STORMWATER POLLUTION PREVENTION PLAN

for

Alameda High School Swim Center Modernization

Project Location:
2200 Central Ave.
Alameda, CA 94501

WDID: 2 01C404228
RISK LEVEL: 2

Legally Responsible Person (LRP):
Alameda Unified School District
2060 Challenger Dr
Alameda, CA 94501
Monty Patterson
510-337-7000

Site Operating Hours:
7:00 am – 5:00 pm (M-F)

Estimated Project Dates:
Start of Construction: 6/1/24
Completion of Construction: 8/31/25

SWPPP Prepared by:
Brelje & Race Consulting Engineers
475 Aviation Blvd., Suite 120
Santa Rosa, CA 95403

SWPPP Preparation Date:
5/10/24
Revision 1: 5/12/25

QSD Name and Signature:



Andrew Ferrol, QSD C87282

Contact Information

Role	Name	Phone Number	License or Certification Number, if Applicable
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Qualified SWPPP Developer

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: *Alameda High School Swim Center Modernization*

Project Number/ID: *DSA App No. 01-121390 (B&R Job No. 4205.05)*

"This Stormwater Pollution Prevention Plan and its appendices were prepared under my direction to meet the requirements of the California Construction Stormwater General Permit (*Order No. 2022-0057-DWQ*). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below and will maintain up to date credentials for the duration of the project."



QSD Signature

5/10/24

Date

Andrew Ferrol

QSD Name

C87282

QSD Certificate Number

Civil Engineer, Brelje & Race Consulting Engineers

Title and Affiliation

707-636-3752

Telephone Number

Ferrol@brce.com

Email

Amendment Log

Project Name: Alameda High School Swim Center Modernization

Project Number/ID:

DSA App No. 01-121390 (B&R Job No. 4205.05)

Amendment No.	Date	Brief Description of Amendment (include section and page number)	Prepared and Approved By
01	5/12/25	Sections 2.1.2 & 2.1.4, Page 2-2 & 2-3: Added information on Contaminated Soil Section 3, Pages 3-1 through 3-17: Revised BMPs used onsite. Section 7, Pages 7-6 through 7-20: Updated Table information. Appendix A: Updated Water Pollution Control Drawing Appendix G: Updated CASQA BMP Fact Sheets Appendix Q: Added Reports, Plans, and Memos to Supplemental Information	Name: Andrew Ferrol QSD# C87282
			Name: QSD#
			Name: QSD#

The SWPPP will be revised when:

- There is a 2022 CGP violation (2022 CGP Section VI.Q.1);
- There is a reduction or increase in total disturbed acreage (2022 CGP Section III.F.2. and F.4);
- BMPs are not effective and are not resulting in a reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges (2022 CGP Section VI.Q.1 and Attachment E Section III.C.5);
- There is a change in the project duration that changes the project Risk Type (2022 CGP Section III.F.1);
- Dischargers with projects where all construction activities (including passive treatment, active treatment systems, and/or active equipment) will be suspended for 30 days or more (2022 CGP Section III.G);

- There is a change in construction or operations that may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4) (2022 CGP Sections IV.O. and VI.Q.1); or

When deemed necessary by the QSD. The QSD has determined that the changes listed in Table 1-1 can be field determined by the QSP. All other changes will be made by the QSD as formal amendments to the SWPPP. Note that the 2022 CGP requires that the QSD "revise the SWPPP to address potential problems identified by visual inspections, sampling data, comments from a QSP, or their own site observations (2022 CGP Section V.C.2.).

SWPPP Amendment QSD Certifications are located in Appendix C.

Section 1 SWPPP Requirements

1.1 INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (2022 CGP),* State Water Resources Control Board (State Water Board) *Order No. 2022-0057-DWQ (NPDES No. CAS000002)* (Appendix S). This SWPPP has been prepared following the 2022 CGP SWPPP Template for Traditional Projects provided in the California Stormwater Quality Association (CASQA) Stormwater *Best Management Practice (BMP) Handbook: Construction* (CASQA 2023).

This project is considered a traditional construction project.

In accordance with the 2022 CGP, Section IV.O, this SWPPP is designed to address the following:

- Identification of all pollutants, their sources, and control mechanisms, including sources of sediment associated with all construction activities (e.g., sediment, paint, cement, stucco, cleaners, site erosion);
- Pollutant source assessments, including a list of potential pollutant sources and identification of site areas where additional BMPs are necessary to reduce or prevent pollutants in stormwater and authorized non-stormwater discharges, per the minimum requirements when developing the pollutant source assessment;
- Description of site-specific BMPs implemented to reduce or eliminate stormwater pollution;
- Where not otherwise required to be under a Regional Water Quality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard; and;
- Stabilization BMPs are installed to reduce or eliminate pollutants after construction is completed are effective and maintained; and
- Calculations and design details, as well as BMP controls, are complete and correct.

The Alameda High School Swim Center Modernization project (Project, or Site) comprises approximately 1.50 acres, of which 1.27 acres will be disturbed. The Project is located at 2200 Central Avenue in Alameda, California. The property is owned by Alameda Unified School District and is being developed by Alameda Unified School District. The project's location is shown on the Site Maps in Appendix A.

1.2 PERMIT REGISTRATION DOCUMENTS

Required Permit Registration Documents (PRDs) shall be submitted to the State Water Board via the Stormwater Multi Application and Report Tracking System (SMARTS) by the LRP or DAR. The project-specific PRDs include (2022 CGP Section III.A):

1. Notice of Intent (NOI);

2. Risk Level Determination (Construction Site Sediment and Receiving Water Risk Determination);
3. Site Drawings and Map;
4. SWPPP;
5. Applicable plans, calculations, and other supporting documentation for compliance with the Phase I or Phase II municipal separate storm sewer system (MS4) post construction requirements or the post-construction standards of the 2022 CGP:
    - Attachment or web-source containing the applicable Phase I or Phase II MS4 post construction requirements;
    - Post-construction water balance calculation;
6. Dewatering Plan, if applicable;
7. Annual Fee per the current 23 California Code of Regulations Chapter 9 fee schedule for National Pollutant Discharge Elimination System (NPDES) stormwater permits; and
8. Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal).

Site Maps can be found in Appendix A. A copy of the submitted PRDs shall also be kept in Appendix B along with the Waste Discharge Identification (WDID) confirmation.

1.3 SWPPP AVAILABILITY AND IMPLEMENTATION

The SWPPP will be available at the construction site during working hours list on the title sheet and **Section 7.5**, while construction is occurring and shall be made available upon request by a federal, state, or municipal inspector. A current copy of the site-specific SWPPP and any site inspection reports required by the 2022 CGP may be kept in electronic format at the site so long as the information requested by a federal, state, or municipal inspector can be made available during an inspection. Legible maps in hard copy must be available at the site (2022 CGP Section IV.O.1.).

The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The SWPPP must remain on the site during construction activities, commencing with the initial mobilization and ending with the termination of coverage under the 2022 CGP.

1.4 SWPPP AMENDMENTS

SWPPP changes or amendments will be uploaded through SMARTS within 30 calendar days. The SWPPP will be revised when:

- If there is a 2022 CGP violation (2022 CGP Section VI.Q.1);
- There is a reduction or increase in total disturbed acreage (2022 CGP Section III.F.2 and F.4.);
- BMPs are not effective and are not resulting in a reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges (2022 CGP Section VI.Q.1 and Attachment D Section III.C.5);
- There is a change in the project duration that changes the project's risk level (2022 CGP Section III.F.1); or

- Dischargers with projects where all construction activities (including passive treatment, active treatment systems, and/or active equipment) will be suspended for 30 days or more (2022 CGP Section III.G.).

Additionally, the SWPPP will be amended when:

- There is a change in construction or operations that may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4) (2022 CGP Sections IV.O. and VI.Q.1); or

When deemed necessary by the QSD. The QSD has determined that the changes listed in **Table 1-1** can be field determined by the QSP. All other changes will be made by the QSD as formal amendments to the SWPPP. Note that the 2022 CGP requires that the QSD revise the SWPPP to address potential problems identified by visual inspections, sampling data, comments from a QSP, or their own site observations (2022 CGP Section V.C.2.).

The following items shall be included in each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original BMP(s) proposed, if any;
- The new BMP(s) proposed; and
- QSD certification.

SWPPP amendments will be logged at the front of the SWPPP and SWPPP Amendment QSD certifications will be located in **Appendix C**. The SWPPP text will be revised, replaced and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be made by a QSD. The following changes have been designated by the QSD as "to be field determined" and constitute minor changes that the QSP may implement based on field conditions.

Table 1-1 List of Changes to be Field Determined

Candidate changes for field location or determination by QSP (1)	Check changes that can be field located or field determined by QSP
Increase quantity of an Erosion or Sediment Control Measure	✓
Relocate/add stockpiles or stored materials	✓
Relocate or add toilets	✓
Relocate vehicle storage and/or fueling locations	✓
Relocate areas for waste storage	✓
Relocate water storage and/or water transfer location	✓
Changes to access points (entrance/exits)	✓

Table 1-1 List of Changes to be Field Determined

Candidate changes for field location or determination by QSP (1)	Check changes that can be field located or field determined by QSP
Change type or location of Erosion or Sediment Control Measure	✓
Minor changes to schedule or phases	✓
Changes in construction materials	✓, when TMDLs do not apply
(1) Any field changes not identified for field location or field determination by the QSP must be made as an amendment by the QSD.	

1.5 RETENTION OF RECORDS

Paper or electronic records of documents required by this SWPPP will be retained for a minimum of three years from the date generated or date submitted, whichever is later, for the following items:

- SWPPP;
- Visual monitoring reports;
- Sampling equipment calibration records;
- pH and turbidity sampling field sheets;
- Analytical laboratory reports; and

These records will be available at the Site until construction is complete. Records assisting in the determination of compliance with the 2022 CGP will be made available within a reasonable time to the Regional Water Board, State Water Board, or U.S. Environmental Protection Agency (EPA) upon request. Requests by the Regional Water Board for retention of records for a period longer than three years will be adhered to.

1.6 REPORTING

Completed inspection checklists are not required to be submitted to the Regional Water Board. However, completed inspection checklists will be kept with the SWPPP on-site or electronically. The 2022 CGP requires that permittees prepare, certify, and electronically submit an Annual Report no later than September 1 of each year. Reporting requirements are identified in 2022 CGP Section VI.P. Annual reports will be filed in SMARTS and in accordance with information required by the online forms.

Planned changes in site construction activities that may result in non-compliance with the 2022 CGP are required to be provided in writing to the Regional Water Board and local stormwater agency in advance of the changes.

If a 2022 CGP discharge violation occurs, the QSP will immediately notify the LRP. The LRP will include information on the violation with the Annual Report. Corrective measures will be implemented immediately following identification of the discharge or written notice of non-compliance from the Regional Board. Discharges and corrective actions must be documented and include the following items:

- The date, time, location, nature of operation, and type of unauthorized discharge;
- The cause or nature of the notice or order;

- The BMPs deployed before the discharge event, or prior to receiving notice or order; and
- The date of deployment and type of BMPs deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence.

Results of (pH and turbidity, etc.) monitoring will be electronically submitted through SMARTS for all field sampling results within 30 days of the completion of the precipitation event or within 10 days if the field sampling results demonstrate the exceedance of the pH and/or turbidity NALs. See **Section 7.7.2.7** for additional discussion of the reporting requirements.

Reporting requirements for pH and turbidity Receiving Water Monitoring Triggers are discussed in **Section 7.7.2.7**.

Results of non-visible pollutant monitoring and corrective actions will be electronically submitted within 30 days after obtaining analytical results or within 10 days if the analytical results demonstrate the exceedance of an applicable TMDL-related NAL or NEL or Basin Plan parameter. See **Section 7.7.1.7** for additional discussion of the reporting requirements.

A NAL exceedance report will be prepared when requested, in writing, by the Regional Water Board.

In the event of a TMDL NEL exceedance, by the end of each reporting year the project will submit and certify, in SMARTS, documentation of the site assessment, SWPPP evaluation, and implementation of the corrective actions.

Results of monitoring (pH, turbidity, flowrate, volume discharged, and freeboard storage) will be electronically submitted monthly during the project. See the ATS Plan for additional discussion of the reporting requirements.

In the event of an ATS NEL exceedance results will be electronically certified and submitted to SMARTS within 24-hours of obtaining the results.

The Regional Water Board will be notified via email 24 hours prior to the beginning of a planned dewatering discharge.

In the event of an emergency dewatering, the Regional Water Board and applicable MS4 are to be notified within 24 hours of a discharge occurring. An emergency is defined as the need to protect human life and health or prevent severe property damage.

Results of (pH and turbidity, etc.) monitoring will be electronically submitted through SMARTS for all field sampling results within 30 days of the completion of the precipitation event or within 10 days if the field sampling results demonstrate the exceedance of the pH and/or turbidity NALs.

See **Section 7.7.4.5** for additional discussion of the reporting requirements including contacts for Regional Water Board and MS4 notifications.

A Passive Treatment Plan will be submitted electronically 14 days before passive treatment chemicals are used on site. See the Passive Treatment Plan for additional discussion of the reporting requirements.

1.7 CHANGES TO PERMIT COVERAGE

The 2022 CGP allows for the reduction or increase of the total acreage covered under the 2022 CGP when: a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs will be filed electronically through a Change of Information (COI) within 30 days of a reduction or increase in total disturbed area if a change in permit-covered acreage is to be sought. The SWPPP will be modified appropriately and will be logged at the front of the SWPPP. SWPPP Amendments QSD Certifications will be located in **Appendix C**. COIs submitted electronically via SMARTS can be found in **Appendix D**.

1.8 NOTICE OF TERMINATION

A Notice of Termination (NOT) must be submitted electronically by the LRP or DAR via SMARTS to terminate coverage under the 2022 CGP.

According to the requirements of 2022 CGP Section III.H.4., the following final stabilization method will be used to satisfy final stabilization condition requirements:

70 percent final cover method supported by pre- and post-project photographs demonstrating stabilization.

RUSLE or RUSLE2 method with computation proof supported by pre- and post-project photographs demonstrating stabilization.

Custom method for which Regional Water Board approval has been obtained, supported by documentation required by the Regional Water Board and pre- and pos- project photographs demonstrating stabilization.

The Regional Water Board will consider a construction site complete when the conditions of the 2022 CGP Section III.H., have been met.

The discharger is required to submit the following in SMARTS:

- NOT SMARTS Form;
- QSP-prepared final NOT inspection which includes the QSP name and valid QSP certificate number;
- Final site map with photo orientation references;
- Photos demonstrating final stabilization and the applicable post-construction BMPs and/or low impact development; and
- A long-term maintenance plan for the post-construction stormwater runoff BMPs and/or low impact development features being implemented.

According to the 2022 CGP, the NOT will be automatically approved within 30 calendar days after the date the NOT was submitted, unless, within the 30 calendar days the Regional Water Board notifies the discharger through SMARTS that the Notice of Termination has been denied, returned, or accepted for review (2022 CGP Section III.H.7).

Note: If an Annual Report has not been filed in the current reporting year, an Annual Report will need to be submitted prior to the NOT.

Section 2 Project Information

2.1 PROJECT AND SITE DESCRIPTION

2.1.1 Site Description

The Alameda High School Swim Center Modernization project site is Risk Level 2 that comprises approximately 1.50 acres and is located at 2200 Central Avenue, in Alameda, California. The project site is located approximately at the southeastern limits of the Alameda High School campus. The site is situated to the west of Oak Street, south of Alameda High School Gymnasium, north of Encinal Ave, and east of the Alameda High School softball field. The project site is located approximately 1 mile north of the San Francisco Bay and 1.25 miles west of the San Leandro Bay. The project is located at [37.76371, -122.24553] and is identified on the Site Map in **Appendix A**.

2.1.2 Existing Conditions

As of the initial date of this SWPPP, the project site is fully developed and mostly consists of impervious areas. The site consists of 2 existing swimming pools, pool deck, tennis courts, concrete walkways and an existing asphalt pavement walkway. The vegetated areas consist of a planter along the northeastern limits of the project site with multiple mature trees and an existing softball field with dirt infield and grass outfield located along the western limits of the site. The project site was previously developed with recreational athletic facilities that are operated by Alameda High School athletics and also open for public use. Initial findings through geotechnical investigation performed by Miller Pacific Engineering Group noted that existing soils were found to be without significant risk of potential contamination. However, during excavation, areas of lead-impacted fill soil were found on-site. Following discovery of the contaminated soils, notification to Alameda County Environmental Health Department (ACEHD) was provided. A site specific Soils Management Plan was developed by environmental consultant, Kleinfelder, which includes ACC Environmental Consultants, Inc. (ACC) soil characterization and testing, oversight and air monitoring.

Upon discovery of the contaminated soils, ACEHD released the following findings.

Fill material was placed on-site prior to construction of the existing school and generally extends to between 1 and 3 feet (ft) below ground surface (bgs) but appears to extend deeper at some locations. The fill material was likely used to fill in areas of potential former building footings, crawl spaces, utility channels, uneven areas of the Site, etc. The fill material consists of grey-brown silty-sand with gravel and debris and can be readily distinguished from the underlying native soils consisting of brown/light-brown/yellowish-brown fine-grain well-sorted native sand.

Concentrations of multiple potential chemicals of concern (PCOCs) exceeding the San Francisco Bay Regional Water Quality Control Board's (RWQCB) 2019 Environmental Screening Levels (ESLs) for Direct Exposure Human Health Risk Levels and Terrestrial Habitat Exposure Levels have been detected in samples collected from the soil and/or fill material during excavation of the Swim Center construction project and fencing project:

1. Lead up to 1,400 milligrams per kilogram (mg/kg)
2. Arsenic up to 15 mg/kg
3. Beno(a)pyrene up to 0.2mg/kg
4. PCBs up to 1.2 mg/kg

5. Dieldrin up to 0.0855 mg/kg

Approximately 4,430 tons of soil has been excavated without regulatory oversight and transported and disposed of at the Clean Harbors landfill in Buttonwillow, California as non-RCRA California hazardous waste (Class 1).

2.1.3 Existing Drainage

The project site is relatively flat with slight slopes along the western limits from north to south. The elevation of the project site ranges from 32 to 35 feet above mean sea level (msl). Surface drainage at the site currently flows to the east and south. Onsite surface drainage is picked up by existing drop inlets and trench drains that discharge runoff through the curb face on Oak Street and Encinal Avenue. Surface drainage in the existing pool deck is picked up by a network of area drains that drain back to the pool equipment enclosure where runoff enters the storm drain system and ultimate flows into the public storm drain system to the east in Oak Street. Stormwater is conveyed through existing storm drains that either discharges directly into the existing public storm drain system or through the curb face which ultimately flows into the public storm drain system. Existing site topography, drainage patterns, and stormwater conveyance systems are shown on the Water Pollution Control Drawing in **Appendix A**.

The project discharges to San Francisco Bay, Central. The water quality impairments (303 (d) list and TMDLs identified in the 2022 CGP Table H-1 for the receiving waters are identified in the **Table 2-1**.

Table 2-1 Applicable 303(d) List Impairments and TMDLs

Receiving Water	Water Quality Impairment	
	303(d) list	TMDL (2022 CGP Table H-1)
San Francisco Bay, Central	Chlordane, DDT, Dieldrin, Dioxin compounds (including 2, 3, 7, 8-TCDD), Furan Compounds, Invasive Species, Mercury, PCBs, PCBs (dioxin-like), Selenium, Trash	N/A

Additional compliance actions applicable to the project are discussed in more detail in **Section 7.7**.

2.1.4 Geology and Groundwater

This project has an associated Geotechnical Report that was prepared for the proposed improvements. The Project Geotechnical Report entitled "Revised Report, Geotechnical Investigation – Proposed Replacement of Two Simming Pools and Renovation of Existing Aquatic Center Building – Emma Hood Aquatic Center, Alameda High School" was prepared by Miller Pacific Engineering Group, dated November 9, 2023. The following information regarding site soils and groundwater is referenced in the Project Geotechnical Report. The full Geotechnical Report can be found in **Appendix Q**.

The site is underlain by very loose to loose silty sand to a depth of approximately 6 to 10 feet beneath the ground surface. Soils at depths greater than ten feet consist of predominantly of

medium-dense to dense silty sand and sandy silt, which extends to the maximum explored depth of 50 feet or more. Groundwater was measured at approximately 5 to 10 feet below the ground surface during Cone Penetration Test (CPT) investigation. Groundwater was measured at 10.5 to 19.5 feet below the ground surface during previous subsurface exploration in 2014. It is anticipated that the groundwater level beneath the site is influenced by tidal activity in the nearby San Francisco Bay.

Contaminated soils have been encountered onsite during construction. A Soil Management Plan was prepared by Kleinfelder, dated November 21, 2024. The following information regarding the contaminated soil is referenced in the Soil Management Plan.

During the project construction, soil samples were collected to characterize waste soil generated during the project. Activity by ACC Environmental Consultants, Inc. (ACC) noted that 1 to 3 feet of non-native imported fill was observed at the Site and may potentially extend deeper in other areas. ACC described the fill as grey-brown silty sand with gravel and debris, readily distinguishable from the brown-light brown fine grained well sorted native clay. ACC stated that fill was likely imported in 1954 from an unknown source during the original construction of the Emma Hood pools.

Soil samples were tested for a variety of compounds. Samples were composited prior to testing for Title 22 metals, asbestos, total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-d), TPH as moto oil (TPH-mo), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs). Discrete samples were tested for Semi-volatile Organic Compounds (SVOCs) and Volatile Organic Compounds (VOCs). Lead was detected in this composite sample at 280 milligram per kilogram (mg/kg), which is greater than 50 mg/kg trigger level for soluble lead testing (via soluble threshold limit concentration [STLC]) and 100 gm/kg for Total Concentration Leaching Potential (TCLP) testing.

2.1.5 Project Description

Project grading will occur on approximately 1.27 acres of the project, which comprises approximately 85 percent of the total area. The project proposes to construct 2 swimming pools with concrete surface pool deck, a pool equipment maintenance building, and a new tennis court. The limits of grading are shown on the project improvement plans and on the Water Pollution Control Drawing in **Appendix A**. Grading will include both cut and fill activities. Graded materials are expected to be hauled away. Soil will be stockpiled in locations as shown on the Water Pollution Control Drawings in **Appendix A**. Construction activities will be will not be phased over the total project, with all improvements being shown as part of the approvement project improvement plans.

2.1.6 Developed Condition

Post-construction surface drainage will be directed to the east in the proposed tennis court as surface flow toward existing trench drains in the tennis court area. Runoff from the tennis court will discharge through the curb face and into the gutter on Encinal Ave before ultimately discharging to the public storm drain system. Post-construction surface drainage in the swimming pool area will be collected through area drains that discharge through storm drain infrastructure to the north, where the runoff will ultimately connect to the public storm drain system. The public storm drain system is owned and maintained by the city of Alameda.

Post-construction drainage patterns and conveyance systems are presented in the project grading and utility plans.

Table 2-2 Construction Site Estimates

Construction site area	1.50	acres
Total area of disturbance	1.27	acres
Percent impervious before construction	65	%
Runoff coefficient before construction	0.62	
Percent impervious after construction	83	%
Runoff coefficient after construction	0.77	

2.2 PERMITS AND GOVERNING DOCUMENTS

In addition to the 2022 CGP, the following documents have been taken into account while preparing this SWPPP:

- Regional Water Board requirements
- Basin Plan requirements
- Contract Documents

2.3 STORMWATER RUN-ON FROM OFFSITE AREAS

There is no anticipated offsite run-on to this construction site because all surrounding runoff either slopes away from the project site or is intercepted prior to reaching the project site.

2.4 FINDINGS OF THE CONSTRUCTION SITE SEDIMENT AND RECEIVING WATER RISK DETERMINATION

A construction site risk assessment has been performed for the project and the resultant risk level is Risk Level 2.

