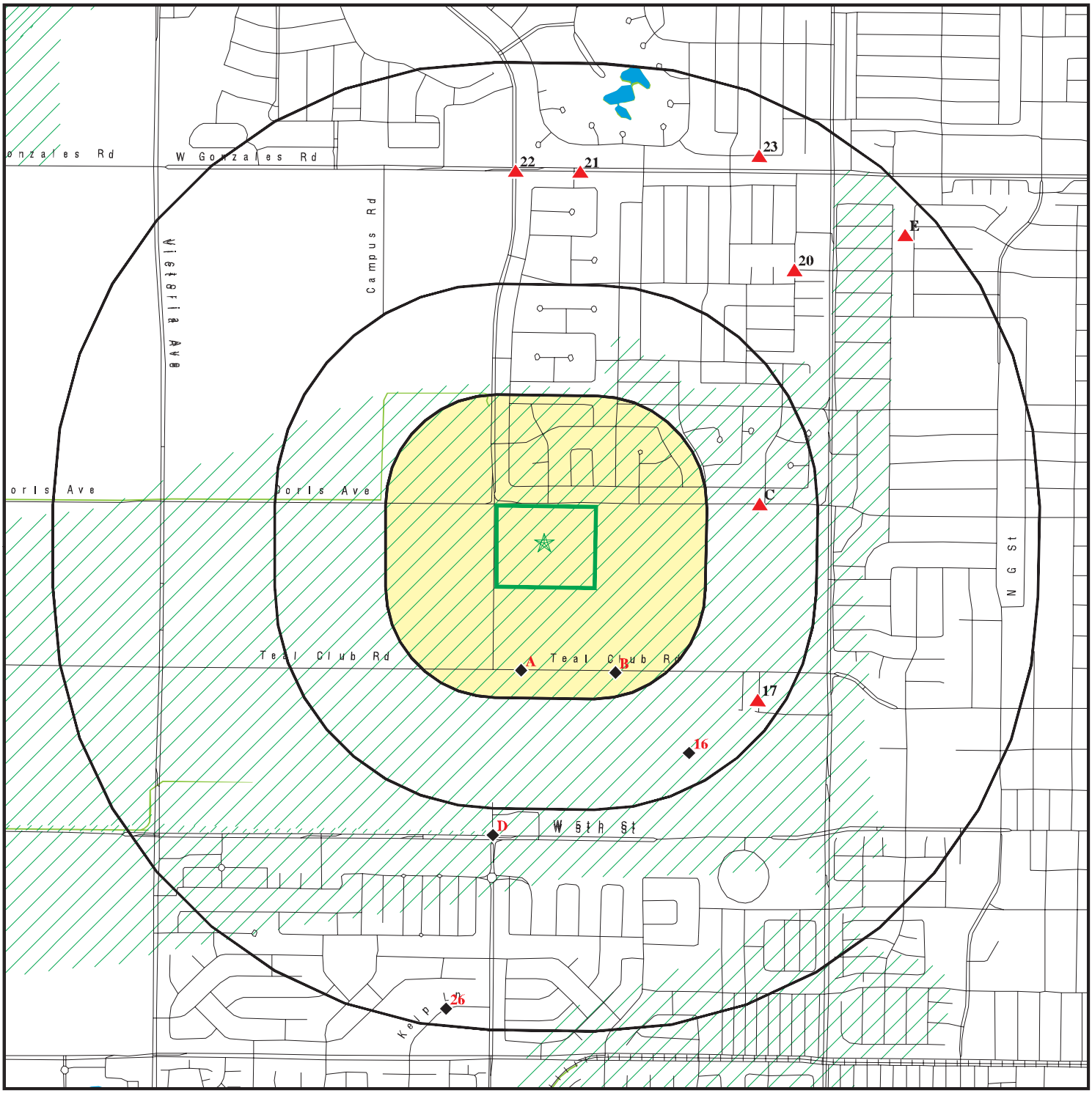
Lower Elevation	Address	Direction / Distance	Map ID	Page
APARTMENT COMPLEX	1040 KELP LANE	SSW 1/2 - 1 (0.958 mi.)	26	61