The risk level was determined through the use of the R-value determined from EPA's *Rainfall Erosivity Factor Calculator for Small Construction S*ites at: https://lew.epa.gov/ in accordance with the State Water Board Guidance for multi-year projects at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/smarts/construction/docs/rfactor_guide.pdf, and K and LS provided in SMARTS, a site-specific analysis, etc.). The risk level is based on project duration, location, proximity to impaired receiving waters, and soil conditions. A copy of the Risk Level determination submitted on SMARTS with the PRDs is included in **Appendix B**.

Table 2-3 and **Table 2-4** summarize the sediment and receiving water risk factors and document the sources of information used to derive the factors.

Table 2-3 Summary of Sediment Risk

RUSLE Factor	Value	Method for Establishing Value
R	53.02	EPA Rainfall Erosivity Factor Calculator for Small Construction
K	0.15	2022 Construction Stormwater General Permit Soil Erodibility (K) Factor Map Tool
LS	0.26	2022 Construction Stormwater General Permit Length-Slope (LS) Factor Map Tool
Total Predicted Sediment Loss (tons/acre)		**2.06778**
Overall Sediment Risk Low Sediment Risk < 15 tons/ acre Medium Sediment Risk >= 15 and < 75 tons/acre High Sediment Risk >= 75 tons/acre		☒ **Low** ☐ **Medium** ☐ **High**

Runoff from the project site discharges into public storm drain system that discharge into San Francisquito Creek.

Table 2-4 Summary of Receiving Water Risk

Receiving Water Name	303(d) Listed for Sediment Related Pollutant (1)	TMDL for Sediment Related Pollutant (1)	Beneficial Uses of COLD, SPAWN, and MIGRATORY (1)
San Francisco Bay, Central	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No
Overall Receiving Water Risk			☐ **Low** ☒ **High**
(1) If yes is selected for any option the Receiving Water Risk is High			

Risk Level 2 sites are subject to both the narrative effluent limitations and numeric action limitations (NALs). The narrative effluent limitations require stormwater discharges associated with construction activity to minimize or prevent pollutants in stormwater and authorized non-stormwater through the use of controls, structures and best management practices (BMPs). Discharges from Risk Level 2 site are subject to NALs for pH and turbidity shown in Table 2-5. This SWPPP has been prepared to address Risk Level 2 requirements (2022 CGP Attachment D).

Table 2-5 Numeric Action Levels and Numeric Effluent Limits

Parameter	Unit	Numeric Action Level	Numeric Effluent Limit
pH	pH units	Lower NAL < 6.5 Upper NAL > 8.5	Not Applicable

Table 2-5 Numeric Action Levels and Numeric Effluent Limits

Parameter	Unit	Numeric Action Level	Numeric Effluent Limit
Turbidity	NTU	> 250 NTU	Not Applicable

2.5 CONSTRUCTION SCHEDULE

The site sediment risk was determined based on construction taking place between 6/1/2024 and 8/31/2025. Modification or extension of the schedule (start and end dates) may affect risk determination and permit requirements. The LRP shall contact the QSD if the schedule changes during construction to address potential impact to the SWPPP. The estimated schedule for planned work can be found in **Appendix E**.

2.6 POTENTIAL CONSTRUCTION ACTIVITY AND POLLUTANT SOURCES

Appendix F includes a list of construction activities and associated materials that are anticipated to be used onsite as well as the pollutant source assessment form that was completed for the project. These activities and associated materials will or could potentially contribute pollutants, other than sediment, to stormwater runoff.

The anticipated activities and associated pollutants were used in **Section 3** to select the BMPs for the project. Locations of anticipated pollutants and associated BMPs are shown on the Site Map in **Appendix A**.

Additionally, proper measures will be taken to ensure that trench spoils or any other soils disturbed during construction activities that are contaminated are not discharged with stormwater or non-stormwater discharges into storm drains or water bodies (except pursuant to a separate NPDES Permit). Contaminated soils were discovered onsite. The contaminated soils found showed concentrations of multiple potential chemicals of concern (PCOCs). The PCOCs included the following:

1. Lead up to 1,400 milligrams per kilogram (mg/kg)
2. Arsenic up to 15 mg/kg
3. Benzo(a)pyrene up to 0.2 mg/kg
4. PCBs up to 1.2 mg/kg
5. Dieldrin up to 0.0855 mg/kg.

The discovered contaminated soils were reported to Alameda County Environmental Health Department by the Alameda Unified School District and a subsequent Soils Management Plan was developed by Kleinfelder for the excavation and removal of the contaminated soil. The contractor, Alten Construction hired environmental firm, Professional Asbestos & Lead Services (PALS), to remove and transport the lead impacted soil to the Clean Harbors, Buttonwillow Landfill Facility. Guidance and procedures for soil management during construction activities that will involve handling and removal of soils that are or may be impacted by environmental contaminants shall be done in accordance to the Soil Management Plan Prepared by Kleinfelder.

For sampling requirements for non-visible pollutants associated with construction activity, please refer to **Section 7.7.1**. For a full and complete list of onsite pollutants, refer to the Safety Data Sheets (SDS), which are retained onsite at the construction trailer or are available electronically at the site.

2.7 TMDL REQUIREMENTS

Based on the project's receiving water and the pollutant source assessment, the project site does not have any TMDL requirements.

Table 2-8 Project TMDLs

TMDL	Applicable Water Body/ Watershed	Pollutants	Additional TMDL-Related NAL or NEL	Compliance Actions
Not Applicable	See Table 2.4			

Table 2-8 Project TMDLs

TMDL	Applicable Water Body/ Watershed	Pollutants	Additional TMDL-Related NAL or NEL	Compliance Actions

These TMDLs are also identified in Section **2.1.3**. The applicable NALs and NELs are also identified in **Section 2.4**. BMP requirements related to TMDLs are discussed in **Section 3.4**. Monitoring requirements related to TMDLs are discussed further in **Section 7.7**.

2.8 IDENTIFICATION OF NON-STORMWATER DISCHARGES

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the 2022 CGP and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited.

Non-stormwater discharges that are authorized from this project site include the following:

- Discharges from fire-fighting activity,
- Fire hydrant system flushing,
- Irrigation of vegetative erosion control measures,
- Uncontaminated water line flushing,
- Pipe flushing and testing,
- Air conditioning and compressor condensate,
- Water to control dust,
- Uncontaminated groundwater
- Discharges not subject to a separate NPDES permit adopted by the Regional Water Board

These authorized non-stormwater discharges will be managed with the stormwater and non-stormwater BMPs described in **Section 3** of this SWPPP and will be minimized under the direction of the QSP. Additionally, the non-stormwater discharges not applicable to this project are still allowable granted they do not contact potential pollutant sources.

Activities at this site that may result in unauthorized non-stormwater discharges include:

- Debris and trash, in accordance with State Water Board Resolution 2015-0019, the Trash Provisions of the Water Quality Control Plan for Ocean Waters of California and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, as applicable to construction stormwater discharges
- Treatment chemicals except as authorized in Attachment F and G of the 2022 CGP

- Wastewater from washout or cleanout of areas, structures or equipment with concrete, grout, stucco, paint, or other construction materials
- Form-release oils and curing compounds; Fuels, oils, fluids, or other materials used in vehicle and equipment operation and maintenance; Soaps, solvents, or detergents (e.g., used in vehicle equipment washing or external building wash down)
- Toxic or hazardous substances (e.g., asbestos, lead, mercury, or PCBs).

Steps will be taken, including the implementation of appropriate BMPs, to ensure that unauthorized discharges are eliminated, controlled, disposed, or treated on-site.

Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or stormwater runoff, are also prohibited.

The following discharge(s) have been authorized by (a) regional NPDES permit(s):

- None Identified

2.9 REQUIRED SITE MAP INFORMATION

The construction project's Site Map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter and general topography, locations of storm drain inlets that receive runoff from the project, and other requirements identified in 2022 CGP Sections IV.O.2. k. and l are located in **Appendix A**. **Table 2-9** identifies Maps or Sheet Nos. where required elements are illustrated.

Table 2-9 Required Map Information

Included on Map/Plan Sheet No. (1)	Required Element
Pre-Earthwork Drawings	
Vicinity Map	Site and project boundaries
Geotechnical Reports	Areas disturbed during geotechnical or other preconstruction investigation work
Demolition Plans	Existing roads and trails
Grading and Utility Plans	Drainage areas
Erosion Control Plans	Discharge locations
Demolition Plans	Existing storm drain system if applicable
WPCD	Proposed locations of storage areas for waste
WPCD	Proposed locations of construction materials
WPCD	Proposed locations of project staging areas

Table 2-9 Required Map Information

Included on Map/Plan Sheet No. [1]	Required Element
WPCD	Proposed locations of stockpiles
WPCD	Proposed locations of vehicles, equipment staging and vehicle maintenance
WPCD	Proposed locations of loading/unloading materials
WPCD	Proposed locations of site access (entrance/exits)
WPCD	Proposed locations of fueling, water storage, water transfer for dust control
Demolition Plans	Proposed locations of demolition
WPCD	Proposed locations of other construction support activities
Construction and Earthwork Drawing(s)	
Grading Plans	Site layout (grading plans) including roads
Grading and Utility Plans	Site and project boundaries
Grading and Utility Plans	Drainage areas
Erosion Control Plans	Discharge locations
WPCD	Sampling locations
WPCD	Areas of soil disturbance (temporary or permanent)
WPCD	Proposed active areas of soil disturbance (cut or fill)
WPCD	Proposed locations of erosion control BMPs
WPCD	Proposed locations of sediment control BMPs
WPCD	Proposed locations of run-off BMPs
WPCD	Temporary and/or permanent run-on conveyance (if applicable)
WPCD	Proposed locations of active treatment systems(s)
WPCD	Proposed locations of storage areas for waste
WPCD	Proposed locations of construction materials
WPCD	Proposed locations of project staging areas
WPCD	Proposed locations of stockpiles
WPCD	Proposed locations of vehicles, equipment and vehicle maintenance
WPCD	Proposed locations of loading/unloading materials
WPCD	Proposed locations of site access (entrance/exits)

Table 2-9 Required Map Information

Included on Map/Plan Sheet No. (1)	Required Element
WPCD	Proposed locations of fueling, water storage, water transfer for dust control
Demolition Plans	Proposed locations of demolition
WPCD	Proposed locations of other construction support activities
WPCD	Site-specific procedures to implement final stabilization BMPs as soon as reasonably practicable

Notes: (1) Indicate maps or drawings that information is included on (e.g., Vicinity Map, Site Map, Drainage Plans, Grading Plans, Progress Maps, Water Pollution Control Drawing (WPCD).)

Section 3 Best Management Practices

3.1 SCHEDULE FOR BMP IMPLEMENTATION

BMPs will be implemented as per the schedule indicated in **Table 3-1**.

Table 3-1 BMP Implementation Schedule

	BMP	Location	Implementation	Duration
Erosion Control BMPs	EC-1, Scheduling	N/A	Prior to Construction	Entirety of Project
	EC-2, Preservation of Existing Vegetation	Undisturbed Areas	Start of Construction	Entirety of Project
	EC-4, Hydroseeding	Applied to any complete and inactive disturbed areas	Within 14 days of cessation of construction activities in area	After disturbed areas are substantially complete
Sediment Control BMPs	SE-1, Silt Fence	Installed along perimeter of disturbed area and as shown on the plans	Start of Construction	Entirety of Project
	SE-5, Fiber Rolls	Installed along perimeter of disturbed area and as shown on the plans	Start of Construction	Entirety of Project
	SE-7, Street Sweeping and Vacuuming	Throughout project site	Start of Construction	Entirety of Project
	SE-8, Sand Bag Barrier	Installed along perimeter of disturbed area and as shown on the plans	Start of Construction	Entirety of Project
	SE-10, Storm Drain Inlet Protection	Installed at all drain inlets within the project site and as shown on the plans	Start of Construction	Entirety of Project
	SE-11, Active Treatment System	Throughout project site	As needed	As long as necessary

Table 3-1 BMP Implementation Schedule

	BMP	Location	Implementation	Duration
Wind Erosion Control BMPs	WE-1, Wind Erosion Control	Applied to any disturbed area or exposed stockpile	Start of Construction	Entirety of Project
Tracking Control BMPs	TC-1, Stabilized Construction Entrance/Exit	At all vehicular entrances/exits to project site	Start of Constriction	Entirety of Project
Non-Stormwater Control BMPs	NS-1, Water Conservation Practices	Throughout project site	Start of Construction	Entirety of Project
	NS-2, Dewatering Operations	Throughout project site	When dewatering becomes necessary during excavation/trenching activities	As long as necessary
	NS-3, Paving and Grinding Operations	Throughout project site	During paving/grinding activities	Throughout paving activities
	NS-6, Illicit Connection/Discharge	Throughout project site	Start of Construction	Entirety of Project
	NS-7, Potable Water/Irrigation	Throughout project site	During testing/flushing of utility piping	Throughout Utility installation and testing
	NS-8, Vehicle and Equipment Cleaning	Contractor's yard	Start of Construction	Entirety of Project
	NS-9, Vehicle and Equipment Fueling	Contractor's yard	Start of Construction	Entirety of Project
	NS-10, Vehicle and Equipment Maintenance	Contractor's yard	Start of Construction	Entirety of Project
	NS-12, Concrete Curing	At concrete installation locations	During concrete placement activities	Throughout concrete activities
Waste Management Control BMPs	WM-1, Material Delivery and Storage	Contractor's yard	Start of Construction	Entirety of Project
	WM-2, Material Use	Throughout project site	Start of Construction	Entirety of Project
	WM-3, Stockpile Management	Staging/stockpile location	Start of Construction	Entirety of Project

Table 3-1 BMP Implementation Schedule

	BMP	Location	Implementation	Duration
	WM-4, Spill Prevention and Control	Throughout project site	Start of Construction	Entirety of Project
	WM-5, Solid Waste Management	Contractor's yard	Start of Construction	Entirety of Project
	WM-6, Hazardous Waste Management	Contractor's yard	Start of Construction	Entirety of Project
	WM-7, Contaminated Soil Management	Per Soil Management Plan	As Needed	Entirety of Project
	WM-8, Concrete Waste Management	Concrete washout area	Start of Construction	Entirety of Project
	WM-9, Sanitary/Septic Waste Management	Contractor's yard	Start of Construction	Entirety of Project

3.2 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls are required by the 2022 CGP to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the Site. Applicable BMPs are identified in this section for erosion control, sediment control, tracking control, and wind erosion control.

3.2.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

This construction project will implement the following practices to provide effective temporary and final erosion control during construction:

1. Preserve existing vegetation where required and when feasible.
2. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
4. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding, or alternate methods.
5. Prior to the completion of construction, apply permanent erosion control to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SWPPP.

The following erosion control BMP selection table, Table 3-2 indicates the BMPs that will be implemented to control erosion on the construction site. Fact Sheets for temporary erosion control BMPs are provided in **Appendix G**.

These temporary erosion control BMPs shall be implemented in conformance with the following guidelines and as outlined in the BMP Factsheets provided in **Appendix G**. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-2 Erosion Control BMPs

CASQA Fact Sheet	BMP Name	Considered for the Project [1]	BMP Used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
EC-1	Scheduling	✓	✓		
EC-2	Preservation of Existing Vegetation	✓	✓		
EC-3	Hydraulic Mulch	✓[2]		✓	Other option selected
EC-4	Hydroseed	✓[2]	✓		
EC-5	Soil Binders	✓[2]		✓	Other option selected
EC-6	Straw Mulch	✓[2]		✓	Not Applicable
EC-7	Geotextiles and Mats	✓[2]		✓	Other option selected
EC-8	Wood Mulching	✓[2]		✓	Other option selected
EC-9	Earth Dike and Drainage Swales	✓[3]		✓	Not Applicable
EC-10	Velocity Dissipation Devices	✓[3]		✓	Other option selected
EC-11	Slope Drains	✓[3]		✓	Not Applicable
EC-12	Stream Bank Stabilization			✓	Not Applicable
EC-14	Compost Blankets	✓[2]		✓	Other option selected
EC-15	Soil Preparation-Roughening	✓		✓	Other option selected
EC-16	Non-Vegetated Stabilization	✓[2]		✓	Other option selected
WE-1	Wind Erosion Control	✓	✓		

[1] The 2022 CGP Fact Sheet Section I.R.1.d.through I.R.1.i.describes various BMPs that should be considered for use on the construction site.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] All run-on and runoff from the construction site shall be managed for Risk Level 2 and 3 and Risk Level 1 if the evaluation of quantity and quality of run-on and runoff deems them necessary or visual inspections show that the site requires these controls. Run-on from offsite shall be directed away from all disturbed areas, diversion of offsite flows may require design/analysis by a licensed civil engineer and/or additional environmental permitting.

Scheduling

The project schedule will show how the rainy season relates to soil disturbing and re-stabilization practices. Non-active areas will be stabilized within 14 days of the cessation of any soil disturbing activities or one day prior to the onset of precipitation, whichever occurs first. The weather forecast will be monitored for rainfall. When rainfall is predicted, the schedule shall be adjusted to allow for the implementation of soil stabilization and sediment controls on any disturbed areas prior to the onset of rain.

Preservation of Existing Vegetation

Existing vegetation will be preserved as much as possible.

Hydroseed

Hydroseeding will be applied to inactive disturbed areas that are deemed substantially complete.

Wind Erosion Control

Water will be applied to disturbed areas and stockpiles as necessary to prevent or alleviate erosion by the forces of wind. Covering stockpiles or other small areas is an alternative to applying water. Soil that is temporarily stockpiled pending receipt of analytical results will be placed on and securely covered with plastic sheeting that has a minimum 10-mil thickness. Contaminated soil will not be stockpiled onsite and instead it will be directly loaded onto trucks or containers for offsite disposal.

3.2.2 Sediment Controls

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMP selection table indicates the BMPs that will be implemented to control sediment on the construction site. Fact Sheets for temporary sediment control BMPs are provided in **Appendix G**.

These temporary sediment control BMPs will be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in **Appendix G**. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-3 Temporary Sediment Control BMPs

CASQA Fact Sheet	BMP Name	Considered for the Project [1]	BMP used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
SE-1	Silt Fence	✓[2] [3]	✓		
SE-2	Sediment Basin	✓		✓	Other option selected
SE-3	Sediment Trap	✓		✓	Other option selected
SE-4	Check Dams	✓		✓	Not applicable, no existing swales.
SE-5	Fiber Rolls	✓[2][3]	✓		
SE-6	Gravel Bag Berm	✓[3]		✓	Other option selected
SE-7	Street Sweeping	✓	✓		
SE-8	Sandbag Barrier	✓	✓		
SE-9	Straw Bale Barrier	✓		✓	Other option selected
SE-10	Storm Drain Inlet Protection	✓ RL2&3	✓		
SE-11	ATS	✓	✓		
SE-12	Manufactured Linear Sediment Controls	✓		✓	Other option selected
SE-13	Compost Sock and Berm	✓[3]		✓	Other option selected
SE-14	Biofilter Bags	✓[3]		✓	Other option selected
NA	Passive Treatment System	✓		✓	Other option selected
TC-1	Stabilized Construction Entrance and Exit	✓	✓		
TC-2	Stabilized Construction Roadway	✓		✓	Other option selected
TC-3	Entrance Outlet Tire Wash	✓		✓	Other option selected

[1] The 2022 CGPs Fact Sheet Section I.R.1.d through I.R.1.i describes various BMPs that should be considered for use on the construction site.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] All run-on and runoff from the construction site shall be managed. Risk Level 2 and 3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope.

Silt Fence

A linear sediment barrier (silt fencing, fiber rolls, etc.) will be used as a perimeter control to contain sediment within the project area. It is not necessary to deploy perimeter controls at locations where sediment is unable to leave the project site (such as areas that slope inward) unless otherwise shown on the WPCD's.

Fiber Rolls

A linear sediment barrier (silt fencing, fiber rolls, etc.) will be used as a perimeter control to contain sediment within the project area. It is not necessary to deploy perimeter controls at locations where sediment is unable to leave the project site (such as areas that slope inward).

Street Sweeping

Street sweeping and/or vacuuming will be employed if sediment is tracked onto roadway.

Sandbag Barrier

Sand bag barriers will be placed on level contours or on gentle slopes to trap or divert sheet flows as required.

Storm Drain Inlet Protection

During the rainy season, storm drain inlets down gradient of disturbed soil areas will be protected. During the dry season, inlets will be protected 24 hours prior to forecast rain events.

Active Treatment System

Active Treatment System will be used as stormwater control to filtering stormwater runoff prior to discharging construction runoff to sanitary sewer. Testing shall be done to stored stormwater runoff with results submitted to East Bay Municipal Utility District (EBMUD), Kleinfelder, and the Alameda County Health Department for approvals prior to discharging construction runoff to sanitary sewer.

Stabilized Construction Entrance and Exit

A stabilized construction entrance/exit will be constructed if work areas (including equipment yards, water filling areas, project offices and staging areas) are wet or muddy. Additional entrances/exits will be constructed as needed.

3.3 NON-STORMWATER CONTROLS AND WASTE AND MATERIALS MANAGEMENT

3.3.1 Non-Stormwater Controls

Non-stormwater discharges into storm drainage systems or waterways which are not authorized under the 2022 CGP are prohibited. Non-stormwater discharges for which a separate NPDES permit is required by the local Regional Water Board are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in **Section 2.7** of this SWPPP.

The following non-stormwater control BMP selection table indicates the BMPs that will be implemented to control sediment on the construction site. Fact Sheets for temporary non-stormwater control BMPs are provided in **Appendix G**.

Non-stormwater BMPs will be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in **Appendix G**. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the

BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-4 Temporary Non-Stormwater BMPs

CASQA Fact Sheet	BMP Name	Considered for the Project [1]	BMP used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
NS-1	Water Conservation Practices	✓	✓		
NS-2	Dewatering Operation	✓	✓		
NS-3	Paving and Grinding Operation	✓	✓		
NS-4	Temporary Stream Crossing	✓		✓	Not applicable
NS-5	Clear Water Diversion	✓		✓	Not applicable
NS-6	Illicit Connection/Discharge	✓	✓		
NS-7	Potable Water/Irrigation	✓	✓		
NS-8	Vehicle and Equipment Cleaning	✓		✓	Cleaning will occur offsite
NS-9	Vehicle and Equipment Fueling	✓	✓		
NS-10	Vehicle and Equipment Maintenance	✓	✓		
NS-11	Pile Driving Operation	✓		✓	Not applicable
NS-12	Concrete Curing	✓	✓		
NS-13	Concrete Finishing	✓		✓	Not applicable
NS-14	Material and Equipment Use Over Water	✓		✓	Not applicable
NS-15	Demolition Removal Adjacent to Water	✓		✓	Not applicable
NS-16	Temporary Batch Plants	✓		✓	Not applicable

[1] The 2022 CGP Fact Sheet Section I.R.1.d through I.R.1.i describes various BMPs that should be considered for use on the construction site.

Water Conservation Practices

Water equipment will be kept in good working condition. Leaks will be repaired immediately. Vehicles and equipment will not be washed on site. Water will not be used to clean construction areas.

Dewatering Operation

If dewatering becomes necessary, this BMP will be implemented Site conditions will dictate design and use of dewatering operations (refer to the BMP standards to determine proper implementation and procedures). Dewatering operations will be managed as such:

i. Wells will have PVC casing with water pumps.

ii. Piping from each well to the baker tank/filtration system.

iii. The temporary groundwater treatment system is designed to operate at a flow rate of 400 gallons per minute (GPM) over a six-month period. It features a series of filtration and treatment stages engineered to handle site-specific contamination and regulatory requirements.

iv. Water enters the system and passes sequentially through a sand filter, parallel bag filters, and a bank of specialty media vessels for contaminant removal. A centrifugal electric pump (30 amps, 3-phase, 480V) circulates the water through the treatment train. The process includes two 8,400-gallon weir tanks for flow equalization and a 5,000-gallon poly tank for settling backwash.

v. Key instrumentation includes a flow meter for monitoring GPM and total flow, as well as an alarm system with auto dialer for high tank levels and power outages. A sample port is located downstream to collect effluent samples for compliance with EBMUD discharge permit requirements.

vi. Filtration system will have weekly visits which includes pressure/flow checks and equipment maintenance.

vii. Water will be sampled prior to discharging to the sewer system per EBMUD.

Paving and Grinding Operation

Plastic material will be placed under paving equipment when not in use to catch drips or leaks. Paving equipment will be parked overnight at the staging area with plastic material placed underneath. Asphalt coated equipment will be cleaned off-site when possible. Residue from saw-cutting, grinding, or removal operations will be picked up by mechanical or manual means and disposed of proper1y. Inlets adjacent to paving operations will be protected. Following paving operations, the area will be swept and the inlets will be inspected for paving materials. If placing thermoplastic striping, the contractor will fill the pre-heater carefully to avoid spillage and leave 6 inches of space at the top to allow for movement. Thermoplastic or bituminous material will not be transferred, pre-heated or loaded near drain inlets or water courses. Truck beds will be cleaned daily of loose debris and melted thermoplastic.

Illicit Connection/Discharge

The site will be inspected by the contractor before the project commences and regularly during the project for illicit connections or illegal dumping or discharge. If any are found, they will be reported to the Owner/Engineer at the time of discovery.

Potable Water/Irrigation

When possible, discharges from water line flushing shall be reused for landscaping purposes. Irrigated areas within the construction limits will be inspected for excess watering.

Vehicle and Equipment Fueling

Offsite fueling stations shall be used where possible. All level, paved surfaces, protected from run-on and runoff, located more than 50 feet from downstream drainage facilities within the project boundaries are designated as dedicated on-site fueling areas. Drip pans and absorbent pads will be used when fueling outside of dedicated fueling areas. Absorbent spill clean-up materials and spill kits will be available on fueling trucks.

Vehicle and Equipment Maintenance

Only minor maintenance, such as adding oil, fluids or lubricants will occur at the project site. All level, paved surfaces located more than 50 feet from downstream drainage facilities within the project boundaries are designated as dedicated maintenance areas. Drip pans or plastic sheeting will be used when maintenance work is performed outside of dedicated maintenance areas. Absorbent spill clean-up materials and spill kits will be available when maintenance takes place. Fluid and oil leaks will be repaired immediately.

Concrete Curing

If curing compounds are used, overspray will be avoided. The drift of the curing compound will be minimized by applying the compound close to the concrete surface. An amount of compound that covers the surface but does not allow any runoff of the compound will be applied. Drain inlets will be protected prior to the application of curing compounds, Cure water will be directed away from inlets and watercourses to collection areas for proper removal.

3.3.2 Materials Management and Waste Management

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing, and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing, and ensuring proper disposal of wastes to prevent the release of those wastes into stormwater discharges.

Materials and waste management pollution control BMPs will be implemented to minimize stormwater contact with construction materials, wastes, and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping

- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

A list of construction activities is provided in **Section 2.6**. The following Materials and Waste Management BMP selection table, Table 3-5, indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities. Fact Sheets for Materials and Waste Management BMPs are provided in **Appendix G**.

Material management BMPs will be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in **Appendix G**. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-5 Temporary Materials Management BMPs

CASQA Fact Sheet	BMP Name	Considered for Project [1]	BMP used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
WM-01	Material Delivery and Storage	✓	✓		
WM-02	Material Use	✓	✓		
WM-03	Stockpile Management	✓	✓		
WM-04	Spill Prevention and Control	✓	✓		
WM-05	Solid Waste Management	✓	✓		
WM-06	Hazardous Waste Management	✓	✓		
WM-07	Contaminated Soil Management	✓	✓		
WM-08	Concrete Waste Management	✓	✓		
WM-09	Sanitary-Septic Waste Management	✓	✓		
WM-10	Liquid Waste Management	✓		✓	Not applicable

[1] The 2022 CGP Fact Sheet Section I.R.1.d through I.R.1.i describes various BMPs that should be considered for use on the construction site.

Material Delivery and Storage

A staging area will be designated at the project site by the Project Manager. The staging area will be used for storage, as needed. Construction materials will be delivered to the site and used quickly. Fuel, oil and grease will be stored in secure vehicles when not in use. Spills will be contained and cleaned immediately.

Material Use

An ample supply of clean-up material will be kept near use areas.

Stockpile Management

Any stockpiles will be located a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets. Stockpiles will be stabilized during periods of inactivity. Stockpiles that are un-stabilized during construction activities will be sprayed with water as needed for dust control. A linear sediment barrier (silt fencing, fiber rolls, etc.) will be deployed down gradient of stockpiles situated on sloping ground. Stockpiles shall be covered when not in use. To mitigate dust generation and contact with storm water, soil that is temporarily stockpiled pending receipt of analytical results will be placed on and securely covered with plastic sheeting that has a minimum 10-mil thickness. Stockpiled soil will be sampled and analyzed to established a profile specific to each stockpile, prior to its reuse on Site or disposal off-site as appropriate based on the profile for the soils. Soils with reported contaminant concentrations exceeding CCR Title 22 values, CCR Title 22 STLC values, and/or US EPA TCLP values, as well as soils emitting total volatile organic vapor concentrations equal to or greater than 50 ppmv (as measured during field screening with the PID), will be segregated and stockpiled on site separately from other stockpiles soils that do not exceed these criteria. Contaminated soil will not be stockpiled onsite and instead it will be directly loaded onto trucks or containers for offsite disposal.

Spill Prevention and Control

Spills will be reported, contained and cleaned up immediately. The Project Manager and the Owner/Engineer will be immediately notified of any spills. Spill clean-up materials will be located near storage, unloading and use areas.

Solid Waste Management

Solid wastes will be loaded directly into trucks and/or dumpsters for off-site disposal. Construction debris and litter from the project will be removed weekly and by the end of the project. Collected litter and debris will not be placed by drain inlets or drainage systems.

Hazardous Waste Management

If hazardous materials are encountered or used, such materials will be handled, treated, stored, and disposed of per the project's Special Provisions and all applicable laws and regulations.

Contaminated Soil Management

Contaminated soil will be kept within the ground disturbance area. Contaminated soil shall be disposed of properly in accordance with all applicable regulations and the guidelines and procedures developed under the Soil Management Plan prepared by Kleinfelder. Avoid temporarily stockpiling of contaminated soils or hazardous material. Take the following precautions if temporary stockpiling is necessary: Cover the stockpile with plastic sheeting or tarps; Install a berm around the stockpile to prevent runoff from leaving the area; Do not stockpile in or near storm drains or watercourses. Remove contaminated material and hazardous material on exteriors of transport vehicles and place either into the current transport vehicle or into the excavation prior to the vehicle leaving the exclusion zone. Monitor the air

quality continuously during excavation operations at all locations containing hazardous material. Collect water from decontamination procedures and treat or dispose of it at an appropriate disposal site. All necessary precautions and preventative measures shall be taken to prevent the flow of water, including groundwater, from mixing with hazardous substances or underground storage tank excavations. Such preventative measures may consist of, but are not limited to, berms, cofferdams, grout curtains, freeze walls, and seal course concrete or any combination thereof. If water does enter an excavation and becomes contaminated, such water, when necessary to proceed with work, should be discharged to clean, closed top, watertight transportable holding tanks, treated, and disposed of in accordance with federal, state, and local laws.

Concrete Waste Management

All PCC waste shall be collected and properly disposed of The waste shall be collected by sweeping, shoveling, and/or other mechanical means. The waste should not be allowed to enter the storm drains or watercourses. An above grade, below grade, or mobile concrete washout will be constructed or placed at the staging area if concrete trucks or concrete equipment will be washed on-site. The washout will be located a minimum of 50 feet away from Concentrated flows of storm water, drainage courses, and inlets. Additional washouts will be utilized as needed.

Sanitary-Septic Waste Management

If needed, a licensed service will deliver and maintain portable restrooms to the project area. The restrooms will be located away from traffic and drainage facilities on level hard-packed or paved surfaces.

3.4 TMDL-RELATED BMPS (NOT APPLICABLE)

Receiving Waters have no applicable TMDLs per table H-1 and H-2.

Bacteria TMDL BMPs:

- The QSP shall conduct training for construction site staff on routine housekeeping and sanitary waste management of identified sources of bacteria.
- Structural BMPs designed for retention, infiltration, or diversion of stormwater shall be evaluated and implemented when the implemented minimum source control BMPs are inadequate to reduce bacteria loading to receiving waters.

Chloride and Salts TMDL BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Diazinon TMDL BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Nutrient TMDL BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Sediment TMDL BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Temperature BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Metals and Toxics TMDL BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

3.5 POST CONSTRUCTION STORMWATER MANAGEMENT MEASURES

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

This site is subject to the post-construction requirements of an existing NPDES Phase I or Phase II MS4. ☐ Yes ☒ No

The post construction runoff reduction requirements have been satisfied through compliance with 2022 CGP Provision IV.N.3 and use of the SMARTS water balance calculator. The post construction requirements were uploaded as part of the PRDs as required by 2022 CGP Provision IV.N.2. Credits have been used onsite to the post construction storm water balance calculator. Credits used were for improved soil quality, through the utilization of soil amendment. Credits used for the post construction conditions are utilized to bring the post construction stormwater runoff quality and content to meet the project existing conditions.

The following source control, site design, and treatment control post-construction BMPs to comply with 2022 CGP Section IV.N.3 have been identified for the site:

- Source Control Meassures:
  - Plant and maintain vegetated areas.
  - Proper storage and disposal of chemicals.
  - Regular cleaning of paved areas.
  - Regular maintenance of site to prevent pollutant accumulation.
- Site Design Meassures:
  - Conservation of existing landscape features.
  - Soil Amendment

Section 4 BMP Inspection and Maintenance

4.1 BMP INSPECTION AND MAINTENANCE

The 2022 CGP requires routine weekly inspections of BMPs, along with inspections before, during, and after qualifying precipitation events. A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. The inspection checklist must include the necessary information covered in **Section 7.6**. A blank BMP Inspection Form can be found in **Appendix H**. Completed forms will be kept in **Appendix N**.

Maintenance, repair, or design and implementation of new BMPs alternatives will be begin withing 72 hours of the identification of failures or other shortcomings. Corrections will be completed as soon as possible, prior to the next forecasted precipitation event (2022 CGP Appendix D Section II.J).

The QSP will verify that all BMP maintenance and repairs were appropriately implemented during the next visual inspection following completion.

The QSP may delegate BMP maintenance and repair verification to an appropriately trained QSP Delegate.

Specific details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in **Appendix G**.

Section 5 Training

Appendix J identifies the QSPs and QSP Delegates for the project. To promote stormwater management awareness specific for this project, periodic training of job-site personnel will be included as part of routine project meetings (e.g., daily/weekly tailgate safety meetings), or task specific training as needed. Refresher training will be provided as necessary.

The QSP will be responsible for providing this information at the meetings, and subsequently completing the Training Reporting Form shown in **Appendix I**, which identify the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting.

The QSP may delegate specific tasks to trained QSP Delegates who have received the following training based on the guidelines developed by the Construction General Permit Training Team.

1. **Foundational training** for all QSP Delegate(s) regarding stormwater compliance roles and responsibilities, forecast information, and documentation and reporting procedures; and
2. **Site-specific training** regarding visual inspections, sampling procedures, and/or SWPPP and BMP implementation activities relevant to the responsibilities assigned to the QSP Delegate(s).

The delegate cannot perform the QSD and QSP inspections required in Section V.C.4 or Section V.D.2, respectively.

Documentation of training activities will be retained in **Appendix I**.

Section 6 Responsible Parties and Operators

6.1 RESPONSIBLE PARTIES

Dually Authorized Representatives (DARs) who are responsible for SWPPP implementation and have authority to sign permit-related documents are listed below. The DAR(s) assigned to this project are:

Name	Title	Phone Number
Pedro Mora	Construction Project Manager	510-902-8446

QSD(s) identified for the project are identified in **Appendix J**. The QSD will have primary responsibility for assessing how construction activities will affect sediment transport, erosion, and other discharges of pollutants in stormwater runoff throughout the project. The QSD is required to revise the SWPPP to address potential problems identified by visual inspections, sampling data, comments from a QSP, or their own site observations. The QSD is required to perform the following on-site visual inspections:

- Within 30 days of construction activities commencing on site;
- Within 30 days when a new QSD is assigned to the project;
- Twice annually, once August through October and once January through March;
- Within 14 calendar days after a numeric action level exceedance; and
- Within the time period requested in writing from Regional Water Board staff.

QSPs and QSP Delegates identified for the project are identified in **Appendix J**. The QSP will have primary responsibility and significant authority for the implementation, maintenance, and inspection/monitoring of SWPPP requirements. The QSP will be available at all times throughout the duration of the project.

Duties of the QSP include but are not limited to:

- Implementing all elements of the 2022 CGP and SWPPP, including, but not limited to:
    - Performing the following on-site visual inspections:
        - One inspection per calendar month; other weekly inspections in the month can be delegated to a trained QSP Delegate under the specific direction of the QSP.
        - Within 72 hours prior to a forecasted qualifying precipitation event, to inspect any areas of concern and to verify the status of any deficient BMPs, or other identified issues at the site. If extended forecast precipitation data (greater than 72 hours) is available from the *National Weather Service*, then the Pre-Precipitation Event inspection may be done up to 120 hours in advance.
        - Within 14 days after a NAL exceedance, the QSP shall visually inspect the drainage area for exceedance and document any areas of concern.

        - Prior to the submittal for the NOT or COI (for acreage changes) for all or part of the site.
    - Ensuring that all BMPs are implemented, inspected, and properly maintained;
    - Ensure that the SMARTS generated WDID Number Notification form is posted on-site, in a location viewable by the public or readily available upon request, and the dates are correct and match the dates listed in SMARTS.
- Implementing non-stormwater management, and materials and waste management activities such as: monitoring discharges; general Site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems, etc.;
- Ensuring elimination of unauthorized discharges.
- The QSPs shall be assigned authority by the LRP to mobilize crews in order to make immediate repairs to the control measures.
- Coordinate with the Contractor(s) to assure the necessary corrections/repairs are made immediately and that the project complies with the SWPPP, the 2022 CGP, and approved plans at all times.
- Notifying the LRP or Duly Authorized Representative immediately of off-site discharges or other non-compliance events.
- Providing foundation and site-specific training to QSP Delegates and overseeing QSP Delegate work. Tasks that may be delegated to appropriately trained QSP-delegates include:
    - Performing non-stormwater and stormwater visual observations and inspections;
    - Performing stormwater sampling and analysis, as required; and
    - Performing routine inspections and observations.

Table 6-1. QSP and QSP Delegate Authorized Inspections

	Weekly BMP and NSW	Pre-QPE	Daily-QPE Visual Inspections	Post-QPE Visual Inspections	Post NAL Exceedances	Monthly BMP and NSW	NOT
QSP	X	X	X	X	X	X	X
QSP Delegate	X		X	X			

6.2 CONTRACTOR LIST

Contractor Name:	Harry Torrano
Title:	Superintendent
Contractor Company:	Alten Construction LLC
Address	1141 Marina Way S. Richmond CA 94804
Phone Number:	510-234-4200
Phone Number (24/7)	415-559-6063
Email	htorrano@altenconstruction.com

Section 7 Construction Site Monitoring Program

7.1 Purpose

This Construction Site Monitoring Program was developed to address the following objectives:

1. To demonstrate that the site is in compliance with the Discharge Prohibitions and Numeric Action Levels (NALs), if applicable;
2. To demonstrate that the site is in compliance with TMDL NALs and Numeric Effluent Limitations (NELs), if applicable;
3. To determine whether non-visible pollutants discharged from the construction site and are causing or contributing to exceedances of water quality objectives;
4. To determine whether immediate corrective actions, additional BMP implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
5. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

7.2 Applicability of Permit Requirements

This project has been determined to be a Risk Level 2 project. The 2022 CGP identifies the following types of monitoring as being applicable for a Risk Level 2 project.

Risk Level 2

- Visual inspections of BMPs;
- Visual monitoring of the site related to qualifying precipitation events;
- Visual monitoring of the site for non-stormwater discharges;
- Sampling and analysis of construction site runoff for pH and turbidity;
- Sampling and analysis of construction site runoff for non-visible pollutants [including TMDL pollutants] identified during the pollutant source assessments when applicable; and
- Sampling and analysis of construction site runoff as required by the Regional Water Board when applicable.

7.3. Weather and Precipitation Event Tracking

Visual monitoring and inspections requirements of the 2022 CGP are triggered by a Qualifying Precipitation Event. The 2022 CGP defines a Qualifying Precipitation Event as any weather pattern that is forecast to have a 50 percent or greater Probability of Precipitation (PoP) and a Quantitative Precipitation Forecast (QPF) of 0.5 inches or more within a 24-hour period. The event begins with the 24-hour period when 0.5 inches has been forecast and continues on subsequent 24-hour periods when 0.25 inches of precipitation or more is forecast.

7.3.1 Weather Tracking

The QSP should daily consult the National Oceanographic and Atmospheric Administration (NOAA) for the Forecast Weather Table Interface. These forecasts can be obtained at http://forecast.weather.gov. Weather reports should be printed and maintained with the SWPPP in **Appendix M**. Record the date and time the forecast was printed.

7.3.2 Rain Gauges

The QSP shall install one (1) rain gauge on the project site. Locate the gauge in an open area away from obstructions such as trees or overhangs. Mount the gauge on a post at a height of 3 to 5 feet with the gauge extending several inches beyond the post. Make sure that the top of the gauge is level. Make sure the post is not in an area where rainwater can indirectly splash from sheds, equipment, trailers, etc.

The rain gauge(s) shall be read daily during normal site scheduled hours. The rain gauge should be read at approximately the same time every day and the date and time of each reading recorded. An example rain gauge log sheet is provided in **Appendix O**. Retain rain gauge readings in **Appendix N**. Follow the rain gauge instructions to obtain accurate measurements.

Once the rain gauge reading has been recorded, accumulated rain shall be emptied, and the gauge reset.

For comparison with the site rain gauge, check https://www.ncdc.noaa.gov/cdo-web/datatools/findstation by zip code for the nearest appropriate governmental rain gauge(s).

7.4 Monitoring Locations

Monitoring locations are shown on the Site Maps in **Appendix A**. Monitoring locations are described in the **Sections 7.6** and **7.7**.

Whenever changes in the construction site might affect the appropriateness of sampling locations, the sampling locations shall be revised accordingly. All such revisions shall be implemented as soon as feasible and the SWPPP amended. Temporary changes that result in a one-time additional sampling location do not require a SWPPP amendment.

7.5 Safety and Monitoring Exemptions

Safety practices for sample collection will be in accordance with the contractor's Health and Safety Plan for the project. A summary of the safety requirements that apply to sampling personnel is provided below.

- Sampling activities to occur a safe distance from vehicle traffic, construction equipment, excavation and trenches.
- A visible safety vest is to be worn during sampling activities.

This project is not required to collect samples or conduct visual observations (inspections) under the following conditions (see Section III.B of the 2022 CGP):

- During dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour;
- Outside of scheduled site operating hours;
- When the site is not accessible to personnel;

Scheduled site business hours are as allowed by the city and as posted at the job site.

If monitoring (visual monitoring or sample collection) of the site is unsafe because of the dangerous conditions noted above, then the QSP shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation will be filed in **Appendix N** and must be included in the Annual Report.

7.6 Visual Monitoring

Per Section III.B.2. of Attachment D in the 2022 CGP, "For inactive projects, dischargers may reduce the visual inspection frequency and suspend sampling per Section III.G of the 2022 CGP. Dischargers shall provide an explanation with supporting information for all missed visual inspections or sampling required by this Attachment, to be included in the Annual Report."

Visual monitoring includes observations and inspections. Inspections of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Visual observations of the site are required to observe storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources.

Table 7-1 identifies the required frequency of visual observations and inspections. Inspections and observations will be conducted at the locations identified in **Section 7.6.3**.

Table 7-1 Summary of Visual Monitoring and Inspections

Type of Inspection	Frequency
Routine Inspections[1]	
BMP Inspections	Weekly[2]
Qualifying Precipitation Event Triggered Inspections	
Site Inspections Prior to a Qualifying Precipitation Event	Within 72 hours of a qualifying precipitation event or up to 120 hours prior if supported with forecast [2]
BMP Inspections During an Extended Qualifying Precipitation Event	Once every 24-hour period of a qualifying precipitation event[3]
Site Inspections Following a Qualifying Precipitation Event	Within 96 hours of a qualifying precipitation event[2]

[1] Inspections are required during scheduled site operating hours.

[2] Most BMPs must be inspected weekly; those identified below must be inspected more frequently.

[3] Inspections are required during scheduled site operating hours on days that the forecast predicts at least 0.25 inches of precipitation once the qualifying precipitation event commences.

7.6.1 Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to confirm that the project is in compliance with the requirements of the 2022 CGP.

7.6.1.1 Routine BMP Inspections

Inspections of BMPs are conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

7.6.1.2 Non-Stormwater Discharge Observations

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections will record:

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);
- Identification and elimination of unauthorized non-stormwater discharges
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

7.6.2 Qualifying Precipitation Event Triggered Observations and Inspections

Visual observations of the site and inspections of BMPs are required prior to a qualifying precipitation event; following a qualifying precipitation event, and every 24-hour period during a qualifying precipitation event. Pre-Qualifying Precipitation Event inspections will be conducted after consulting NOAA and determining that a precipitation event with a 50 percent or greater PoP and a QPF of 0.5 inches or more precipitation within a 24-hour period has been predicted by the National Weather Service Forecast Office.

7.6.2.1 Visual Observations Prior to a Forecasted Qualifying Precipitation Event

Within 72 hours prior to a qualifying precipitation event or up to 120 hours prior if extended forecast precipitation data is available, a stormwater visual monitoring site inspection will include observations of the following locations:

- All stormwater drainage areas to identify leaks, spills, or uncontrolled pollutant sources and when necessary, implement appropriate corrective actions.
- All BMPs to identify whether they have been properly implemented per the SWPPP and implement appropriate corrective actions, as necessary.
- All stormwater storage and containment areas to detect leaks and check for available capacity to prevent overflow.

The QSP must conduct the inspection prior to the qualifying precipitation event. Consistent with the requirements for a qualifying precipitation event, pre-rain BMP inspections and visual monitoring will be triggered by a NOAA forecast that indicates a 50 percent or greater probability of 0.5 inches of precipitation or more in a 24-hour period in the project area.

7.6.2.2 BMP Inspections During a Qualifying Precipitation Event

During an extended qualifying precipitation event BMP inspections will be conducted at least once every 24 hours. Qualifying precipitation events are extended for each subsequent 24-hour period forecast to have at least 0.25 inches of precipitation. The BMP inspections are to identify and record:

- If BMPs were adequately designed, implemented and effective.
- BMPs that require repair or replacement due to damage.
- Additional BMPs that need to be implemented and revise the SWPPP accordingly.

If the construction site is not accessible during the rain event, the visual inspections shall be performed at all relevant outfalls, discharge points, downstream locations. The inspections should record any projected maintenance activities.

7.6.2.3 Visual Observations Following a Qualifying Precipitation Event

Within 96 hours following the end of a qualifying precipitation event a stormwater visual monitoring site inspection is required to observe:

- If BMPs were adequately designed, implemented and effective.
- BMPs that require repair or replacement due to damage.
- Additional BMPs that need to be implemented and revise the SWPPP accordingly.

7.6.3 Visual Monitoring Procedures

Visual monitoring shall be conducted by the QSP or QSP Delegates.

The name(s) and contact number(s) of the QSPs or QSP Delegates assigned to conduct visual observations are listed below and their training qualifications are provided in **Appendix J**.

Assigned QSP: Sam Leow	Contact phone: 415-720-0101
Assigned QSP Delegate: Harry Torrano	Contact phone: 415-559-6063
Assigned QSP Delegate: Javier Canseco	Contact phone: 415-652-3755
Assigned QSP Delegate: Richard Semon	Contact phone: 415-310-5597

Stormwater observations shall be documented on the *Visual Inspection Field Log Sheet* (see **Appendix O**). BMP inspections shall be documented on the site-specific BMP inspection checklist and include photographs of areas of concern along with the QSP's description of the problem.

The QSP shall within 7 days of the inspection submit copies of the completed inspection report to the project LRP.