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
COTTAGES OXNARD TRACT 9450- APN #1	LUST
COTTAGES OXNARD TRACT 9450- APN #1	LUST
SANTA CLARA/MAXWELL SWIFT/CONNOLLY	ENVIROSTOR

OVERVIEW MAP - 4216502.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

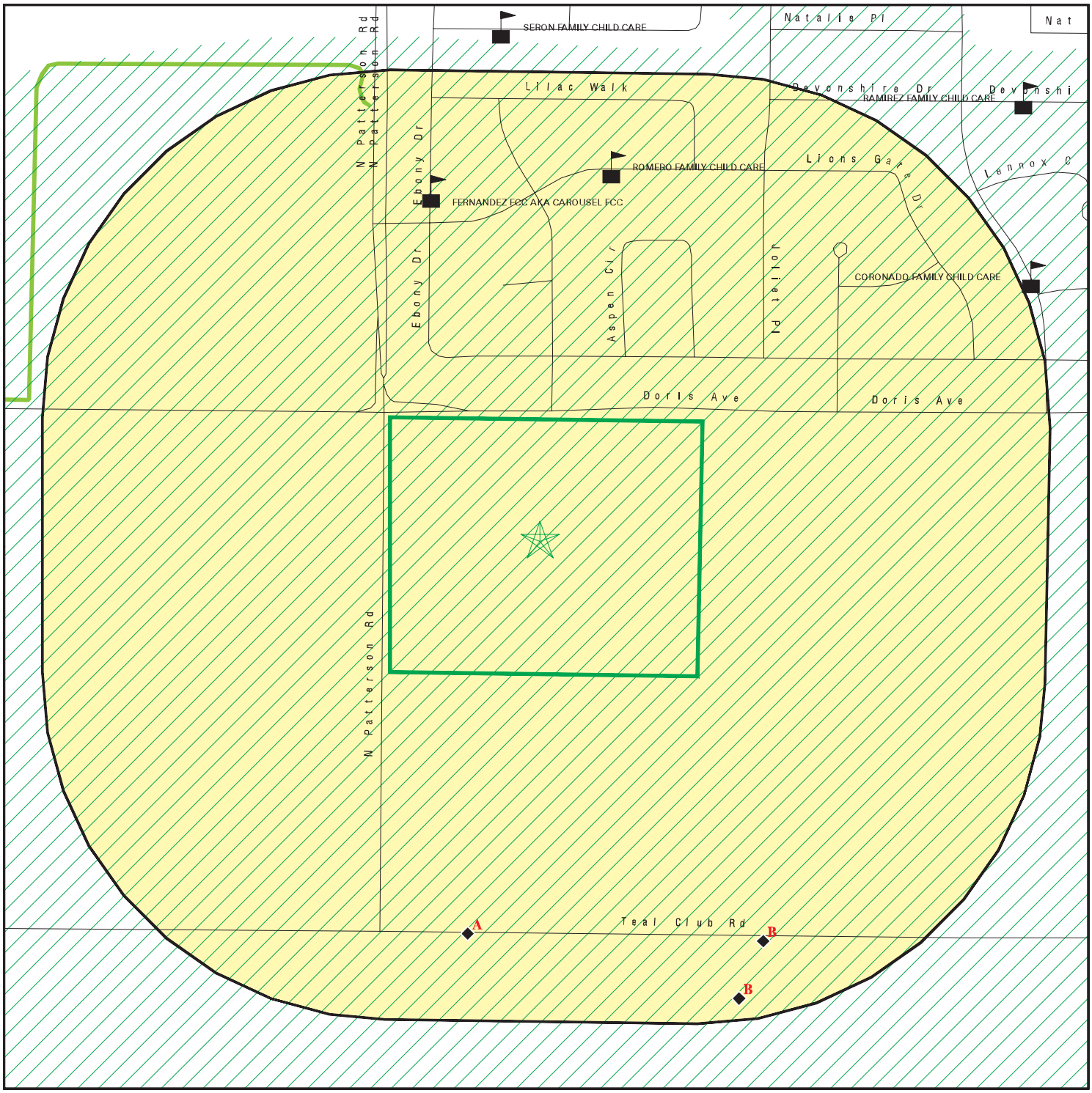
Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Doris Patterson New Academy Site Aquisition	CLIENT:	Ninyo & Moore
ADDRESS:	Southeast Corner of N Patterson Rd and Doris Ave Oxnard CA 93030	CONTACT:	Patrick Cullip
LAT/LONG:	34.2071 / 119.2059	INQUIRY #:	4216502.2s
		DATE:	February 24, 2015 4:37 pm