The completed reports will be kept in **Appendix N**. Results of visual monitoring must be summarized and reported in the Annual Report.

7.6.4 Visual Monitoring Follow-Up and Reporting

Maintenance, repairs, and correction of deficiencies, including design changes to BMPs, identified by the observations or inspections, including required repairs or maintenance of BMPs, shall be initiated within 72 hours of identification and completed as soon as possible, prior to the next forecasted precipitation event.

When design changes to BMPs are required, the SWPPP shall be amended to reflect the changes.

Deficiencies identified in site inspection reports and correction of deficiencies will be tracked on the *Inspection Field Log Sheet* or *BMP Inspection Report* shall be kept in **Appendix N**. QSP Delegates shall report issues identified during inspections that require corrective action to the QSP within 24 hours of the observation.

The QSP shall within 7 days of the inspection submit copies of the completed *Inspection Field Log Sheet* or *BMP Inspection Report* with the corrective actions to the project LRP.

Results of visual monitoring must be summarized and reported in the Annual Report.

7.6.5 Visual Monitoring Locations

The inspections and observations identified in **Sections 7.6.1** and **7.6.2** will be conducted at the locations identified in this section.

BMP locations are shown on the Site Maps in **Appendix A**.

Drainage area(s) include the project site, the contractor's yard, staging areas, and storage areas. Drainage area(s) are shown on the Site Maps in **Appendix A** and **Table 7-2** identifies each drainage area by location. Drainage areas are dynamic through construction and will be identified by the QSP on the Water Pollution Control Drawing to reflect active discharge locations based on field observations.

Table 7-2 Site Drainage Areas

Location No.	Location
1	Pool Deck
2	East of Tennis Court (New Tennis Court Area)

Stormwater storage or containment area(s) are on the project site from which stormwater will be dewatered. Stormwater storage or containment area(s) will be identified by the QSP and shown on the Site Maps in **Appendix A** and **Table 7-3** identifies each stormwater storage or containment area based on field observations.

Table 7-3 Stormwater Storage and Containment Areas (Dewatering Locations)

Location No.	Approximate Locations, Subject to Change during construction to accommodate for existing conditions
D1	Southeast corner of pool deck
D2	South pool deck
D3	South pool deck
D4	South pool deck
D5	West pool deck
D6	West pool deck
D7	West pool deck
D8	North pool deck
D9	North pool deck
D10	East of Existing Aquatic Center Building
D11	North of Equipment Enclosure
D12	Northeast corner of pool deck
D13	East pool deck

Site stormwater discharge location(s) are locations where runoff is discharged off-site. Site stormwater discharge location(s) are shown on the Site Maps in **Appendix A** and **Table 7-4**

identifies each stormwater discharge location. Discharge locations will be identified and updated by the QSP to reflect active discharge locations based on field observations.

Table 7-4 Site Stormwater Discharge Locations

Location No.	Location
S1	Just outside southwest corner of existing tennis courts. (No discharge observed, location being monitored)
S2	North of pool deck, just east of existing aquatic center building

7.7 Water Quality Sampling and Analysis

7.7.1 Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges

This Sampling and Analysis Plan for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater runoff discharges from the project site.

Sampling for non-visible pollutants, including those associated with TMDLs will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

Table 7-4 summarizes the potential non-visible pollutants identified in the pollutant source assessment **Sections 2.6** and **2.7** and the water quality constituent or indicator for that pollutant. Drainage areas where the source is present are shown on the Site Maps in **Appendix A**.

Table 7-5 Potential Non-Visible Pollutants and Water Quality Indicator Constituents Based on the Pollutant Source Assessment

Pollutant	Water Quality Indicator or Constituent	Source/Reason from Pollutant Source Assessment	TMDL Pollutant	Site Drainage Area
Asphalt	VOCs	Asphalt Work	N/A	See WPCD
Acids	pH	Cleaning	N/A	See WPCD
Bleaches	Residual chlorine	Cleaning	N/A	See WPCD
TSP	Phosphate	Cleaning	N/A	See WPCD
Solvents	VOCs, SVOCs	Cleaning	N/A	See WPCD
Detergents	MBAS	Cleaning	N/A	See WPCD
Sealant (Methyl methacrylate)	SVOC	Concrete/Masonry	N/A	See WPCD

Table 7-5 Potential Non-Visible Pollutants and Water Quality Indicator Constituents Based on the Pollutant Source Assessment

Pollutant	Water Quality Indicator or Constituent	Source/Reason from Pollutant Source Assessment	TMDL Pollutant	Site Drainage Area
Curing compounds	VOCs, SVOCs, pH	Concrete/Masonry	N/A	See WPCD
Ash, slag, sand	pH, Al, Ca, Va, Zn	Concrete/Masonry	N/A	See WPCD
Gypsum/Lime Amendments	pH	Grading/Earthworks	N/A	See WPCD
Contaminated Soil	PCBs	Grading/Earthworks	N/A	See WPCD
Pesticides/Herbicides	Product dependent, see label and check with Laboratory	Landscaping	N/A	See WPCD
Fertilizers	TKN, NO_3, BOD, COD, DOC, Sulfate, NH_3, Phosphate, Potassium	Landscaping	N/A	See WPCD
Aluminum sulfate	AL, TDS, Sulfate	Landscaping	N/A	See WPCD
Resins	COD, SVOCs	Painting	N/A	See WPCD
Thinners	COD, VOCs	Painting	N/A	See WPCD
Paint strippers	VOCs, SVOCs, metals	Painting	N/A	See WPCD
Lacquers, varnishes, enamels	COD, VOCs, SVOCs	Painting	N/A	See WPCD
Sealants	COD	Painting	N/A	See WPCD
Adhesives	Phenols, SVOCs	Painting	N/A	See WPCD
Vegetation stockpiles	BOD	Planting/Vegetation Management	N/A	See WPCD
Fertilizers	TKN, NO_3, BOD, COD, DOC, Sulfate, NH_3, Phosphate, Potassium	Planting/Vegetation Management	N/A	See WPCD

Table 7-5 Potential Non-Visible Pollutants and Water Quality Indicator Constituents Based on the Pollutant Source Assessment

Pollutant	Water Quality Indicator or Constituent	Source/Reason from Pollutant Source Assessment	TMDL Pollutant	Site Drainage Area
Pesticides/Herbicides	Product dependent, see label and check with Laboratory	Planting/Vegetation Management	N/A	See WPCD
Solder, flux, pipe fitting	Cu, Pb, Sn, Zn	Plumbing	N/A	See WPCD
Pools	Residual chlorine, CU, chloramines	Pools and Fountains	N/A	See WPCD
Removal of existing structures	Zn, VOCs, PCBs	Demolition	N/A	See WPCD
Roofing	Cu, PB, VOCs	Roof construction	N/A	See WPCD
Sanitary Waste	BOD, Total/Fecal coliform	Sewer line work and Portable Toilets	N/A	See WPCD
Polymer/co-polymers	TKN, NO_3, BOD, COD, DOC, Sulfate, Ni	Soil Preparations/Amendments/ Dust Control	N/A	See WPCD
Lignin sulfate	TDS, alkalinity	Soil Preparations/Amendments/ Dust Control	N/A	See WPCD
Psyllium	COD, TOC	Soil Preparations/Amendments/ Dust Control	N/A	See WPCD
Guar/Plant gums	COD, TOC, Ni	Soil Preparations/Amendments/ Dust Control	N/A	See WPCD
Batteries	Sulfuric acid, Pb, pH	Vehicle and Equipment Use	N/A	See WPCD

The project has the potential to receive stormwater run-on from the following locations with the potential to contribute non-visible pollutants to stormwater discharges from the project. Locations of such run-on to the project site are shown on the Site Maps in **Appendix A**.

- None

7.7.1.1 Sampling Schedule

Samples for the potential non-visible pollutant(s) and a sufficiently large unaffected background sample shall be collected during the first eight hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during the site's scheduled hours and shall be collected regardless of the time of year and phase of the construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered only when any of the following conditions are observed during site inspections conducted prior to or during a rain event.

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from the storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- A construction activity, including but not limited to those in **Section 2.6**, with the potential to contribute non-visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

7.7.1.2 Sampling Locations

Sampling locations are based on proximity to planned non-visible pollutant storage, occurrence or use, accessibility for sampling, and personnel safety. Planned non-visible pollutant sampling locations are shown on the Site Maps in **Appendix A** and include the locations identified in **Table 7-6**. Actual locations are determined by the QSP and shown on the Water Pollution Control Drawing based on field observations.

Table 7-6 Non-Visible Pollutant Sample Locations

Sample Location Identifier	Sample Location Description	Sample Location Latitude and Longitude (Decimal Degrees)	Runoff or Run-on
S1	Just outside southwest corner of existing tennis courts. (No discharge		Runoff

Table 7-6 Non-Visible Pollutant Sample Locations

Sample Location Identifier	Sample Location Description	Sample Location Latitude and Longitude (Decimal Degrees)	Runoff or Run-on
	observed, location being monitored)		
S2	North of pool deck. East of existing Aquatic Building. (Special Discharge Permitted by EBMUD. Permit No. 11000154)		Runoff

If a stormwater visual monitoring site inspection conducted prior to or during a storm event identifies the presence of a material storage, waste storage, operations area with spills, or the potential for the discharge of non-visible pollutants to surface waters or a storm drain system that is at a location not listed above and has not been identified on the Site Maps, sampling locations will be selected by the QSP using the same rationale as that used to identify planned locations. Non-visible pollutant sampling locations shall be documented by the QSP on the pre-rain event inspection form prior to a forecasted qualifying precipitation event and the *Effluent Sampling Field Log Sheet*, which are provided in **Appendix O**.

7.7.1.3 Monitoring Preparation

Non-visible pollutant samples will be collected by:

QSP ☒ Yes ☐ No

QSP Delegate ☒ Yes ☐ No

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. The QSP or QSP Delegates responsible for sampling will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder-free nitrile gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, and *Effluent Sampling Field Log Sheets* and Chain of Custody (CoC) forms, which are provided in **Appendix O**.

7.7.1.4 Analytical Constituents

Table 7-7 lists the specific sources and types of potential non-visible pollutants based on the project pollutant source assessment and the water quality indicator constituent(s) for that pollutant. Table 7-7 provides the specific analytical methods and reporting limits for the potential non-visible pollutants. Analytical methods were selected in compliance with U.S. EPA sufficiently sensitive method requirements in 40 Code of Federal Regulations Part 136, as evidenced by the method detection limit and minimum level.

7.7.1.5 Sample Collection

Samples of discharge shall be collected at the designated non-visible pollutant sampling locations identified in Table 7-6 and shown on the Site Maps in **Appendix A** or in the locations determined by observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples shall be collected and preserved in accordance with the methods identified in the **Table 7-7**, "Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants" provided in **Section 7.7.1.6**. Only the QSP, or QSP Delegates trained on sample collection identified in **Section 7.7.1.3** shall collect samples.

Sample collection and handling requirements are described in **Section 7.7.7**.

Table 7-7 Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Minimum Level	Method Detection Limit	Maximum Holding Time
TPH-d and TPH-mo	EPA 8015B	1 L	Amber Glass	None	N/A	Approximately 0.1 uh/L (TPH-d) and 0.3 ug/L (TPH-mo)	14 days
TPH-g	EPA 8015B	40 mL	Voa	HCI	N/A	50 ug/L	14 days
PCBs	EPA 8082	1 L	Amber Glass	None	N/A	Approximately 0.60 ug/L	365 days
CAM-17 Metals	EPA 6020/7470 A (lab filtered)	250 mL	HDPE	HNO_3	N/A	Varies between 1 and 5 ug/L	180 days
Semi-Volatile Organic Compounds (SVOCs)	EPA 8270C	1 L	Amber Glass	None	N/A	Varies between 9 and 100 ug/L	40 days
Organochlorine Pesticides (OCPS)	EPA 8081B	1 L	Amber Glass	None	N/A	Approximately 0.02 ug/L	40 days

Notes: Analytical laboratories may use the term Reporting Level in lieu of Minimum Level

7.7.1.6 Sample Analysis

Samples shall be analyzed using the analytical methods identified in the **Table 7-7**.

Samples will be analyzed by:

Laboratory Name:	Enthalpy Analitical
Street Address:	2323 5th Street
City, State Zip:	Berkley, CA 94710
Telephone Number:	510-486-0900
Point of Contact:	Patty Mata
ELAP Certification Number:	1338

Samples will be delivered to the laboratory by:

Driven by QSP/QSP Delegate/Contractor	☒	Yes	☐	No
Picked up by Laboratory Courier	☐	Yes	☒	No
Shipped	☐	Yes	☒	No

7.7.1.7 Data Evaluation and Reporting

The QSP shall complete an evaluation of the water quality sample analytical results based on a comparison of the results to the unaffected sample.

Runoff/downgradient results shall be compared with the associated upgradient/unaffected results and any associated run-on results. Should the runoff/downgradient sample show an increased level of the tested analyte relative to the unaffected background sample, which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non-visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

Analytical results of non-visible pollutant monitoring shall be submitted to SMARTS within 30 days of obtaining the analytical results.

The 2022 CGP prohibits the storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately reported to the Regional Water Board and other agencies as required by 40 C.F.R. §§ 117.3 and 302.4.

7.7.2 Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges

Sampling and analysis of runoff for pH and turbidity is required for this project. This Sampling and Analysis Plan describes the strategy for monitoring turbidity and pH levels of stormwater

runoff discharges from the project site and run-on that may contribute to an exceedance of a Numeric Action Level (NAL) or the exceedance of a Receiving Water Monitoring Trigger.

Samples for pH and turbidity will be collected at all discharge points where stormwater is discharged off-site.

7.7.2.1 Sampling Schedule

Stormwater runoff samples shall be collected for pH and turbidity from each day of a qualifying precipitation event that results in a discharge from the project site. One sample from each discharge location will be collected each 24 hour period of active discharge during a qualifying precipitation event. Samples should be representative of the discharge flow and characteristics.

Run-on samples shall be collected whenever the QSP identifies that run-on has the potential to contribute to an exceedance of a NAL or the exceedance of a Receiving Water Monitoring Trigger.

7.7.2.2 Sampling Locations

Sampling locations are based on the site runoff discharge locations and locations where run-on enters the site, accessibility for sampling, and personnel safety. Planned pH and turbidity sampling locations are shown on the Site Maps in **Appendix A**. Sample locations will be identified and updated by the QSP and shown on the Water Pollution Control Drawing to reflect active discharge locations characteristic of site runoff.

Table 7-9 Turbidity and pH Runoff Sample Locations

Sample Location Identifier	**Sample Location Description**	**Sample Location Latitude and Longitude** (Decimal Degrees)
S1	Southwest corner of existing tennis courts	

Sampling locations are for the collection of samples of run-on to the project site. Run-on from these locations has the potential to contribute to an exceedance of a NAL or a Receiving Water Trigger. **Table 7-10** identifies any estimated run-on sample location(s). Actual locations, when applicable are determined by the QSP and shown on the Water Pollution Control Drawing based on field observations.

Table 7-10 Turbidity and pH Run-On Sample Locations

Sample Location Identifier	**Sample Location Description**	**Sample Location Latitude and Longitude** (Decimal Degrees)
N/A, no run-on locations		

The project does not receive run-on with the potential to exceed NALs or Receiving Water Monitoring Triggers.

7.7.2.3 Monitoring Preparation

Turbidity and pH samples will be collected and analyzed by:

QSP	☒	Yes	☐	No
QSD Delegate	☒	Yes	☐	No

An adequate stock of monitoring supplies and equipment for monitoring turbidity and will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. The QSP or QSP Delegates will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, field meters, extra batteries, clean powder-free nitrile gloves, sample collection equipment, appropriate sample containers, paper towels, personal rain gear, and *Effluent Sampling Field Log Sheets* and CoC forms provided in **Appendix O**.

The QSP or QSP Delegates will obtain and maintain the field-testing instruments, as identified in **Section 7.7.2.6**, for analyzing samples in the field. Field meter instructions are provided in **Appendix P**.

7.7.2.4 Field Parameters

Samples shall be analyzed for the constituents indicated in the **Table 7-11**.

Table 7-11 Sample Collection and Analysis for Monitoring Turbidity and pH

Parameter	Test Method	Minimum Sample Volume [1]	Sample Collection Container Type	Detection Limit (minimum)
Turbidity	Field meter/probe with calibrated portable instrument	500 mL	Polypropylene or glass (Do not collect in meter sample cells)	1 NTU
pH	Field meter/probe with calibrated portable instrument or calibrated pH test kit	100 mL	Polypropylene	0.2 pH units

Notes: [1] Minimum sample volume recommended. Specific volume requirements will vary by instrument; check instrument manufacturer instructions.

L – Liter
mL – Milliliter
NTU – Nephelometric Turbidity Unit

7.7.2.5 Sample Collection

Samples of discharge shall be collected at the designated runoff and run-on sampling locations listed in **Tables 7-9** and **7-10** shown on the Site Maps in **Appendix A**. Run-on samples shall be collected within close proximity of the point of run-on to the project.

Sample collection and handling requirements are described in **Section 7.7.7**.

7.7.2.6 Field Measurements

The collection and analysis of samples for field analysis, collection, analysis and the calibration of equipment shall be in accordance with the field instrument manufacturer's specifications.

Immediately following collection, samples for field analysis shall be tested in accordance with the field instrument manufacturer's instructions and results recorded on the *Effluent Sampling Field Log Sheet*.

The field instrument(s) listed in **Table 7-12** will be used to analyze the following constituents:

Table 7-12 Field Instruments

Field Instrument (Manufacturer and Model)	Constituent
Extech PH110 Waterproof ExStik pH Meter	pH
Oakton T-100 Waterproof Turbidimeter	Turbidity

The manufacturers' instructions are included in **Appendix P**. Field sampling staff shall review the instructions prior to each sampling event and follow the instructions in completing measurement of the samples.

- The instrument(s) shall be maintained in accordance with manufacturer's instructions.
- The instrument(s) shall be calibrated before each sampling and analysis event.
- Maintenance and calibration records shall be maintained with the SWPPP.

The QSP may authorize alternate equipment provided that the equipment meets the 2022 CGP's requirements and the manufacturers' instructions for calibration and use are added to **Appendix P**.

7.7.2.7 Data Evaluation and Reporting

The LRP or DAR shall electronically report all stormwater pH and turbidity results to the State Water Board by the through SMARTS within 30 days of receiving the results. Exceedances of NALs shall be electronically reported to the State Water Board by the LRP or DAR through SMARTS within 10 days of receiving the results.

Numeric Action Levels

Compliance with the NALs for pH and turbidity is based on a single sample evaluation. A NAL exceedance occurs when any sample exceeds the turbidity NAL or is outside of the pH range shown in **Table 7-13**.

Table 7-13 Numeric Action Levels

Parameter	Unit	NAL
pH	pH units	Lower NAL < 6.5 Upper NAL > 8.5
Turbidity	NTU	>250

The QSP shall within 30 days of the sample collection submit copies of the completed *Effluent Sampling Field Log Sheets* to the project LRP.

In the event that the pH or turbidity NAL is exceeded, the QSP shall immediately notify the project LRP and investigate the cause of the exceedance and identify corrective actions.

Exceedances of NALs shall be electronically reported to the State Water Board by the LRP or DAR through the SMARTS within 10 days of the conclusion of the storm event.

If requested by the Regional Water Board in writing, a NAL Exceedance report will be submitted within 30 days of the request. The NAL Exceedance Report must contain the following information:

- Analytical method(s), method reporting unit(s), and Method Detection Limit(s) of each parameter;
- Date, place, time of sampling, visual observation, and/or measurements, including precipitation; and
- An assessment of the existing BMPs associated with the sample that exceeded the NAL, a description of each corrective action taken including photographs, and date of implementation.

7.7.3 Sampling and Analysis Plan for pH and Turbidity in Receiving Water

This project is not subject to Receiving Water Monitoring.

7.7.4 Sampling and Analysis Plan for Dewatering Discharges

☐ No dewatering activities are planned for this project.

☐ Dewatering activities planned for this project will be conducted and monitored according to the requirements of the following NPDES Permit: _____

☒ Dewatering activities planned for this project will be conducted and monitored according to the requirements of the 2022 CGP Attachment J.

A special discharge permit from East Bay Municipal Utility District (EBMUD) has been obtained to discharge dewatering contents to sanitary sewer. The Special Discharge Permit number is: 11000154.

This Sampling and Analysis Plan for dewatering discharges describes the sampling and analysis strategy and schedule for monitoring dewatering discharges in accordance with the requirements of the 2022 CGP.

7.7.4.1 Sample Schedule

Sampling of dewatering discharges will be conducted within the first hour of the commencement of discharge and daily each day that the discharge continues.

7.7.4.2 Sample Locations

Sampling locations are based on the planned dewatering locations. Planned dewatering sampling locations are listed in **Table 7-14** and shown on the Site Maps in **Appendix A**.

Dewatering sampling location(s) on the project site and the contractor's yard have been identified for the collection of dewatering samples.

Table 7-14 Turbidity and pH Dewatering Sample Locations

Sample Location Identifier	Sample Location Description	Sample Location Latitude and Longitude (Decimal Degrees)
S2	North of pool deck. East of existing Aquatic Building. (Special Discharge Permitted by EBMUD. Permit No. 11000154)	

In the event that dewatering is required at a location not listed in **Table 7-3**, and has not been identified on the Site Maps, sampling locations will be selected by the QSP using the same rationale as that used to identify planned locations. Dewatering sampling locations shall be documented by the QSP on the *Effluent Sampling Field Log Sheet*, which are provided in **Appendix O**.

7.7.4.3 Monitoring Preparation

Dewatering samples will be collected by:

QSP	☒	Yes	☐	No
QSD Delegate	☒	Yes	☐	No

An adequate stock of monitoring supplies and equipment for monitoring turbidity and will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. The QSP or QSP Delegates will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, field meters, extra batteries, clean powder-free nitrile gloves, sample collection equipment, appropriate sample containers, paper towels, personal rain gear, and *Effluent Sampling Field Log Sheets* and CoC forms provided in **Appendix O**.

The QSP or QSP Delegates will obtain and maintain the field-testing instruments, as identified in **Section 7.7.2.6**, for analyzing samples in the field.

7.7.4.4 Sample Collection and Field Analysis

Dewatering samples shall be collected at the designated sampling locations listed in **Table 7-3** and shown on the Site Maps in **Appendix A**.

Samples for field parameters shall be analyzed for the constituents indicated in Table 7-11 "Sample Collection, and Analysis for Monitoring Turbidity and pH." Turbidity and pH samples shall be analyzed immediately.

Sample collection and handling requirements are described in **Section 7.7.7**.

7.7.4.5 Data Evaluation and Reporting

At least 24 hours prior to the beginning of a dewatering discharge, the QSP shall notify the Regional Water Board via email of the anticipated dewatering discharge. Copy the QSP, QSD, and LRP on the notifications. The LRP shall notify ACEHD of anticipated dewatering discharges by email.

The QSP shall within 10 days of the sample collection submit copies of the completed *Effluent Sampling Field Log Sheets* to the project LRP.

Compliance with the NALs for pH and turbidity in dewatering discharges is based on a single sample evaluation. A NAL exceedance occurs when any sample exceeds the turbidity NAL or is outside of the pH range shown in **Table 7-13**.

In the event that the pH or turbidity NAL is exceeded, the QSP shall immediately notify the project LRP and investigate the cause of the exceedance and identify corrective actions.

Dewatering discharges shall immediately cease if the NALs are exceeded. If the discharge is necessary to protect human life and health or prevent severe property damage and cannot be ceased, the QSP shall notify the Regional Water Board and the Local Stormwater Agency within 24 hours.

Table 7-15 Dewatering Notification Contacts

Agency	Name	Email or Phone
Regional Water Board	Region 2, San Francisco Bay	510-622-2300
Local Stormwater Agency	City of Alameda	
Environmental Health	Alameda County Environmental Health Department (ACEHD)	510-567-6704

Exceedances of NALs shall be electronically reported to the State Water Board by the LRP or DAR through SMARTS within 10 days of receiving the results.