DETAIL MAP - 4216502.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Doris Patterson New Academy Site Aquisition	CLIENT:	Ninyo & Moore
ADDRESS:	Southeast Corner of N Patterson Rd and Doris Ave Oxnard CA 93030	CONTACT:	Patrick Cullip
LAT/LONG:	34.2071 / 119.2059	INQUIRY #:	4216502.2s
		DATE:	February 24, 2015 4:39 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	5	NR	6
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	4	3	NR	NR	7

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	3	NR	NR	NR	3
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	3	NR	NR	NR	3
HIST UST	0.250		0	3	NR	NR	NR	3
SWEEPS UST	0.250		0	3	NR	NR	NR	3
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	1	NR	1
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		0	3	2	NR	NR	5
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	0	3	NR	3
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
VENTURA CO. BWT	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
MED WASTE VENTURA	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		0	0	NR	NR	NR	0
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
South
1/8-1/4
0.187 mi.
989 ft.

TRI-COUNTY BUILDERS SUPPLY
2800 TEAL CLUB
OXNARD, CA 93030

Site 1 of 3 in cluster A

CA FID UST **U001966418**
SWEEPS UST **N/A**
ENF

Relative:
Lower

Actual:
39 ft.

CA FID UST:

Facility ID:	56002321
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	Not reported
Mail To:	Not reported
Mailing Address:	2800 TEAL CLUB RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	OXNARD 93030
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

SWEEPS UST:

Status:	Active
Comp Number:	1727
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	56-000-001727-000001
Tank Status:	A
Capacity:	3000
Active Date:	Not reported
Tank Use:	UNKNOWN
STG:	P
Content:	Not reported
Number Of Tanks:	1

ENF:

Region:	4
Facility Id:	268643
Agency Name:	Tri-County Builders Supply
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	All other facilities
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.202991
Place Longitude:	-119.206611
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported

TRI-COUNTY BUILDERS SUPPLY (Continued) **U001966418**

SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	AGT
Program Category1:	TANKS
Program Category2:	TANKS
# Of Programs:	1
WDID:	4CUPA000021
Reg Measure Id:	166963
Reg Measure Type:	Unregulated
Region:	4
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/20/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	238385
Region:	4
Order / Resolution Number:	SEL
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	09/07/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	09/07/2000

TRI-COUNTY BUILDERS SUPPLY (Continued) **U001966418**

ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 4CUPA000021
Description:	Notice of Noncompliance sent 9/7/00 for failure to pay fees. Not reported
Program:	AGT
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

A2 **AVIATION MARINE SERVICES** **UST** **U002169445**
South **2800 TEAL CLUB ROAD** **N/A**
1/8-1/4 **OXNARD, CA**
0.187 mi.
989 ft. **Site 2 of 3 in cluster A**

Relative:
Lower

Actual:
39 ft.

VENTURA CO. UST:

Facility ID:	D 1033
Facility Status:	Inactive
York Number:	146062

A3 **MID CONTINENT OF CA INC** **RCRA NonGen / NLR** **1000108604**
South **2834 TEAL CLUB RD** **FINDS** **CAD095147385**
1/8-1/4 **OXNARD, CA 93030**
0.188 mi.
990 ft. **Site 3 of 3 in cluster A**

Relative:
Lower

Actual:
39 ft.