Following a NAL exceedance, the QSD shall revise the SWPPP to incorporate corrective actions to prevent further exceedances within 10 days of the measurement.

7.7.5 Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board

The Regional Water Board has not specified monitoring for additional pollutants.

7.7.6 Training of Sampling Personnel

This section will be completed in the event the Regional Board requires additional sampling.

QSP Delegates assigned to conduct sampling shall be trained by the QSP to collect, maintain, and ship samples in accordance with the 2022 CGP Sample Collection and Handling Instructions and supplemental information as needed. Training records of QSP Delegates assigned to sample are provided in **Appendix I**.

The QSP and QSP Delegates have received the following stormwater sampling training:

Name	Training

The QSP and QSP Delegates have the following stormwater sampling experience:

Name	Experience

7.7.7 Sample Collection and Handling

7.7.7.1 Sample Collection

Samples shall be collected at the designated sampling locations shown on the Site Maps and listed in the preceding sections. Samples shall be collected, maintained and shipped in accordance with the 2022 CGP Sample Collection and Handling Instructions.

Grab samples shall be collected and preserved in accordance with the methods identified in preceding sections.

To maintain sample integrity and prevent cross-contamination, sample collection personnel shall follow the protocols below.

- Collect samples (for laboratory analysis) in analytical laboratory-provided or specified sample containers;
    - Use of any other type of containers could cause sample contamination and may result in NAL or NEL exceedances.
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;
- Change gloves between sampling locations;
- Decontaminate all equipment (e.g., bucket, tubing) prior to sample collection;
    - using a trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water.

    - Dispose of wash and rinse water appropriately (i.e., do not discharge to storm drain or receiving water).
    - Do not decontaminate laboratory provided sample containers;
- Do not smoke during sampling events;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non-running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams as noted below.

i. For small streams and flow paths, simply dip the bottle facing upstream until full.
ii. For larger stream that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle. Once again making sure that the opening of the bottle is facing upstream as to avoid any contamination by the sampler.
iii. For larger streams that cannot be safely waded, pole-samplers may be needed to safely access the representative flow.
iv. Avoid collecting samples from ponded, sluggish or stagnant water.
v. Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.

Note, that depending upon the specific analytical test, some containers may contain preservatives. These containers should **never** be dipped into the stream but filled indirectly from the collection container.

7.7.7.2 Sample Handling

Turbidity and pH measurements must be conducted immediately. Do not store turbidity or pH samples for later measurement.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers;
- Complete sample container labels;
- Place sealed containers in a re-sealable storage bag;
- Place sample containers into an ice-chilled cooler;
- Document sample information on the *Effluent Sampling Field Log Sheet* (**Appendix O**); and
- Complete the CoC.

All samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The

2022 CGP requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory to meet all hold times).

Laboratory Name:	Enthalpy Analitical
Address:	2323 5th Street
City, State Zip:	Berkely, CA 94710
Telephone Number:	510-486-0900
Point of Contact:	Patty Mata

7.7.7.3 Sample Documentation Procedures

All original data documented on sample container identification labels, *Effluent Sampling Field Log Sheet* (**Appendix O**), and CoCs shall be recorded using waterproof ink. These shall be considered accountable documents. If an error is made on an accountable document, the individual shall make corrections by lining through the error and entering the correct information. The erroneous information shall not be obliterated. All corrections shall be initialed and dated.

Duplicate samples shall be identified consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples shall be identified in the Effluent Sampling Field Log Sheet.

Sample documentation procedures include the following:

Sample Bottle Identification Labels: Sampling personnel shall attach an identification label to each sample bottle. Sample identification shall uniquely identify each sample location. (These location identifiers should be listed in the tables in the SWPPP.)

Field Log Sheets: Sampling personnel shall complete the *Effluent Sampling Field Log Sheet* and *Receiving Water Sampling Field Log Sheet* (**Appendix O**) for each sampling event, as appropriate.

Chain of Custody: Sampling personnel shall complete the CoC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the CoC (**Appendix O**) when the sample(s) is turned over to the testing laboratory or courier.

7.8 Active Treatment System Monitoring

Will an Active Treatment System (ATS) be deployed on the site?

☒ Yes ☐ No

This project specific ATS Plan includes a Monitoring and Sampling Plan. The ATS Place is provided in **Appendix R.**

7.9 Passive Treatment Monitoring

Will passive treatment technologies be deployed on the site?

☐ Yes ☒ No

This project does not require a project specific Sampling and Analysis Plan for passive treatment because deployment of passive treatment is not planned.

7.10 Watershed Monitoring Option

This project is not participating in a watershed monitoring option.

7.11 Quality Assurance and Quality Control

An effective Quality Assurance and Quality Control (QA/QC) plan shall be implemented as part of the CSMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field logs;
- Clean sampling techniques;
- CoCs;
- QA/QC Samples; and
- Data verification.

Each of these procedures is discussed in more detail in the following sections.

7.11.1 Field Logs

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log include the date and time of water quality sample collection, sampling personnel, sample container identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH and turbidity should also be recorded in the field log. A Visual Inspection Field Log, an Effluent Sampling Field Log Sheet, and a Receiving Water Sampling Field Log Sheet are included in **Appendix O**.

7.11.2 Clean Sampling Techniques

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder-free nitrile gloves during sample collection and handling. As discussed in **Section 7.7.7**, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.

7.11.3 Chain of Custody

The sample CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample CoC procedures include the following:

- Proper labeling of samples;
- Use of CoC forms for all samples; and
- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide CoC forms to be filled out for sample containers. An example CoC is included in **Appendix O**.

7.11.4 QA/QC Samples

QA/QC samples provide an indication of the accuracy and precision of the sample collection; sample handling; field measurements; and analytical laboratory methods. The following types of QA/QC will be conducted for this project:

☐ Field Duplicates at a frequency of 5 percent or 1 duplicate minimum per sampling event
(Required for all sampling plans with field measurements or laboratory analysis)

☐ Equipment Blanks at a frequency per lab standards
(Only needed if the equipment used to collect samples could add the pollutants to sample)

☐ Field Blanks at a frequency per lab standards
(Only required if sampling method calls for field blanks)

☐ Travel Blanks at a frequency per lab standards
(Required for sampling plans that include VOC laboratory analysis)

7.11.4.1 Field Duplicates

Field duplicates provide verification of laboratory or field analysis and sample collection. Duplicate samples shall be collected, handled, and analyzed using the same protocols as primary samples. The sample location where field duplicates are collected shall be randomly selected from the discharge locations. Duplicate samples shall be collected immediately after the primary sample has been collected. Duplicate samples must be collected in the same manner and as close in time as possible to the original sample. Duplicate samples shall not influence any evaluations or conclusion.

7.11.4.2 Equipment Blanks

Equipment blanks provide verification that equipment has not introduced a pollutant into the sample. Equipment blanks are typically collected when:

- New equipment is used;
- Equipment that has been cleaned after use at a contaminated site;
- Equipment that is not dedicated for surface water sampling is used; or
- Whenever a new lot of filters is used when sampling metals.

7.11.4.3 Field Blanks

Field blanks assess potential sample contamination levels that occur during field sampling activities. De-ionized water field blanks are taken to the field, transferred to the appropriate container, and treated the same as the corresponding sample type during the course of a sampling event.

7.11.4.4 Travel Blanks

Travel blanks assess the potential for cross-contamination of volatile constituents between sample containers during shipment from the field to the laboratory. De-ionized water blanks are taken along for the trip and held unopened in the same cooler with the VOC samples.

7.11.5 Data Verification

After results are received from the analytical laboratory, the QSP or QSP Delegates shall verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification shall include:

- Check the CoC and laboratory reports.
  Make sure all requested analyses were performed and all samples are accounted for in the reports.

- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting levels agreed to in the contract.
- Check data for outlier values and follow up with the laboratory.
  Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and corrected quickly by the laboratory. The QSP or QSP Delegates should especially note data that is an order of magnitude or more different than similar locations or is inconsistent with previous data from the same location.
- Check laboratory QA/QC results.
  EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. The QSP or QSP Delegates shall evaluate the reported QA/QC data to check for contamination (method, field, and equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.
- Check the data set for outlier values and, accordingly, confirm results and re-analyze samples where appropriate.
  Sample re-analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.

Field data including inspections and observations must be verified as soon as the field logs are received, typically at the end of the sampling event. Field data verification shall include:

- Check field logs to make sure all required measurements were completed and appropriately documented;
- Check reported values that appear out of the typical range or inconsistent; Follow-up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment after sampling;
- Verify equipment calibrations;
- Review observations noted on the field logs; and
- Review notations of any errors and actions taken to correct the equipment or recording errors.

7.12 Records Retention

All records of stormwater monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least three years from date of submittal or longer if required by the Regional Water Board.

Results of visual monitoring, field measurements, and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records are to be kept onsite while construction is ongoing. Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;

- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Calibration records;
- Visual observation and sample collection exception records;
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections;
- Dewatering notifications to the Regional Water Board;
- Dewatering exception notifications to the Regional Water Board and local stormwater agency;
- NAL Exceedance Report;
- NEL water quality based corrective action reports;

Section 8 References

Project Plans and Specifications entitled, Alameda High School Swim Center Modernization dated May 2024, prepared by Brelje and Race Consulting Engineers.

SWRCB (State Water Resources Control Board). (2022). Order 2022-0057-DWQ, NPDES General Permit No. CAS000002: Stormwater Discharges Associated with Construction and Land Disturbing Activities. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html.

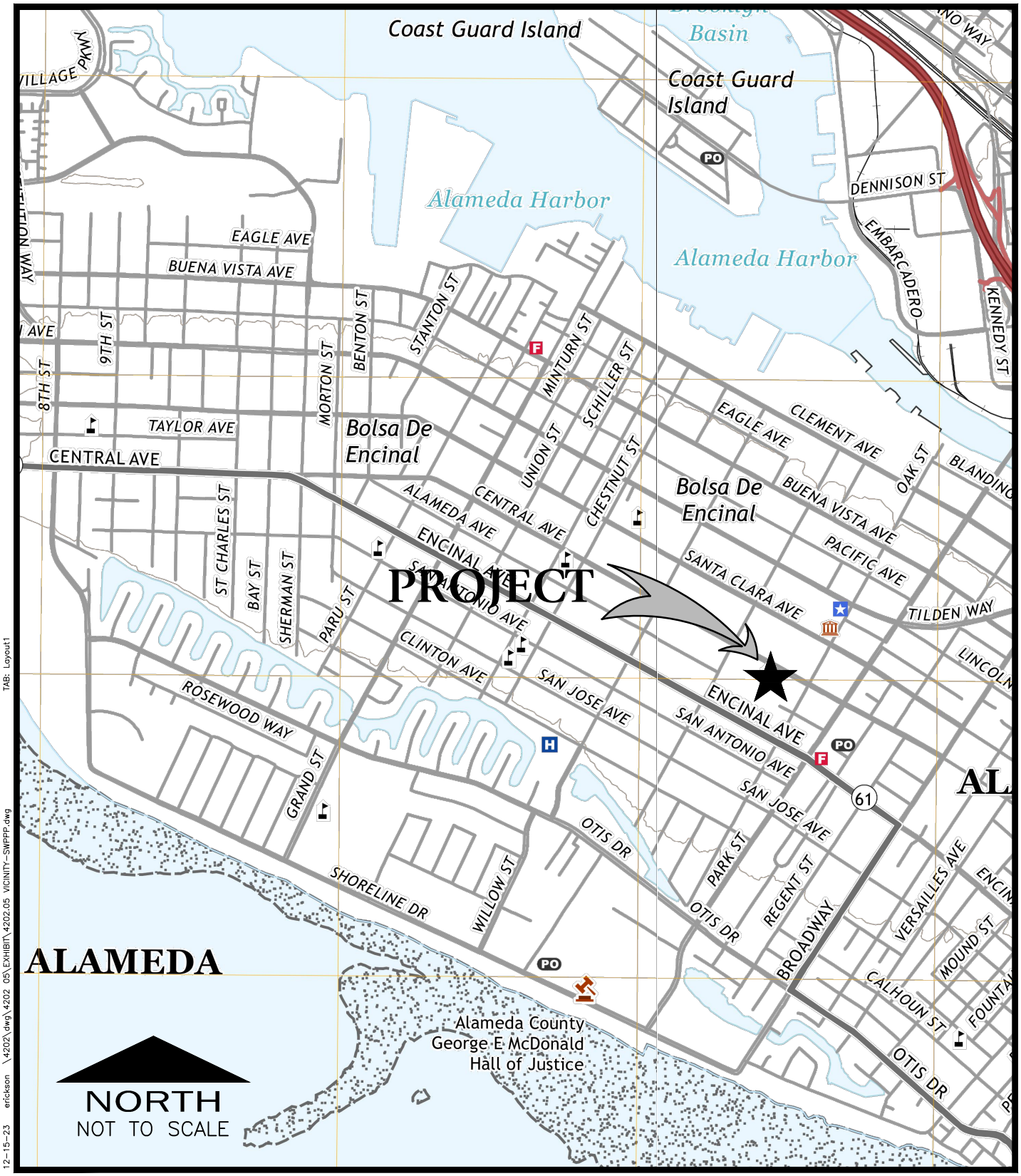
CASQA 2023. *Stormwater BMP Handbook: Construction*. Available online at: www.casqa.org

Project Geotechnical Report entitled, "Revised Report – Geotechnical Investigation – Proposed Replacement of Two Swimming Pools and Renovation of Existing Aquatic Center Building – Emma Hood Aquatic Center" dated November 9, 2023, prepared by Miller Pacific Engineering Group

Project Soil Management Plan dated November 21, 2024, prepared by Kleinfelder

Subject Memo entitled, "Request for Revisions to Data Gap Evaluation Work Plan – Cleanup Program Site (CPS) Case No. RO0003666" dated February 17, 2025, prepared by Alameda County Environmental Health Department

Appendix A: Site Maps and Drawings



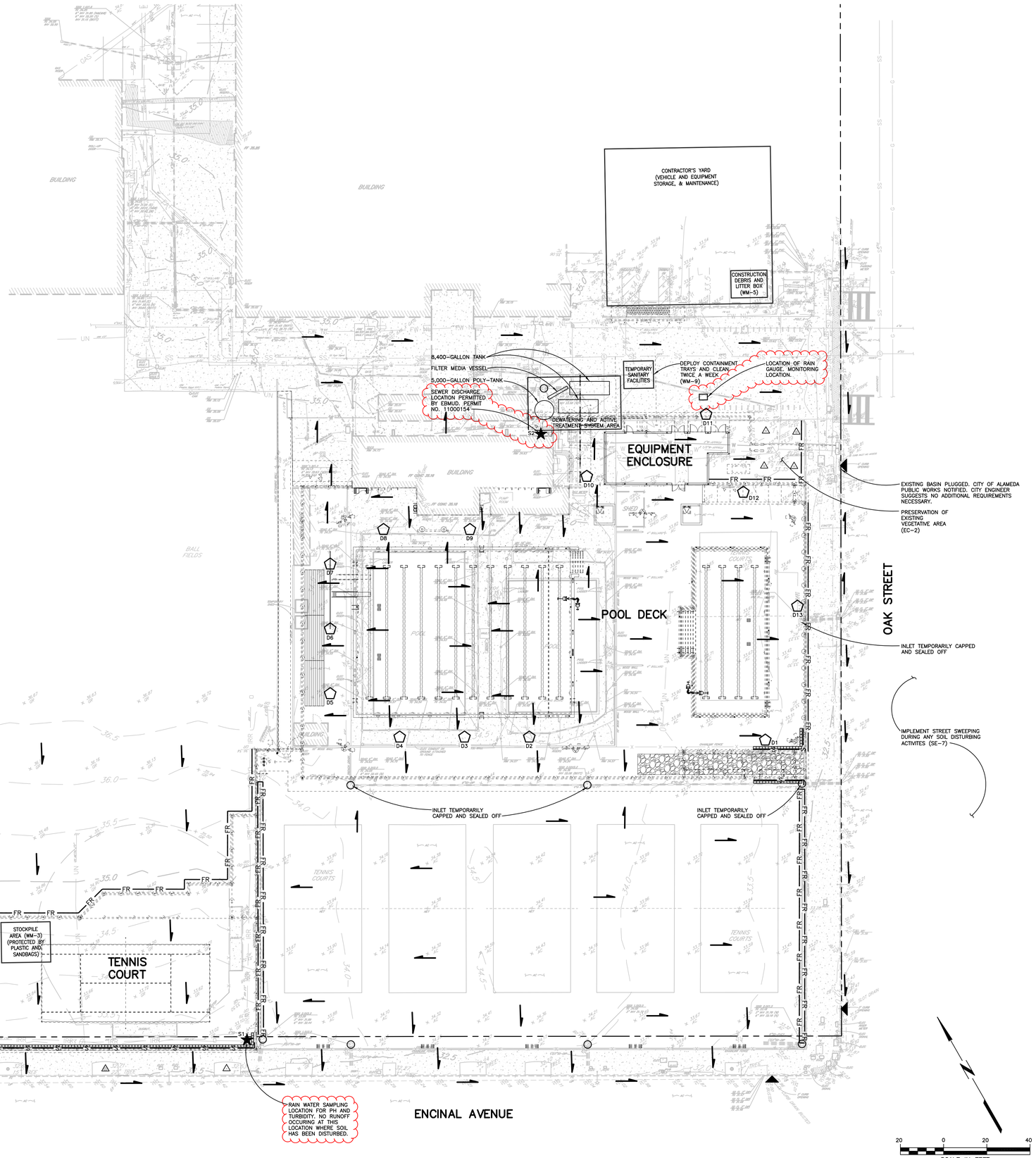
12-15-23 erickson \4202\dwg\4202 05\EXHIBIT\4202.05 VICINITY-SWPPP.dwg TAB: Layout1

ALAMEDA HIGH SCHOOL SWIM CENTER

VICINITY MAP

DECEMBER 2023

Brelje & Race
CONSULTING ENGINEERS
475 Aviation Blvd. • Suite 120 • Santa Rosa, CA 95403 • 707-576-1322
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WATER POLLUTION CONTROL DRAWING LEGEND

- EXISTING RUNOFF FLOW DIRECTION
- S — SILT FENCE, PER SE-1
- FR — FIBER ROLL, PER DETAIL SHEET C6
- MINOR INLET PROTECTION, PER DETAIL SHEET C6
- CATCH BASIN PROTECTION, PER DETAIL SHEET C6
- SANDBAG BARRIER, PER SE-8
- RAIN WATER SAMPLING LOCATION
- APPROXIMATE DEWATERING WELL LOCATION, SUBJECT TO CHANGE DURING CONSTRUCTION TO ACCOMMODATE EXISTING CONDITIONS
- STABALIZED CONSTRUCTION ENTRANCE/EXIT WITH WHEEL WASH AND RUMBLE PLATE, PER TC-1

WATER POLLUTION CONTROL DRAWING NOTES

1. SWPPP WDID: 2 01C404228
2. THE CONTRACTOR SHALL OBTAIN A COPY OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND KEEP IT ON SITE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR ADHERENCE TO ALL OF THE REQUIREMENTS OF THE SWPPP.
4. THIS PLAN SHALL BE REPRODUCED FULL-SIZE, LAMINATED WITH PLASTIC AND POSTED IN THE JOB TRAILER.
5. THROUGHOUT THE COURSE OF CONSTRUCTION, AS SITE CONDITIONS CHANGE AND STORM EVENTS ARE PREDICTED, THE WATER POLLUTION CONTROL DRAWINGS SHALL BE UPDATED:
   - A. TO REFLECT LOCATIONS OF PROPOSED CONSTRUCTION ACTIVITIES SUCH AS CONCRETE WASHOUT, EQUIPMENT MAINTENANCE AND FUELING, MATERIAL STORAGE, AND OTHER CONSTRUCTION ACTIVITIES AS NECESSARY.
   - B. TO SHOW MODIFICATIONS TO PROPOSED BEST MANAGEMENT PRACTICES (BMP'S) ON SITE THAT ARE RELEVANT TO THE STAGE OF CONSTRUCTION, ADDITIONAL BMP'S DUE TO TEMPORARY SITE CONDITIONS, AND ANY OTHER BMP'S DEPLOYED AND NOT SHOWN ON THE EROSION CONTROL PLANS. A LIST OF BMP'S THAT MAY BE USED ARE DISCUSSED IN SECTION 500.3 OF THE SWPPP.
   - C. TO DEPICT STORMWATER SAMPLING LOCATIONS.

THE INTENT OF THE WATER POLLUTION CONTROL DRAWING IS TO DEPICT THE BMP'S DEPLOYED ON THE SITE AT THE CURRENT STAGE OF CONSTRUCTION.