RCRA NonGen / NLR:

Date form received by agency:	11/12/1980
Facility name:	MID CONTINENT OF CA INC
Facility address:	2834 TEAL CLUB RD OXNARD, CA 93030
EPA ID:	CAD095147385
Mailing address:	PO BOX 489 OXNARD, CA 93030
Contact:	ENVIRONMENTAL MANAGER
Contact address:	2834 TEAL CLUB RD OXNARD, CA 93030
Contact country:	US
Contact telephone:	(805) 487-6365
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	WESTERN FARM SERVICE
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999

MID CONTINENT OF CA INC (Continued) **1000108604**

Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002664625

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

B4 **PROODOS PROPERTIES INC** **HIST CORTESE** **U002244258**
SSE **2200 TEAL CLUB ROAD** **LUST** **N/A**
1/8-1/4 **OXNARD, CA** **UST**
0.196 mi. **EMI**
1036 ft. **Site 1 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-95076

LUST:

Region:	STATE
Global Id:	T0611100975
Latitude:	34.202246
Longitude:	-119.203847
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/28/1996
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-95076
LOC Case Number:	95076
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Aviation
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100975
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100975
Status:	Open - Case Begin Date
Status Date:	02/08/1995
Global Id:	T0611100975
Status:	Open - Site Assessment
Status Date:	02/08/1995
Global Id:	T0611100975
Status:	Open - Site Assessment
Status Date:	03/06/1995
Global Id:	T0611100975
Status:	Completed - Case Closed
Status Date:	03/28/1996

PROODOS PROPERTIES INC (Continued) **U002244258**

Global Id: T0611100975
Status: Open - Verification Monitoring
Status Date: 01/02/1996

Global Id: T0611100975
Status: Open - Remediation
Status Date: 11/06/1995

Regulatory Activities:
Global Id: T0611100975
Action Type: RESPONSE
Date: 01/01/1997
Action: Correspondence

Global Id: T0611100975
Action Type: Other
Date: 02/08/1995
Action: Leak Reported

Global Id: T0611100975
Action Type: Other
Date: 02/08/1995
Action: Leak Discovery

VENTURA CO. UST:
Facility ID: D 1161
Facility Status: Inactive
York Number: 146066

EMI:
Year: 1987
County Code: 56
Air Basin: SCC
Facility ID: 1134
Air District Name: VEN
SIC Code: 4212
Air District Name: VENTURA COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

B5 **ROTOR AIDS, INC.** **HIST UST** **U001579850**
SSE **2200 TEAL CLUB RD** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.196 mi.
1036 ft. **Site 2 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

HIST UST:

Region:	STATE
Facility ID:	00000019514
Facility Type:	Other
Other Type:	HELICOPTER CHARTER
Contact Name:	LOUIS J. LAUGHLIN
Telephone:	8059843860
Owner Name:	EVERGREEN HELICOPTERS, INC.
Owner Address:	3850 THREE MILE LANE
Owner City,St,Zip:	MCMINNVILLE, OR 97128
Total Tanks:	0004
Tank Num:	001
Container Num:	1
Year Installed:	1980
Tank Capacity:	00001500
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	3/6"
Leak Detection:	Visual, Stock Inventor
Tank Num:	002
Container Num:	JET
Year Installed:	1980
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	1/4
Leak Detection:	Visual, Stock Inventor
Tank Num:	003
Container Num:	100
Year Installed:	1980
Tank Capacity:	00005000
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	1/4
Leak Detection:	Visual, Stock Inventor
Tank Num:	004
Container Num:	DIESEL
Year Installed:	1980
Tank Capacity:	00001500
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	3/16"
Leak Detection:	Visual, Stock Inventor

B6 **ROTOR AIDS** **CA FID UST** **S101619941**
SSE **2200 TEAL CLUB RD** **SWEEPS UST** **N/A**
1/8-1/4 **OXNARD, CA**
0.196 mi.
1036 ft. **Site 3 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

CA FID UST:

Facility ID:	56004837
Regulated By:	UTNKA
Regulated ID:	19514
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	Not reported
Mail To:	Not reported
Mailing Address:	2200 TEAL CLUB RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	OXNARD
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

SWEEPS UST:

Status:	Active
Comp Number:	16
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	56-000-000016-000001
Tank Status:	A
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	UNKNOWN
STG:	P
Content:	Not reported
Number Of Tanks:	4

Status:	Active
Comp Number:	16
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	56-000-000016-000002
Tank Status:	A
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	UNKNOWN
STG:	P
Content:	Not reported
Number Of Tanks:	Not reported

ROTOR AIDS (Continued) **S101619941**

Status:	Active
Comp Number:	16
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	56-000-000016-000003
Tank Status:	A
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	UNKNOWN
STG:	P
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	16
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-30-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	56-000-000016-000004
Tank Status:	A
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	UNKNOWN
STG:	P
Content:	Not reported
Number Of Tanks:	Not reported