LIST OF SELECTED BMP'S FROM SWPPP

TEMPORARY SOIL STABILIZATION BMPS

EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-4 HYDROSEEDING

TEMPORARY SEDIMENT CONTROL BMPS

SE-1 SILT FENCE
SE-5 FIBER ROLLS
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEM

WIND EROSION CONTROL BMPS

WE-1 WIND EROSION CONTROL

TRACKING CONTROL BMPS

TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT

NON-STORM WATER MANAGEMENT BMPS

NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-12 CONCRETE CURING

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPS

WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/SEPTIC WASTE MANAGEMENT

THE CONTRACTOR WILL KEEP A COPY OF THE AUGUST 2023 EDITION OF THE CALIFORNIA STORMWATER QUALITY ASSOCIATION CASQA) CONSTRUCTION HANDBOOK, INCLUDING BMP DETAIL SHEETS, AT THE PROJECT SITE AT ALL TIMES. THE HANDBOOK CAN BE DOWNLOADED OR PURCHASED AT: HTTP://WWW.CABMPHANDBOOKS.COM

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REVISIONS

DSA APP NO. 01-121390

ARCH PROJECT NO: 2112.00/4202.05
DRAWN BY: PIT
DRAWING SCALE: AS SHOWN
PTN: 61119-160 FILE NO: 1-H1

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MAY 24, 2024

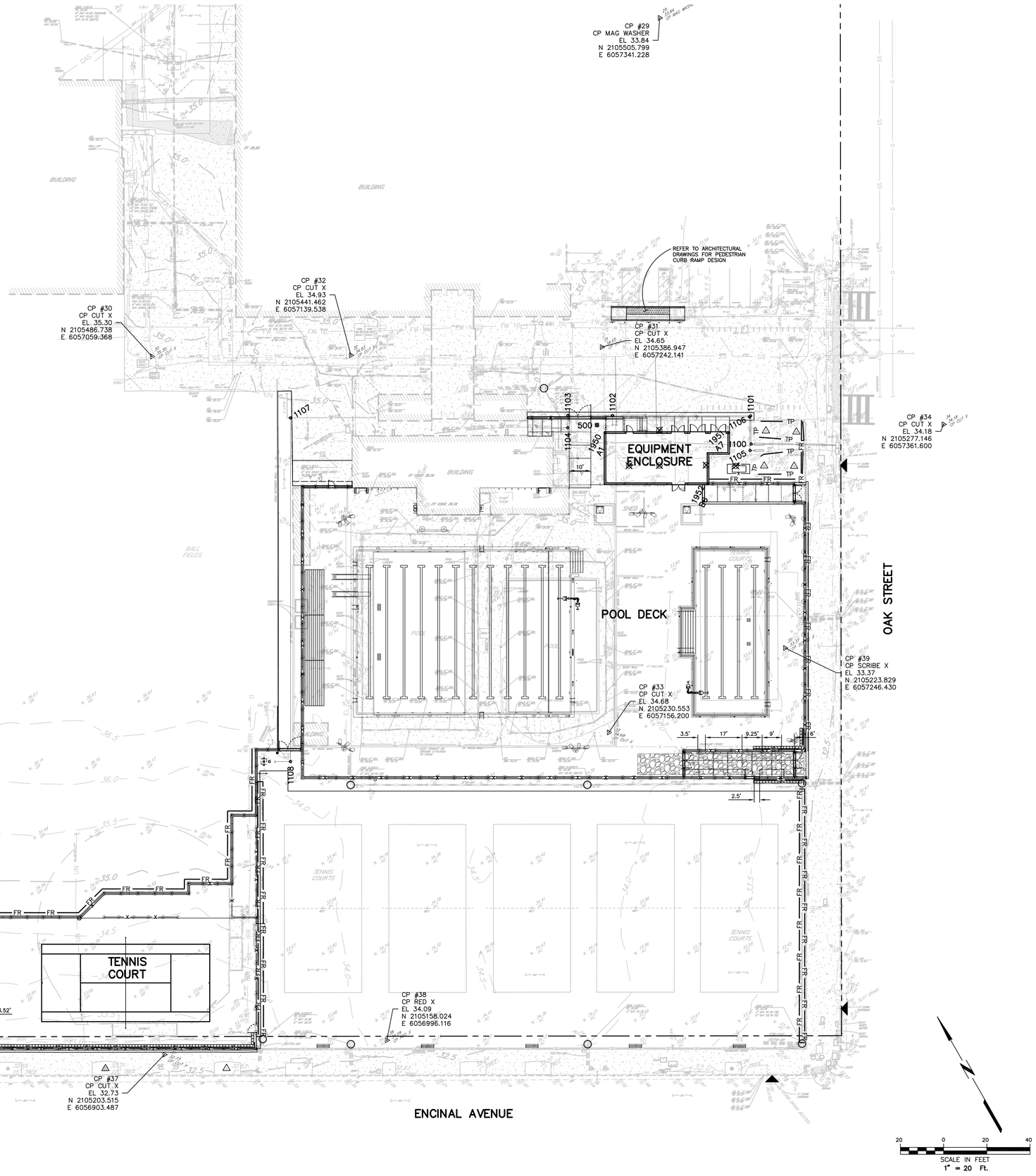
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WATER POLLUTION CONTROL DRAWING

SHEET NUMBER

C5.1

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LEGEND

- S — SILT FENCE, PER SE-1
- FR — FIBER ROLL, PER DETAIL SHEET C6
- MINOR INLET PROTECTION, PER DETAIL SHEET C6
- CATCH BASIN PROTECTION, PER DETAIL SHEET C6
- SANDBAG BARRIER, PER SE-8
- STABALIZED CONSTRUCTION ENTRANCE WITH WHEEL WASH AND RUMBLE PLATER, PER TC-1

SD STRUCTURE COORDINATE TABLE

NO	NORTHING	EASTING	TYPE
500	2105356.704	6057222.260	SDDI

WATER STRUCTURE COORDINATE TABLE

NO	NORTHING	EASTING	TYPE
1100	2105313.609	6057279.748	ELL
1101	2105325.004	6057286.144	ELL
1102	2105356.988	6057230.711	TEE
1103	2105367.328	6057212.788	ELL
1104	2105362.346	6057209.924	ELL
1105	2105311.232	6057277.841	ELL
1106	2105324.820	6057285.463	ELL
1107	2105430.235	6057100.884	TEE
1108	2105292.126	6057021.656	ELL

BUILDING COORDINATE TABLE

NO	NORTHING	EASTING	TYPE
1950	2105351.816	6057223.757	A1
1951	2105323.308	6057273.452	A7
1952	2105307.568	6057253.326	B6

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MAY 24, 2024

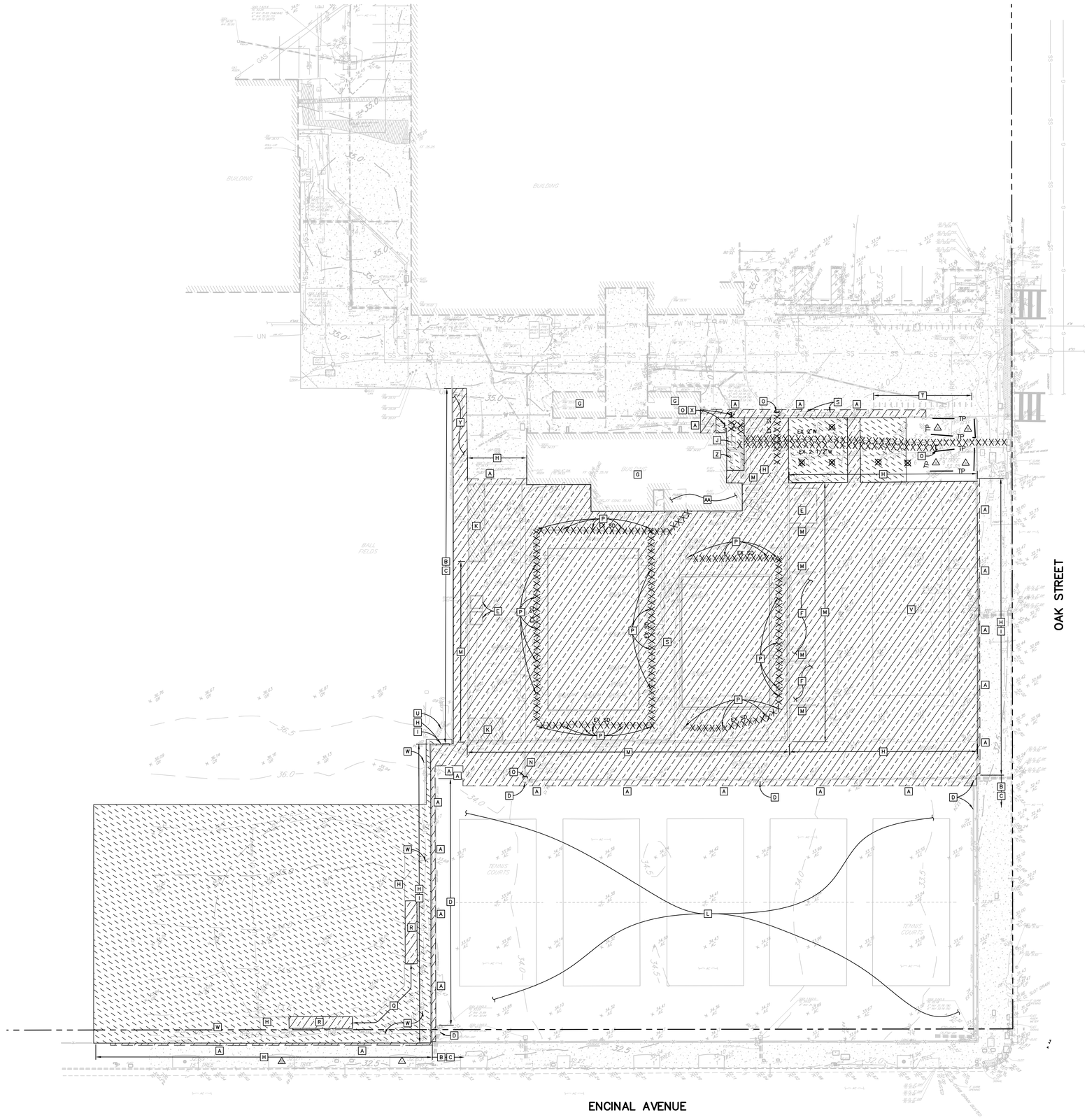
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LAYOUT & EROSION CONTROL PLAN

SHEET NUMBER

C5

03-20-25 sicoud \4202\dwg\4202 05\4202.05 PLAN.dwg TAB: C5 LAYOUT EROS



DEMOLITION NOTES

(ONLY NOTES RELEVANT TO THIS SHEET ARE SHOWN)

- A SAWCUT EXISTING IMPROVEMENTS.
- B EXISTING CONCRETE WALL TO REMAIN. PROTECT IN PLACE.
- C EXISTING FENCE INCLUDING POSTS TO REMAIN. PROTECT IN PLACE.
- D EXISTING UTILITY TO REMAIN. PROTECT IN PLACE.
- E CONTRACTOR SHALL MOVE EXISTING SHED DURING CONSTRUCTION AND RETURN TO THE DISTRICT.
- F CONTRACTOR SHALL MOVE EXISTING BLEACHERS DURING CONSTRUCTION AND RETURN TO THE DISTRICT.
- G EXISTING BUILDING TO REMAIN. PROTECT IN PLACE.
- H REMOVE EXISTING FENCE/GATE, INCLUDING POSTS AND FOOTINGS AND PROPERLY DISPOSE OF OFFSITE.
- I REMOVE EXISTING CONCRETE WALL INCLUDING BASE MATERIAL AND PROPERLY DISPOSE OF OFFSITE.
- J REMOVE EXISTING BACKFLOW PREVENTION ASSEMBLY AND PROPERLY DISPOSE OF OFFSITE.
- K CONTRACTOR SHALL MOVE EXISTING PORTABLE BUILDING DURING CONSTRUCTION AND RETURN TO THE DISTRICT.
- L EXISTING TENNIS COURTS TO REMAIN. PROTECT IN PLACE.
- M REMOVE EXISTING WOOD WALL INCLUDING POSTS AND FOOTINGS AND PROPERLY DISPOSE OF OFFSITE.
- N REMOVE EXISTING TRENCH DRAIN AND PROPERLY DISPOSE OF OFFSITE.
- O CUT AND CAP EXISTING UTILITY.
- P REMOVE EXISTING UTILITY STRUCTURE AND PROPERLY DISPOSE OF OFFSITE.
- Q REMOVE EXISTING SOFTBALL BACKSTOP INCLUDING POSTS AND FOOTINGS AND PROPERLY DISPOSE OF OFFSITE.
- R REMOVE EXISTING SOFTBALL DUGOUT IN ITS ENTIRETY AND PROPERLY DISPOSE OF OFFSITE.
- S REMOVE EXISTING BENCH IN ITS ENTIRETY AND PROPERLY DISPOSE OF OFFSITE.
- T EXISTING BIKE RACKS TO REMAIN. PROTECT IN PLACE.
- U EXISTING SCOREBOARD TO REMAIN. PROTECT IN PLACE.
- V REMOVE EXISTING TENNIS NET INCLUDING POSTS AND FOOTINGS AND PROPERLY DISPOSE OF OFFSITE.
- W CONTRACTOR SHALL LOCATE ALL IRRIGATION LATERALS AND CUT AND CAP WHERE LATERALS ENTER THE PROJECT SITE BUT SHALL MAINTAIN THE EXISTING IRRIGATION SYSTEM OF THE REMAINING FIELD OPERATIONAL.
- X CONTRACTOR SHALL LIMIT SHUT-OFF OF EXISTING WATER SERVICE TO GYMNASIUM AND BATHROOMS. CONTRACTOR SHALL COORDINATE WITH DISTRICT REGARDING SHUT OFF SCHEDULING.
- Y CONTRACTOR SHALL MOVE EXISTING STORAGE CONTAINER DURING CONSTRUCTION. COORDINATE WITH DISTRICT FOR RELOCATION.
- Z EXISTING 3/4" BACKFLOW PREVENTER AND ENCLOSURE CAGE TO REMAIN. PROTECT IN PLACE.
- AA REMOVE EXISTING POOL EQUIPMENT ENCLOSURE, INCLUDING SELECT POSTS AND FOOTINGS. PROTECT EXISTING ROOF LINE IN PLACE. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.

LEGEND

XXXXX UTILITY PIPES AND STRUCTURES TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE. CUT AND CAP PORTIONS OF THE UTILITIES TO REMAIN. CONTRACTOR MAY ABANDON IN PLACE THOSE PORTIONS OF THE UTILITY THAT DO NOT CONFLICT WITH THE PROPOSED IMPROVEMENTS. REFER TO SPECIFICATIONS SECTION 31 1000 FOR ABANDONMENT REQUIREMENTS. SEE PLAN FOR SIZE AND TYPE.

REMOVE ALL EXISTING SURFACE IMPROVEMENTS, INCLUDING, BUT NOT LIMITED TO, ASPHALT AND CONCRETE, CURBS, BASE MATERIAL, BIKE RACKS, FENCE/GATES, HANDRAILS, HEADERBOARD, RAMPS, STAIRS, WALLS, ETC WITHIN THE LIMITS OF THE HATCHING IDENTIFIED HEREON AND PROPERLY DISPOSE OF OFFSITE, UNLESS OTHERWISE NOTED. AT THE CONTRACTORS OPTION, NON-CONTAMINATED BASE MATERIAL MAY BE REUSED. AT THE CONTRACTOR'S OPTION, NON-CONTAMINATED BASE MATERIAL MAY BE STOCKPILED FOR REUSE ONSITE AS BASE MATERIAL FOR HARDSCAPE AREAS ONLY, (NON-BUILDING AREAS).

REMOVE ALL VEGETATION, INCLUDING, BUT NOT LIMITED TO GRASS, PLANTS, SHRUBS, ETC, WITHIN THE LIMITS OF THE HATCHING IDENTIFIED HEREON AND PROPERLY DISPOSE OF OFFSITE, UNLESS OTHERWISE NOTED. REMOVE ALL SOFTBALL INFIELD MATERIAL INCLUDING, BUT NOT LIMITED TO BASE MATERIAL. PRIOR TO COMMENCING WORK, CONTRACTOR SHALL COORDINATE WITH SCHOOL DISTRICT TO REMOVE AND SALVAGE EXISTING SPRINKLER HEADS, VALVES AND OTHER ELEMENTS OF THE IRRIGATION CONTROL SYSTEM. CONTRACTOR SHALL REMOVE EXISTING IRRIGATION PIPING (12"-18" DEEP) AND PROPERLY DISPOSE OF OFFSITE. CONTRACTOR SHALL LOCATE ALL IRRIGATION LATERALS AND CUT AND CAP WHERE LATERALS ENTER THE PROJECT SITE BUT SHALL MAINTAIN THE EXISTING IRRIGATION SYSTEM OF THE REMAINING FIELD OPERATIONAL. ANY DAMAGES TO THE EXISTING IRRIGATION SYSTEM INTENDED TO REMAIN OPERATIONAL SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.

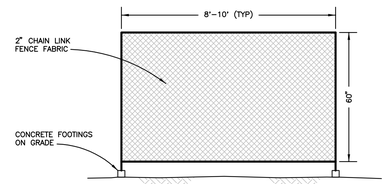
⊠ TREE TO BE REMOVED.

△ TREE TO BE SAVED.

—TP— INSTALL TREE PROTECTION FENCING PER DETAIL THIS SHEET.

REFER TO ARCHITECTURAL, LANDSCAPE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.

20 0 20 40
SCALE IN FEET
1" = 20 Ft.



NOTE
INSTALL PORTABLE CHAIN LINK FENCE PANELS AS TEMPORARY TREE PROTECTION FENCING AT LOCATIONS SHOWN ON PLANS.

TEMPORARY TREE PROTECTION FENCE

NOT TO SCALE

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PTN: 61119-160	FILE NO: 1-H1

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MAY 24, 2024

SHEET TITLE

DEMOLITION PLAN

SHEET NUMBER

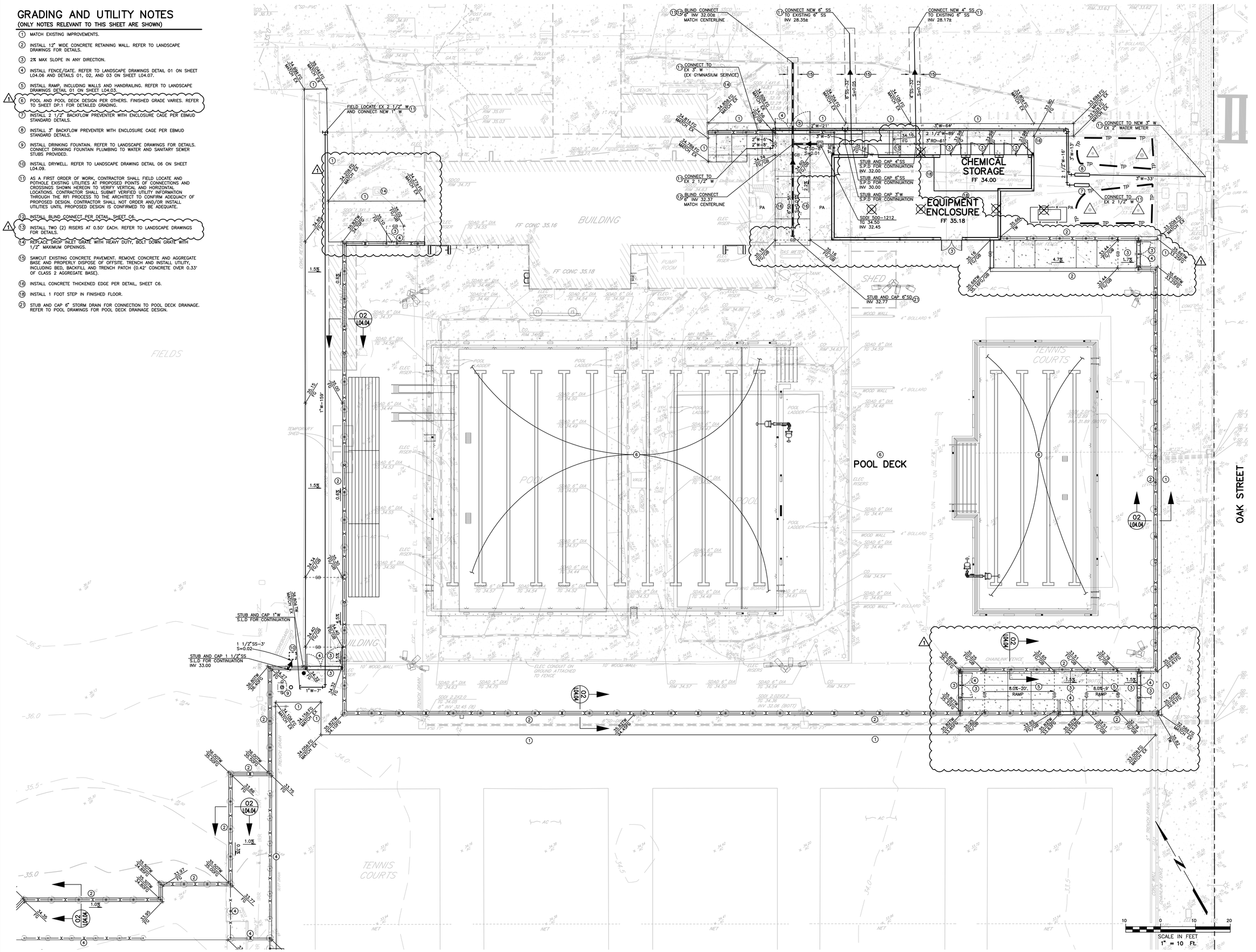
C1

05-16-24 ferrol \\4202\dwg\4202 05\4202.05 PLAN.dwg TAB: C1 DEMO

GRADING AND UTILITY NOTES

(ONLY NOTES RELEVANT TO THIS SHEET ARE SHOWN)

1. MATCH EXISTING IMPROVEMENTS.
2. INSTALL 12" WIDE CONCRETE RETAINING WALL. REFER TO LANDSCAPE DRAWINGS FOR DETAILS.
3. 2% MAX SLOPE IN ANY DIRECTION.
4. INSTALL FENCE/GATE. REFER TO LANDSCAPE DRAWINGS DETAIL 01 ON SHEET L04.06 AND DETAILS 01, 02, AND 03 ON SHEET L04.07.
5. INSTALL RAMP, INCLUDING WALLS AND HANDRAILING. REFER TO LANDSCAPE DRAWINGS DETAIL 01 ON SHEET L04.03.
6. POOL AND POOL DECK DESIGN PER OTHERS. FINISHED GRADE VARIES. REFER TO SHEET DP.1 FOR DETAILED GRADING.
7. INSTALL 2 1/2" BACKFLOW PREVENTER WITH ENCLOSURE CAGE PER EBMUD STANDARD DETAILS.
8. INSTALL 3" BACKFLOW PREVENTER WITH ENCLOSURE CAGE PER EBMUD STANDARD DETAILS.
9. INSTALL DRINKING FOUNTAIN. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. CONNECT DRINKING FOUNTAIN PLUMBING TO WATER AND SANITARY SEWER STUBS PROVIDED.
10. INSTALL DRYWELL. REFER TO LANDSCAPE DRAWING DETAIL 06 ON SHEET L04.09.
11. AS A FIRST ORDER OF WORK, CONTRACTOR SHALL FIELD LOCATE AND POTHOLE EXISTING UTILITIES AT PROPOSED POINTS OF CONNECTIONS AND CROSSINGS SHOWN HEREON TO VERIFY VERTICAL AND HORIZONTAL LOCATIONS. CONTRACTOR SHALL SUBMIT VERIFIED UTILITY INFORMATION THROUGH THE RFI PROCESS TO THE ARCHITECT TO CONFIRM ADEQUACY OF PROPOSED DESIGN. CONTRACTOR SHALL NOT ORDER AND/OR INSTALL UTILITIES UNTIL PROPOSED DESIGN IS CONFIRMED TO BE ADEQUATE.
12. INSTALL BLIND CONNECT PER DETAIL, SHEET C6.
13. INSTALL TWO (2) RISERS AT 0.50' EACH. REFER TO LANDSCAPE DRAWINGS FOR DETAILS.
14. REPLACE DROP INLET GRATE WITH HEAVY DUTY, BOLT DOWN GRATE WITH 1/2" MAXIMUM OPENINGS.
15. SAWCUT EXISTING CONCRETE PAVEMENT. REMOVE CONCRETE AND AGGREGATE BASE AND PROPERLY DISPOSE OF OFFSITE. TRENCH AND INSTALL UTILITY, INCLUDING BED, BACKFILL AND TRENCH PATCH (0.42' CONCRETE OVER 0.33' OF CLASS 2 AGGREGATE BASE).
16. INSTALL CONCRETE THICKENED EDGE PER DETAIL, SHEET C6.
18. INSTALL 1 FOOT STEP IN FINISHED FLOOR.
21. STUB AND CAP 6" STORM DRAIN FOR CONNECTION TO POOL DECK DRAINAGE. REFER TO POOL DRAWINGS FOR POOL DECK DRAINAGE DESIGN.



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(707) 576-0829

Brelje & Race CONSULTING ENGINEERS
475 Aviation Boulevard, Suite 120
Santa Rosa, CA 95403
v: 707-576-1322
f: 707-576-0469
www.brce.com

REGISTERED PROFESSIONAL ENGINEER — PAUL V. BARTOLOMEI — No. 40512 — Exp. 3-31-25 — CIVIL — STATE OF CALIFORNIA

ALAMEDA HIGH SCHOOL

SWIM CENTER MODERNIZATION

2200 CENTRAL AVE,
ALAMEDA, CA 94501

ALAMEDA UNIFIED SCHOOL DISTRICT

REVISIONS

1	07/10/24	ASI 01

DSA APP NO. 01-121390

ARCH PROJECT NO: 2112.00/4202.05
DRAWN BY: PIT
DRAWING SCALE: AS SHOWN
PTN: 61119-160 FILE NO: 1-H1

CD

MAY 24, 2024

SHEET TITLE

GRADING & UTILITY PLAN POOL

SHEET NUMBER

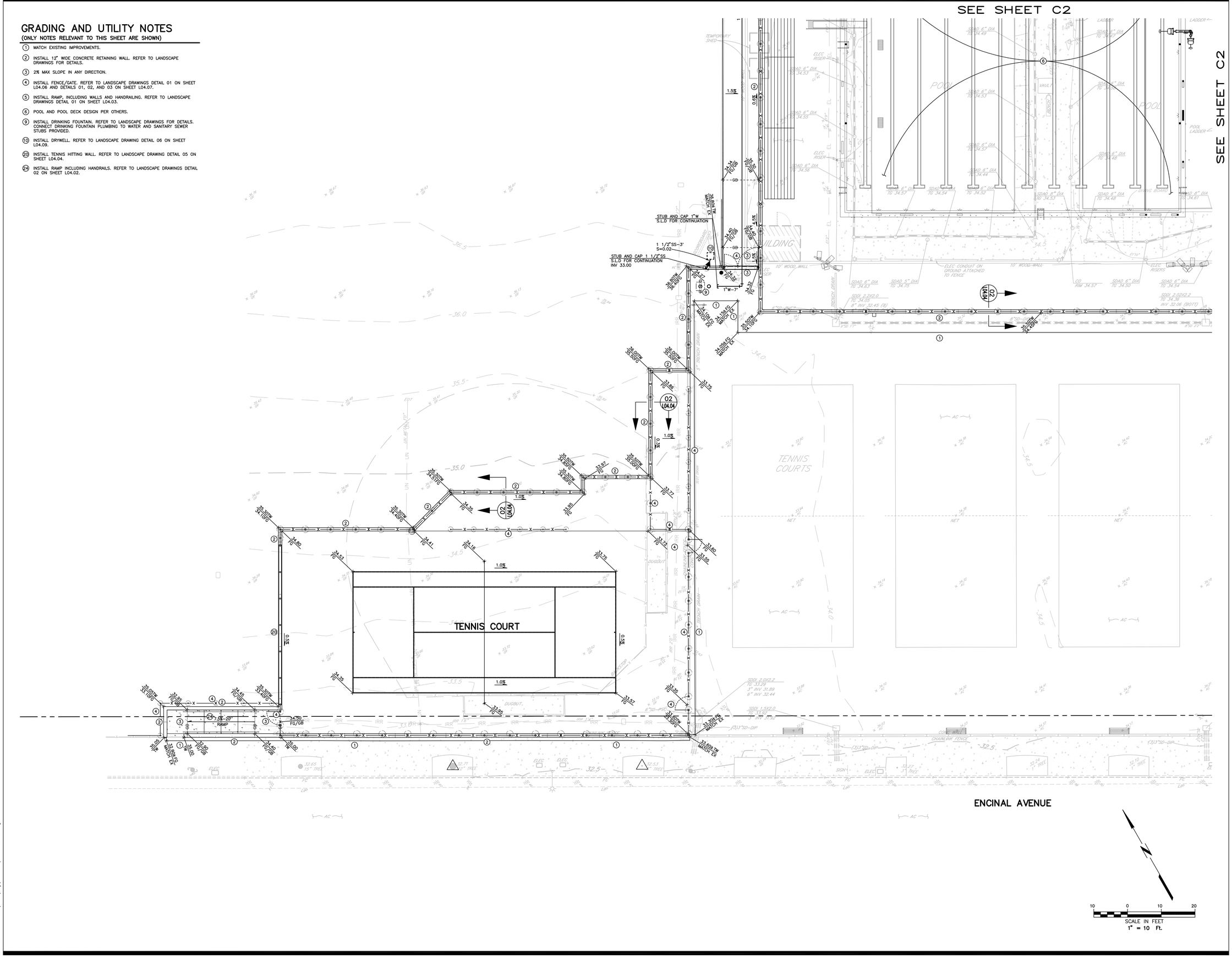
C2

07-10-24 ferrol \4202\dwg\4202 05\4202.05 PLAN.dwg TAB: C2 GRAD UTIL-POOL

GRADING AND UTILITY NOTES

(ONLY NOTES RELEVANT TO THIS SHEET ARE SHOWN)

1. MATCH EXISTING IMPROVEMENTS.
2. INSTALL 12" WIDE CONCRETE RETAINING WALL. REFER TO LANDSCAPE DRAWINGS FOR DETAILS.
3. 2% MAX SLOPE IN ANY DIRECTION.
4. INSTALL FENCE/GATE. REFER TO LANDSCAPE DRAWINGS DETAIL 01 ON SHEET L04.06 AND DETAILS 01, 02, AND 03 ON SHEET L04.07.
5. INSTALL RAMP, INCLUDING WALLS AND HANDRAILING. REFER TO LANDSCAPE DRAWINGS DETAIL 01 ON SHEET L04.03.
6. POOL AND POOL DECK DESIGN PER OTHERS.
9. INSTALL DRINKING FOUNTAIN. REFER TO LANDSCAPE DRAWINGS FOR DETAILS. CONNECT DRINKING FOUNTAIN PLUMBING TO WATER AND SANITARY SEWER STUBS PROVIDED.
10. INSTALL DRYWELL. REFER TO LANDSCAPE DRAWING DETAIL 06 ON SHEET L04.09.
20. INSTALL TENNIS HITTING WALL. REFER TO LANDSCAPE DRAWING DETAIL 05 ON SHEET L04.04.
24. INSTALL RAMP INCLUDING HANDRAILS. REFER TO LANDSCAPE DRAWINGS DETAIL 02 ON SHEET L04.02.



TAB: C3 GRAD UTIL-TENNIS

05-16-24 ferol \\4202\dwg\4202 05\4202.05 PLAN.dwg

QUATTROCCHI KWOK ARCHITECTS

Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

Brelje & Race
CONSULTING ENGINEERS
475 Aviation Boulevard, Suite 120
Santa Rosa, CA 95403
v: 707-576-1322
f: 707-576-0469
www.brce.com

REGISTERED PROFESSIONAL ENGINEER — ROBERT P. BARTHEL — No. 40512 — Exp. 3-31-25 — CIVIL — STATE OF CALIFORNIA

ALAMEDA HIGH SCHOOL

SWIM CENTER MODERNIZATION

2200 CENTRAL AVE,
ALAMEDA, CA 94501

ALAMEDA UNIFIED SCHOOL DISTRICT

REVISIONS

DSA APP NO.	01-121390
ARCH PROJECT NO:	2112.00/4202.05
DRAWN BY:	PIT
DRAWING SCALE:	AS SHOWN
PTN: 61119-160	FILE NO: 1-H1

CD

MAY 24, 2024

SHEET TITLE

GRADING & UTILITY PLAN TENNIS COURT

SHEET NUMBER

C3

Appendix B: Permit Registration Documents

Permit Registration Documents included in this Appendix:

Location in SWPPP	**Permit Registration Document** (in addition to a copy of the SWPPP)
Appendix B	Notice of Intent
Appendix L	Risk Level Determination
On SMARTS	Certification
Appendix L	Post-Construction Requirements
Appendix L	Post-Construction Water Balance Calculator
On SMARTS	Copy of Annual Fee Receipt
Appendix R	ATS Design Documents
N/A	Passive Treatment Design Documents, if applicable
Appendix A	Site Maps and Drawings, see Appendix A

Appendix C: SWPPP Amendment QSD Certifications

SWPPP Amendment No. 01

Project Name: Alameda High School Swim Center Modernization

Project Number: *DSA App No. 01-121390 (B&R Job No. 4205.05)*

Qualified SWPPP Developer's Certification of the Stormwater Pollution Prevention Plan Amendment

"This Stormwater Pollution Prevention Plan and its appendices were prepared under my direction to meet the requirements of the 2022 CGP (SWRCB Order No. 2022-0057-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD's Signature	05/12/2025 Date
Andrew Ferrol QSD Name	C87282 QSD Certificate Number
Civil Engineer, Brelje & Race Consulting Engineers Title and Affiliation	707-636-3752 Telephone
475 Aviation Blvd., Suite 120 Santa Rosa, CA. 95403 Address	Ferrol@brce.com Email

SWPPP Amendment No. _____

Project Name: Alameda High School Swim Center Modernization

Project Number: *DSA App No. 01-121390 (B&R Job No. 4205.05)*

Qualified SWPPP Developer's Certification of the Stormwater Pollution Prevention Plan Amendment

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QSD's Signature	Date
Andrew Ferrol	C87282
QSD Name	QSD Certificate Number
Civil Engineer, Brelje & Race Consulting Engineers	707-636-3752
Title and Affiliation	Telephone
475 Aviation Blvd., Suite 120 Santa Rosa, CA. 95403	Ferrol@brce.com
Address	Email

Appendix D: Submitted Changes of Information

Log of Updated PRDs

The 2022 CGP allows for the reduction or increase of the total acreage when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

A Change of Information (COI) shall be filed electronically within the timeframe shown in the table below. The SWPPP shall be modified appropriately, with revisions and amendments recorded in the SWPPP Amendment Log at the front of the SWPPP. COIs submitted electronically via SMARTS can be found in this Appendix.

Reason for Filing COI	**Timeline for Filing COI**
Reduction or increase in total disturbed area	Within 30 days of the reduction or increase
Updating site specific BMPs	Within 14 days of design change
Change construction start or end date	At least 14 days prior to the date to be changed
Post-construction plans updated or approved by the municipal stormwater permittee	Within 14 days of approval

---

This appendix includes all of the following updated PRDs (check all that apply):

☒ Change of Information;

☒ Revised Site Map;

☐ Revised Risk Assessment;

☐ New landowner's information (name, address, phone number, email address); and

☐ New signed certification statement.



Signature of Legally Responsible Person or Duly Authorized Representative

05/12/2025

Date

Monty Patterson

Name of Legally Responsible Person or Duly Authorized Representative

510-337-7020

Telephone Number

Appendix E: Construction Schedule

Construction Schedule Subject to Change

SUBMITTAL

Alten Construction
1141 Marina Way S
Richmond, CA 945804
Phone: (510) 234-4200
Fax: (510) 234-4402

Job: 2112.00 Alameda HS Swim Center Modernization
2200 Central Ave
Alameda, CA 94501

Spec Section No: 01 3200
Submittal No: 040-01 3200-2
Sent Date: 09/17/24

Spec Section Title: CONSTRUCTION PROGRESS SCHEDULE
Submittal Title: Baseline Schedule

Contractor: Alten Construction

Page 2: Revised Baseline Schedule

Architect: Quattrocchi Kwok Architects

Architect's Stamp

NO DEVIATIONS FROM THE CONTRACT DOCUMENTS ARE INCLUDED IN THIS REVIEW UNLESS SPECIFICALLY NOTED IN WRITING BY THE CONTRACTOR AND APPROVED BY THE ARCHITECT IN WRITING.

__ Revise and Resubmit __ No Exceptions Taken
__ Rejected __ Submit Specified Item
X Receipt Acknowledged __ Correct As Noted

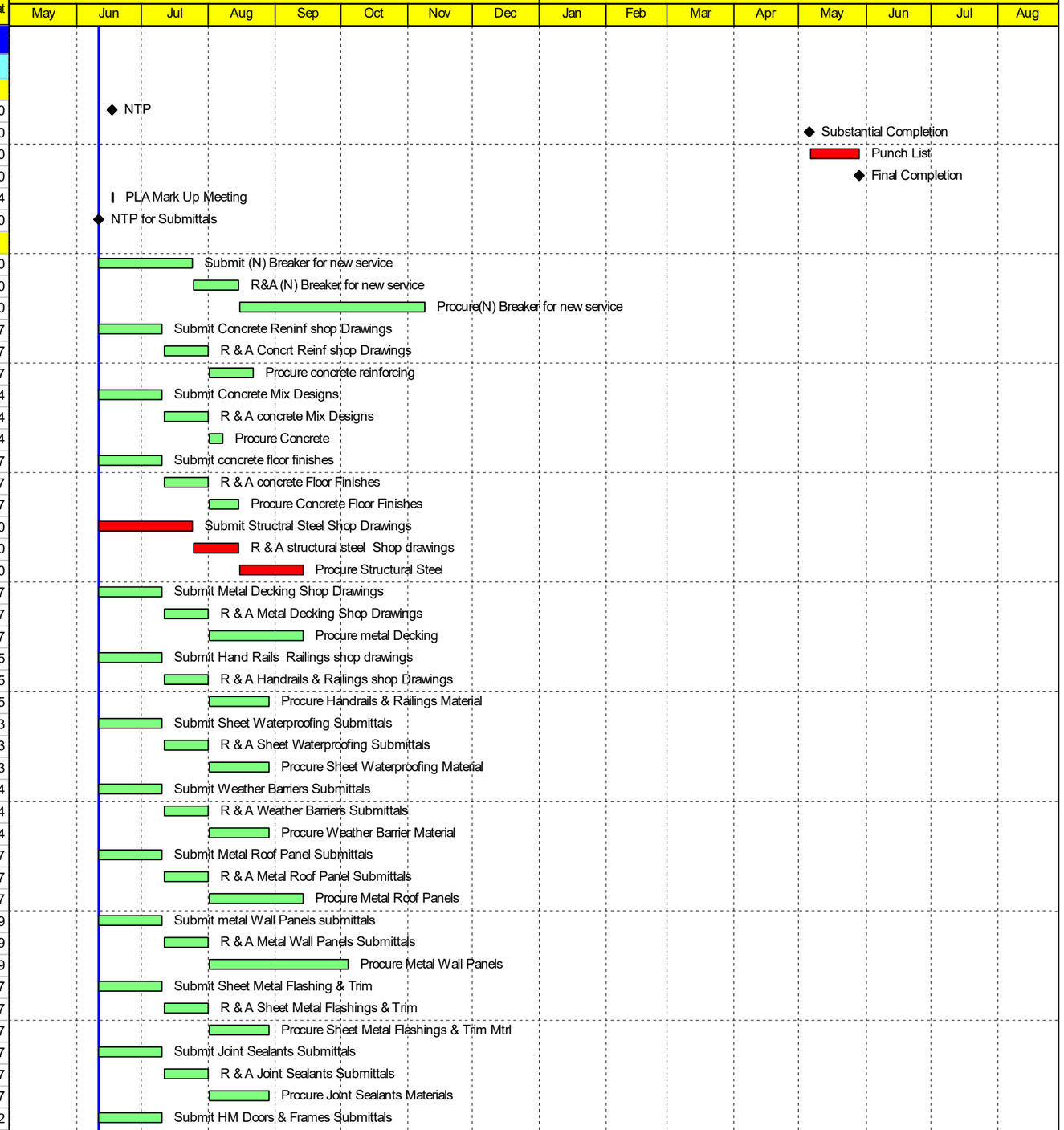
Corrections or comments made on submittals during this review do not relieve the contractor from compliance with the requirements of the Contract Documents. This check is for review of general conformance with the design concept of the project and general compliance with information given in the Contract Documents. The contractor is responsible for confirming and correlating all quantities and dimensions, selection of fabrication processes and techniques of construction, coordinating the work of the trades; and performing the work in a safe and satisfactory manner.

By: Date: 09/19/2024
Quattrocchi Kwok Architects

Engineer:

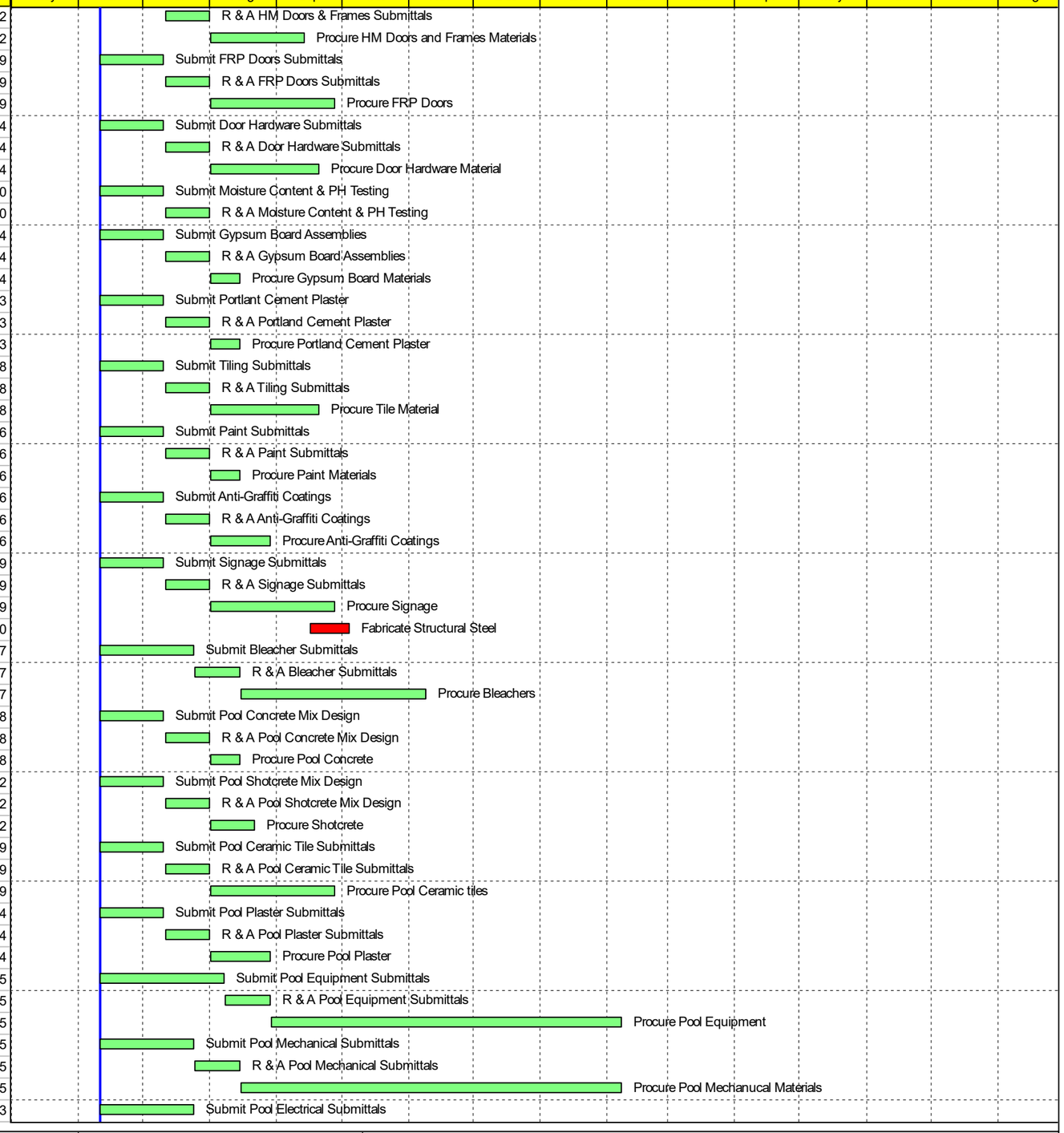
Engineer's Stamp

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
Alameda Swim Center Baseline Schedule - R2						
Alameda Swim Center Baseline Schedule - R2						
Milestones						
20000	NTP	0	0	17-Jun-24*		0
20010	Substantial Completion	0	0		05-May-25	0
20020	Punch List	15	15	06-May-25	28-May-25	0
20030	Final Completion	0	0		28-May-25*	0
20040	PLA Mark Up Meeting	1	1	17-Jun-24*	17-Jun-24	184
80020	NTP for Submittals	0	0	11-Jun-24*		0
Submittals						
10000	Submit (N) Breaker for new service	30	30	11-Jun-24	24-Jul-24	80
10010	R&A (N) Breaker for new service	15	15	25-Jul-24	14-Aug-24	80
10020	Procure(N) Breaker for new service	60	60	15-Aug-24	08-Nov-24	80
10060	Submit Concrete Reninf shop Drawings	20	20	11-Jun-24	10-Jul-24	17
10070	R & A Concrt Reinf shop Drawings	15	15	11-Jul-24	31-Jul-24	17
10080	Procure concrete reinforcing	15	15	01-Aug-24	21-Aug-24	17
10090	Submit Concrete Mix Designs	20	20	11-Jun-24	10-Jul-24	164
10100	R & A concrete Mix Designs	15	15	11-Jul-24	31-Jul-24	164
10110	Procure Concrete	5	5	01-Aug-24	07-Aug-24	164
10120	Submit concrete floor finishes	20	20	11-Jun-24	10-Jul-24	77
10130	R & A concrete Floor Finishes	15	15	11-Jul-24	31-Jul-24	77
10140	Procure Concrete Floor Finishes	10	10	01-Aug-24	14-Aug-24	77
10150	Submit Structral Steel Shop Drawings	30	30	11-Jun-24	24-Jul-24	0
10160	R & A structural steel Shop drawings	15	15	25-Jul-24	14-Aug-24	0
10170	Procure Structural Steel	20	20	15-Aug-24	13-Sep-24	0
10180	Submit Metal Decking Shop Drawings	20	20	11-Jun-24	10-Jul-24	97
10190	R & A Metal Decking Shop Drawings	15	15	11-Jul-24	31-Jul-24	97
10200	Procure metal Decking	30	30	01-Aug-24	13-Sep-24	97
10210	Submit Hand Rails Railings shop drawings	20	20	11-Jun-24	10-Jul-24	35
10220	R & A Handrails & Railings shop Drawings	15	15	11-Jul-24	31-Jul-24	35
10230	Procure Handrails & Railings Material	20	20	01-Aug-24	28-Aug-24	35
10270	Submit Sheet Waterproofing Submittals	20	20	11-Jun-24	10-Jul-24	43
10280	R & A Sheet Waterproofing Submittals	15	15	11-Jul-24	31-Jul-24	43
10290	Procure Sheet Waterproofing Material	20	20	01-Aug-24	28-Aug-24	43
10300	Submit Weather Barriers Submittals	20	20	11-Jun-24	10-Jul-24	74
10310	R & A Weather Barriers Submittals	15	15	11-Jul-24	31-Jul-24	74
10320	Procure Weather Barrier Material	20	20	01-Aug-24	28-Aug-24	74
10330	Submit Metal Roof Panel Submittals	20	20	11-Jun-24	10-Jul-24	97
10340	R & A Metal Roof Panel Submittals	15	15	11-Jul-24	31-Jul-24	97
10350	Procure Metal Roof Panels	30	30	01-Aug-24	13-Sep-24	97
10360	Submit metal Wall Panels submittals	20	20	11-Jun-24	10-Jul-24	49
10370	R & A Metal Wall Panels Submittals	15	15	11-Jul-24	31-Jul-24	49
10380	Procure Metal Wall Panels	45	45	01-Aug-24	04-Oct-24	49
10390	Submit Sheet Metal Flashing & Trim	20	20	11-Jun-24	10-Jul-24	107
10400	R & A Sheet Metal Flashings & Trim	15	15	11-Jul-24	31-Jul-24	107
10410	Procure Sheet Metal Flashings & Trim Mtrl	20	20	01-Aug-24	28-Aug-24	107
10420	Submit Joint Sealants Submittals	20	20	11-Jun-24	10-Jul-24	127
10430	R & A Joint Sealants Submittals	15	15	11-Jul-24	31-Jul-24	127
10440	Procure Joint Sealants Materials	20	20	01-Aug-24	28-Aug-24	127
10450	Submit HM Doors & Frames Submittals	20	20	11-Jun-24	10-Jul-24	62