B7 **PROODOS PROPERTIES INC** **LUST** **S104164926**
SSE **2200 TEAL CLUB RD** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.196 mi.
1036 ft. **Site 4 of 10 in cluster B**

Relative:
Lower

Actual:
42 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-95076	
Status:	Case Closed	
Substance:	Jet Fuel	
Substance Quantity:	Not reported	
Local Case No:	95076	
Case Type:	Groundwater	
Abatement Method Used at the Site:		EDET
Global ID:	T0611100975	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	2/8/1995	

PROODOS PROPERTIES INC (Continued) **S104164926**

Date Leak First Reported:		2/8/1995
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	2/8/1995	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		3/28/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3068.3520395838009511841642405
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		2/8/1995
Preliminary Site Assessment Began:		3/6/1995
Pollution Characterization Began:		3/6/1995
Remediation Plan Submitted:		11/6/1995
Remedial Action Underway:		11/6/1995
Post Remedial Action Monitoring Began:		1/2/1996
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	PROODOS PROPERTIES INC	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.2028686 / -1	
Local Agency Staff:	KCK	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	95076
Status:	Case Closed

B8 **OXNARD AIRPORT** **NPDES** **U001579816**
SSE **2889 W 5TH ST** **HIST UST** **N/A**
1/8-1/4 **OXNARD, CA 93030** **WDS**
0.234 mi.
1234 ft. **Site 5 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0

OXNARD AIRPORT (Continued) **U001579816**

Region:	4
Regulatory Measure Id:	192582
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 56I002776
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	04/02/1992
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Ventura Cnty Dept of Airports
Discharge Address:	555 Airport Way Ste B
Discharge City:	Camarillo
Discharge State:	California
Discharge Zip:	93010

HIST UST:

Region:	STATE
Facility ID:	00000056794
Facility Type:	Other
Other Type:	AIRPORT
Contact Name:	T.B. IVERSEN
Telephone:	8053884201
Owner Name:	DEPARTMENT OF AIRPORTS
Owner Address:	800 SOUTH VICTORIA AVENUE
Owner City,St,Zip:	VENTURA, CA 93009
Total Tanks:	0005
Tank Num:	001
Container Num:	W-1
Year Installed:	1976
Tank Capacity:	00000085
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	Visual, 10
Tank Num:	002
Container Num:	W-2
Year Installed:	1976
Tank Capacity:	00000400
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	Visual, 10
Tank Num:	003
Container Num:	W-3
Year Installed:	1976
Tank Capacity:	00000100
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	Visual, 10
Tank Num:	004

OXNARD AIRPORT (Continued) **U001579816**

Container Num:	A-1
Year Installed:	Not reported
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	1/4
Leak Detection:	Visual, 10

Tank Num:	005
Container Num:	A-2
Year Installed:	Not reported
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	1/4
Leak Detection:	Visual, 10

CA WDS:

Facility ID:	4 56I002776
Facility Type:	Other - Does not fall into the category of Municipal/Domestic, Industrial, Agricultural or Solid Waste (Class I, II or III)
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	4
Facility Telephone:	8053884200
Facility Contact:	Scott Smith/Christ Hastert
Agency Name:	VENTURA CO DEPT OF AIRPORTS
Agency Address:	Not reported
Agency City,St,Zip:	0
Agency Contact:	Not reported
Agency Telephone:	Not reported
Agency Type:	County
SIC Code:	4581
SIC Code 2:	4512
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Primary Waste:	STORMS
Waste Type2:	Not reported
Waste2:	Stormwater Runoff
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher

OXNARD AIRPORT (Continued) **U001579816**

Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.

Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

B9 **COACHELLA CITY YARD** **HIST CORTESE** **S103066235**
SSE **1670 2ND** **LUST** **N/A**
1/8-1/4 **COACHELLA, CA 92236**
0.234 mi.
1234 ft. **Site 6 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	33
Reg By:	LTNKA
Reg Id:	7T2236002

LUST:

Region:	STATE
Global Id:	T0606500932
Latitude:	33.6831409
Longitude:	-116.1768474
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	12/08/1999
Lead Agency:	RIVERSIDE COUNTY LOP
Case Worker:	RIV
Local Agency:	RIVERSIDE COUNTY LOP
RB Case Number:	7T2236002
LOC Case Number:	89169
File Location:	Local Agency Warehouse
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Diesel
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0606500932
Contact Type:	Regional Board Caseworker
Contact Name:	Phan Le
Organization Name:	COLORADO RIVER BASIN RWQCB (REGION 7)
Address:	73720 FRED WARING DRIVE SUITE #100
City:	PALM DESERT
Email:	ple@waterboards.ca.gov
Phone Number:	7607768974

Global Id:	T0606500932
Contact Type:	Local Agency Caseworker
Contact Name:	Riverside County LOP Closed Cases
Organization Name:	RIVERSIDE COUNTY LOP
Address:	3880 LEMON ST SUITE 200
City:	RIVERSIDE
Email:	Not reported

COACHELLA CITY YARD (Continued) **S103066235**

Phone Number: 9519558980

Status History:
Global Id: T0606500932
Status: Open - Case Begin Date
Status Date: 10/01/1986

Global Id: T0606500932
Status: Open - Site Assessment
Status Date: 10/13/1993

Global Id: T0606500932
Status: Open - Site Assessment
Status Date: 05/11/1994

Global Id: T0606500932
Status: Completed - Case Closed
Status Date: 12/08/1999

Global Id: T0606500932
Status: Open - Remediation
Status Date: 08/08/1995

Global Id: T0606500932
Status: Open - Site Assessment
Status Date: 10/11/1986

Regulatory Activities:
Global Id: T0606500932
Action Type: Other
Date: 10/11/1986
Action: Leak Reported

Global Id: T0606500932
Action Type: Other
Date: 03/01/1989
Action: Leak Stopped

Global Id: T0606500932
Action Type: Other
Date: 10/01/1986
Action: Leak Discovery

Global Id: T0606500932
Action Type: ENFORCEMENT
Date: 12/07/1999
Action: File review - #RCDEH Upload Site File 5/5/2010

Global Id: T0606500932
Action Type: ENFORCEMENT
Date: 12/08/1999
Action: Closure/No Further Action Letter - #Riv Co Closure

LUST REG 7:
Region: 7

COACHELLA CITY YARD (Continued) **S103066235**

Status: 9 - Case Closed
Case Num: 7T2236002
Substance: Diesel fuel oil and additives
ID: 653
Global ID: T0606500932
Lead Agency: Local Agency
Case Worker: YO

RIVERSIDE CO. LUST:
Region: RIVERSIDE
Facility ID: 89169
Employee: Shurlow-LOP
Site Closed: Yes
Case Type: Other ground water affected
Facility Status: closed/action completed

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 89169
Status: Case Closed

B10 **VENTURA COUNTY DEPARTMENT OF AIRPORTS** **UST** **U004066761**
SSE **2889 FIFTH STREET** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.234 mi.
1234 ft. **Site 7 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

UST:
Facility ID: 065-013-056416
Permitting Agency: OXNARD, CITY OF
Latitude: 34.1988691
Longitude: -119.2052337

B11 **VENTURA CO. OXNARD AIRPORT** **CA FID UST** **S101596354**
SSE **2889 W 5TH ST** **SWEEPS UST** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.234 mi.
1234 ft. **Site 8 of 10 in cluster B**

Relative:
Lower

Actual:
41 ft.

CA FID UST:
Facility ID: 56001693
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: 2889 W 5TH ST
Mailing Address 2: Not reported
Mailing City,St,Zip: OXNARD 93030
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported

VENTURA CO. OXNARD AIRPORT (Continued) **S101596354**

Comments: Not reported
Status: Active

SWEEPS UST:
Status: Active
Comp Number: 739
Number: 9
Board Of Equalization: 44-030692
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000739-000001
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: 5

Status: Active
Comp Number: 739
Number: 9
Board Of Equalization: 44-030692
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000739-000002
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 739
Number: 9
Board Of Equalization: 44-030692
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000739-000003
Tank Status: A
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: LEADED
Number Of Tanks: Not reported

Status: Active
Comp Number: 739