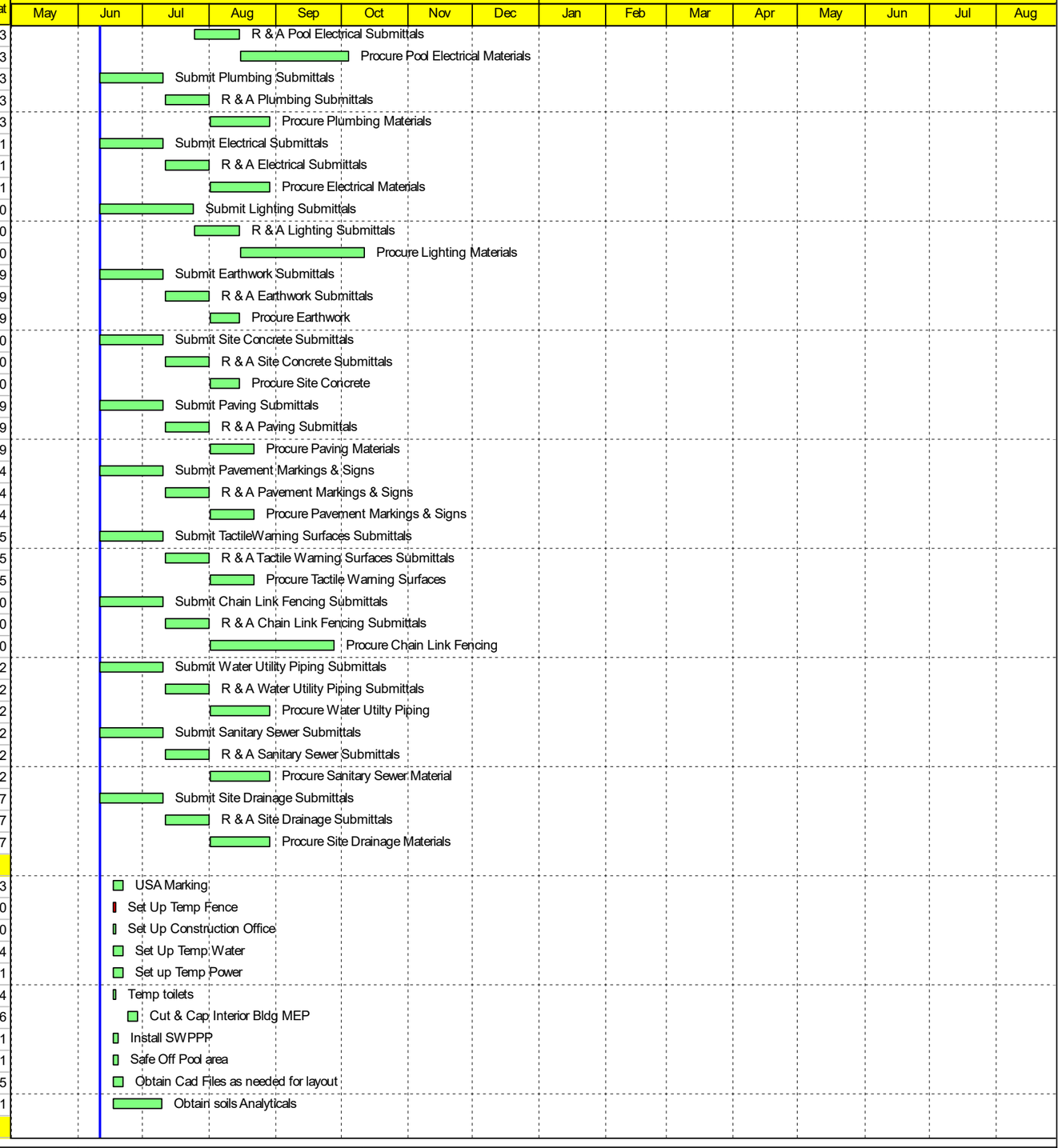
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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
10460	R & A HM Doors & Frames Submittals	15	15	11-Jul-24	31-Jul-24	62
10470	Procure HM Doors and Frames Materials	30	30	01-Aug-24	13-Sep-24	62
10480	Submit FRP Doors Submittals	20	20	11-Jun-24	10-Jul-24	59
10490	R & A FRP Doors Submittals	15	15	11-Jul-24	31-Jul-24	59
10500	Procure FRP Doors	40	40	01-Aug-24	27-Sep-24	59
10510	Submit Door Hardware Submittals	20	20	11-Jun-24	10-Jul-24	64
10520	R & A Door Hardware Submittals	15	15	11-Jul-24	31-Jul-24	64
10530	Procure Door Hardware Material	35	35	01-Aug-24	20-Sep-24	64
10540	Submit Moisture Content & PH Testing	20	20	11-Jun-24	10-Jul-24	200
10550	R & A Moisture Content & PH Testing	15	15	11-Jul-24	31-Jul-24	200
10560	Submit Gypsum Board Assemblies	20	20	11-Jun-24	10-Jul-24	84
10570	R & A Gypsum Board Assemblies	15	15	11-Jul-24	31-Jul-24	84
10580	Procure Gypsum Board Materials	10	10	01-Aug-24	14-Aug-24	84
10590	Submit Portlant Cement Plaster	20	20	11-Jun-24	10-Jul-24	163
10600	R & A Portland Cement Plaster	15	15	11-Jul-24	31-Jul-24	163
10610	Procure Portland Cement Plaster	10	10	01-Aug-24	14-Aug-24	163
10620	Submit Tiling Submittals	20	20	11-Jun-24	10-Jul-24	128
10630	R & A Tiling Submittals	15	15	11-Jul-24	31-Jul-24	128
10640	Procure Tile Material	35	35	01-Aug-24	20-Sep-24	128
10650	Submit Paint Submittals	20	20	11-Jun-24	10-Jul-24	176
10660	R & A Paint Submittals	15	15	11-Jul-24	31-Jul-24	176
10670	Procure Paint Materials	10	10	01-Aug-24	14-Aug-24	176
10680	Submit Anti-Graffiti Coatings	20	20	11-Jun-24	10-Jul-24	166
10690	R & A Anti-Graffiti Coatings	15	15	11-Jul-24	31-Jul-24	166
10700	Procure Anti-Graffiti Coatings	20	20	01-Aug-24	28-Aug-24	166
10710	Submit Signage Submittals	20	20	11-Jun-24	10-Jul-24	149
10720	R & A Signage Submittals	15	15	11-Jul-24	31-Jul-24	149
10730	Procure Signage	40	40	01-Aug-24	27-Sep-24	149
10740	Fabricate Structural Steel	15	15	16-Sep-24	04-Oct-24	0
10770	Submit Bleacher Submittals	30	30	11-Jun-24	24-Jul-24	117
10780	R & A Bleacher Submittals	15	15	25-Jul-24	14-Aug-24	117
10790	Procure Bleachers	60	60	15-Aug-24	08-Nov-24	117
10800	Submit Pool Concrete Mix Design	20	20	11-Jun-24	10-Jul-24	58
10810	R & A Pool Concrete Mix Design	15	15	11-Jul-24	31-Jul-24	58
10820	Procure Pool Concrete	10	10	01-Aug-24	14-Aug-24	58
10830	Submit Pool Shotcrete Mix Design	20	20	11-Jun-24	10-Jul-24	62
10840	R & A Pool Shotcrete Mix Design	15	15	11-Jul-24	31-Jul-24	62
10850	Procure Shotcrete	15	15	01-Aug-24	21-Aug-24	62
10860	Submit Pool Ceramic Tile Submittals	20	20	11-Jun-24	10-Jul-24	129
10870	R & A Pool Ceramic Tile Submittals	15	15	11-Jul-24	31-Jul-24	129
10880	Procure Pool Ceramic tiles	40	40	01-Aug-24	27-Sep-24	129
10890	Submit Pool Plaster Submittals	20	20	11-Jun-24	10-Jul-24	164
10900	R & A Pool Plaster Submittals	15	15	11-Jul-24	31-Jul-24	164
10910	Procure Pool Plaster	20	20	01-Aug-24	28-Aug-24	164
10920	Submit Pool Equipment Submittals	40	40	11-Jun-24	07-Aug-24	5
10930	R & A Pool Equipment Submittals	15	15	08-Aug-24	28-Aug-24	5
10940	Procure Pool Equipment	110	110	29-Aug-24	07-Feb-25	5
10950	Submit Pool Mechanical Submittals	30	30	11-Jun-24	24-Jul-24	45
10960	R & A Pool Mechanical Submittals	15	15	25-Jul-24	14-Aug-24	45
10970	Procure Pool Mechanucal Materials	120	120	15-Aug-24	07-Feb-25	45
10980	Submit Pool Electrical Submittals	30	30	11-Jun-24	24-Jul-24	3



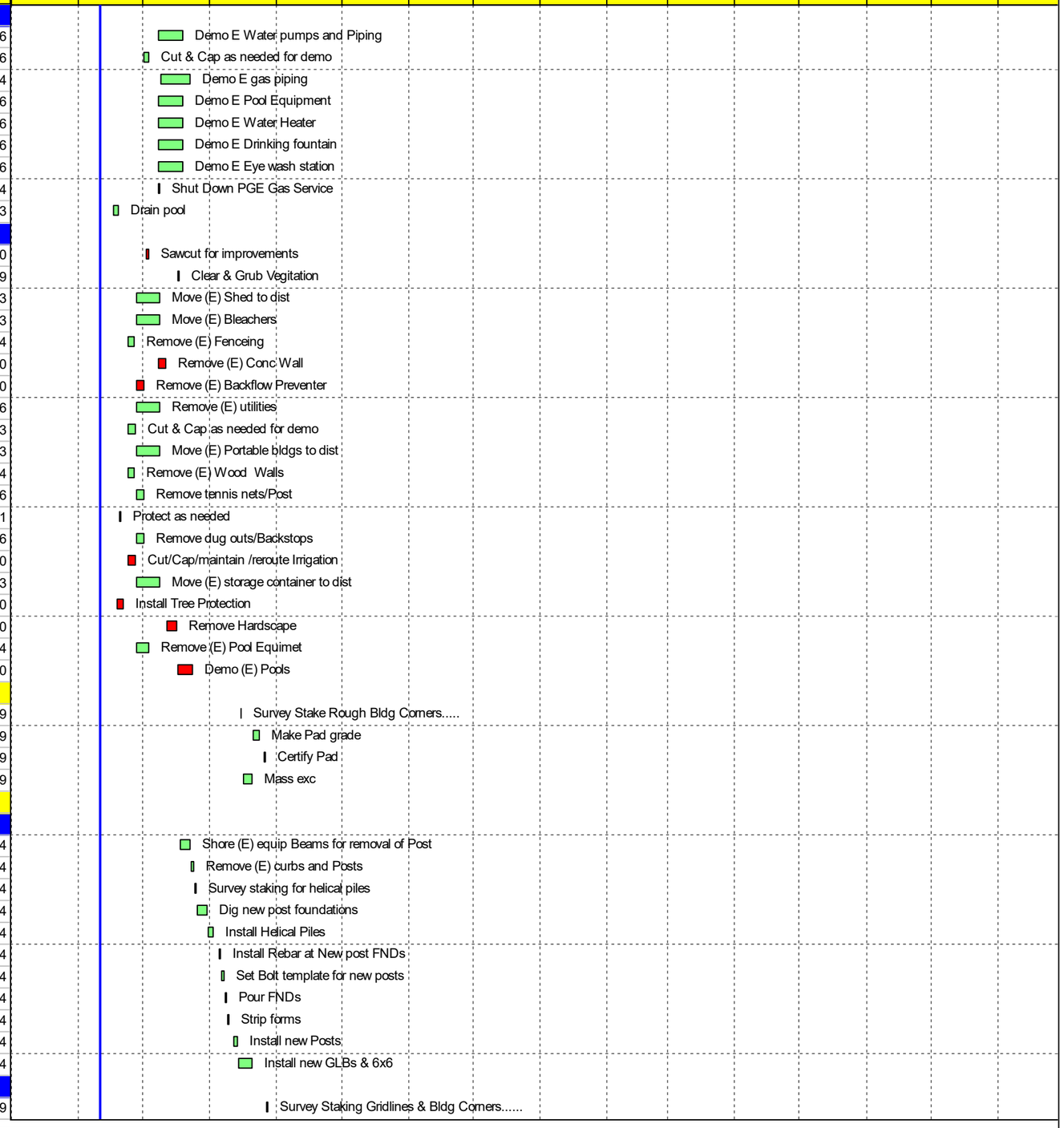
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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
10990	R & A Pool Electrical Submittals	15	15	25-Jul-24	14-Aug-24	3
11000	Procure Pool Electrical Materials	35	35	15-Aug-24	04-Oct-24	3
11010	Submit Plumbing Submittals	20	20	11-Jun-24	10-Jul-24	53
11020	R & A Plumbing Submittals	15	15	11-Jul-24	31-Jul-24	53
11030	Procure Plumbing Materials	20	20	01-Aug-24	28-Aug-24	53
11040	Submit Electrical Submittals	20	20	11-Jun-24	10-Jul-24	61
11050	R & A Electrical Submittals	15	15	11-Jul-24	31-Jul-24	61
11060	Procure Electrical Materials	20	20	01-Aug-24	28-Aug-24	61
11070	Submit Lighting Submittals	30	30	11-Jun-24	24-Jul-24	130
11080	R & A Lighting Submittals	15	15	25-Jul-24	14-Aug-24	130
11090	Procure Lighting Materials	40	40	15-Aug-24	11-Oct-24	130
11100	Submit Earthwork Submittals	20	20	11-Jun-24	10-Jul-24	9
11110	R & A Earthwork Submittals	15	15	11-Jul-24	31-Jul-24	9
11120	Procure Earthwork	10	10	01-Aug-24	14-Aug-24	9
11130	Submit Site Concrete Submittals	20	20	11-Jun-24	10-Jul-24	130
11140	R & A Site Concrete Submittals	15	15	11-Jul-24	31-Jul-24	130
11150	Procure Site Concrete	10	10	01-Aug-24	14-Aug-24	130
11160	Submit Paving Submittals	20	20	11-Jun-24	10-Jul-24	149
11170	R & A Paving Submittals	15	15	11-Jul-24	31-Jul-24	149
11180	Procure Paving Materials	15	15	01-Aug-24	21-Aug-24	149
11190	Submit Pavement Markings & Signs	20	20	11-Jun-24	10-Jul-24	174
11200	R & A Pavement Markings & Signs	15	15	11-Jul-24	31-Jul-24	174
11210	Procure Pavement Markings & Signs	15	15	01-Aug-24	21-Aug-24	174
11220	Submit TactileWarning Surfaces Submittals	20	20	11-Jun-24	10-Jul-24	125
11230	R & A Tactile Warning Surfaces Submittals	15	15	11-Jul-24	31-Jul-24	125
11240	Procure Tactile Warning Surfaces	15	15	01-Aug-24	21-Aug-24	125
11250	Submit Chain Link Fencing Submittals	20	20	11-Jun-24	10-Jul-24	60
11260	R & A Chain Link Fencing Submittals	15	15	11-Jul-24	31-Jul-24	60
11270	Procure Chain Link Fencing	40	40	01-Aug-24	27-Sep-24	60
11280	Submit Water Utility Piping Submittals	20	20	11-Jun-24	10-Jul-24	72
11290	R & A Water Utility Piping Submittals	15	15	11-Jul-24	31-Jul-24	72
11300	Procure Water Utilty Piping	20	20	01-Aug-24	28-Aug-24	72
11310	Submit Sanitary Sewer Submittals	20	20	11-Jun-24	10-Jul-24	62
11320	R & A Sanitary Sewer Submittals	15	15	11-Jul-24	31-Jul-24	62
11330	Procure Sanitary Sewer Material	20	20	01-Aug-24	28-Aug-24	62
11340	Submit Site Drainage Submittals	20	20	11-Jun-24	10-Jul-24	67
11350	R & A Site Drainage Submittals	15	15	11-Jul-24	31-Jul-24	67
11360	Procure Site Drainage Materials	20	20	01-Aug-24	28-Aug-24	67
Mobilize						
25020	USA Marking	5	5	17-Jun-24	21-Jun-24	3
25030	Set Up Temp Fence	2	2	17-Jun-24	18-Jun-24	0
25040	Set Up Construction Office	2	2	17-Jun-24	18-Jun-24	10
25050	Set Up Temp Water	5	5	17-Jun-24	21-Jun-24	154
25060	Set up Temp Power	5	5	17-Jun-24	21-Jun-24	141
25070	Temp toilets	2	2	17-Jun-24	18-Jun-24	144
25080	Cut & Cap Interior Bldg MEP	5	5	24-Jun-24	28-Jun-24	136
25090	Install SWPPP	3	3	17-Jun-24	19-Jun-24	1
25100	Safe Off Pool area	3	3	17-Jun-24	19-Jun-24	1
25110	Obtain Cad Files as needed for layout	5	5	17-Jun-24	21-Jun-24	45
25120	Obtain soils Analyticals	15	15	17-Jun-24*	09-Jul-24	21
Demo						



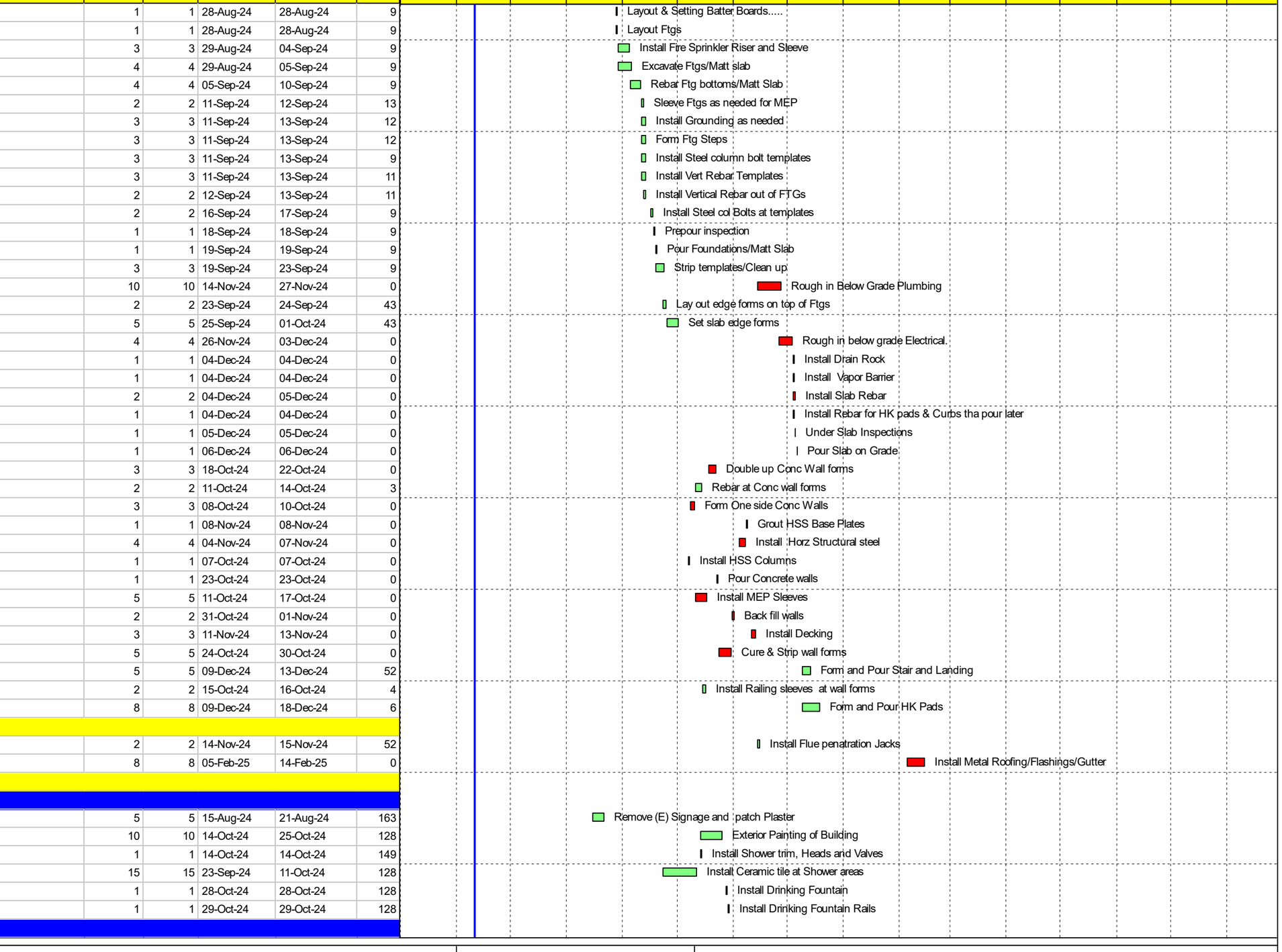
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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
Existing Swim Center Building						
30020	Demo E Water pumps and Piping	10	10	08-Jul-24	19-Jul-24	146
30030	Cut & Cap as needed for demo	3	3	01-Jul-24	03-Jul-24	136
30040	Demo E gas piping	10	10	09-Jul-24	22-Jul-24	174
30050	Demo E Pool Equipment	10	10	08-Jul-24	19-Jul-24	136
30060	Demo E Water Heater	10	10	08-Jul-24	19-Jul-24	136
30070	Demo E Drinking fountain	10	10	08-Jul-24	19-Jul-24	146
30080	Demo E Eye wash station	10	10	08-Jul-24	19-Jul-24	146
30090	Shut Down PGE Gas Service	1	1	08-Jul-24	08-Jul-24	174
30280	Drain pool	3	3	17-Jun-24	19-Jun-24	143
Site						
30000	Sawcut for improvements	2	2	02-Jul-24	03-Jul-24	0
30010	Clear & Grub Vegitation	1	1	17-Jul-24	17-Jul-24	79
30100	Move (E) Shed to dist	5	5	28-Jun-24	08-Jul-24	3
30110	Move (E) Bleachers	5	5	28-Jun-24	08-Jul-24	3
30120	Remove (E) Fenceing	3	3	24-Jun-24	26-Jun-24	4
30130	Remove (E) Conc Wall	4	4	08-Jul-24	11-Jul-24	0
30140	Remove (E) Backflow Preventer	2	2	28-Jun-24	01-Jul-24	0
30150	Remove (E) utilities	5	5	28-Jun-24	08-Jul-24	6
30160	Cut & Cap as needed for demo	4	4	24-Jun-24	27-Jun-24	3
30170	Move (E) Portable bldgs to dist	5	5	28-Jun-24	08-Jul-24	3
30180	Remove (E) Wood Walls	3	3	24-Jun-24	26-Jun-24	4
30190	Remove tennis nets/Post	2	2	28-Jun-24	01-Jul-24	6
30200	Protect as needed	1	1	20-Jun-24	20-Jun-24	1
30210	Remove dug outs/Backstops	2	2	28-Jun-24	01-Jul-24	6
30220	Cut/Cap/maintain /reroute Irrigation	4	4	24-Jun-24	27-Jun-24	0
30230	Move (E) storage container to dist	5	5	28-Jun-24	08-Jul-24	3
30240	Install Tree Protection	3	3	19-Jun-24	21-Jun-24	0
30250	Remove Hardscape	3	3	12-Jul-24	16-Jul-24	0
30260	Remove (E) Pool Equimet	4	4	28-Jun-24	03-Jul-24	4
30270	Demo (E) Pools	5	5	17-Jul-24	23-Jul-24	0
Earthwork						
40010	Survey Stake Rough Bldg Corners.....	1	1	15-Aug-24	15-Aug-24	9
40020	Make Pad grade	3	3	21-Aug-24	23-Aug-24	9
40030	Certify Pad	1	1	26-Aug-24	26-Aug-24	9
40040	Mass exc	3	3	16-Aug-24	20-Aug-24	9
Foundation / Superstructure						
Existing Swim Center Building						
45320	Shore (E) equip Beams for removal of Post	3	3	18-Jul-24	22-Jul-24	164
45330	Remove (E) curbs and Posts	2	2	23-Jul-24	24-Jul-24	164
45450	Survey staking for helical piles	1	1	25-Jul-24	25-Jul-24	164
45460	Dig new post foundations	3	3	26-Jul-24	30-Jul-24	164
45470	Install Helical Piles	3	3	31-Jul-24	02-Aug-24	164
45480	Install Rebar at New post FNDs	1	1	05-Aug-24	05-Aug-24	164
45490	Set Bolt template for new posts	2	2	06-Aug-24	07-Aug-24	164
45500	Pour FNDs	1	1	08-Aug-24	08-Aug-24	164
45510	Strip forms	1	1	09-Aug-24	09-Aug-24	164
45520	Install new Posts	2	2	12-Aug-24	13-Aug-24	164
45530	Install new GLBs & 6x6	5	5	14-Aug-24	20-Aug-24	164
Equipment Enclosure						
45010	Survey Staking Gridlines & Bldg Corners.....	1	1	27-Aug-24	27-Aug-24	9



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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
45020	Layout & Setting Batter Boards.....	1	1	28-Aug-24	28-Aug-24	9
45030	Layout Ftgs	1	1	28-Aug-24	28-Aug-24	9
45040	Install Fire Sprinkler Riser and Sleeve	3	3	29-Aug-24	04-Sep-24	9
45050	Excavate Ftgs/Matt slab	4	4	29-Aug-24	05-Sep-24	9
45070	Rebar Ftg bottoms/Matt Slab	4	4	05-Sep-24	10-Sep-24	9
45080	Sleeve Ftgs as needed for MEP	2	2	11-Sep-24	12-Sep-24	13
45090	Install Grounding as needed	3	3	11-Sep-24	13-Sep-24	12
45100	Form Ftg Steps	3	3	11-Sep-24	13-Sep-24	12
45110	Install Steel column bolt templates	3	3	11-Sep-24	13-Sep-24	9
45120	Install Vert Rebar Templates	3	3	11-Sep-24	13-Sep-24	11
45140	Install Vertical Rebar out of FTGs	2	2	12-Sep-24	13-Sep-24	11
45150	Install Steel col Bolts at templates	2	2	16-Sep-24	17-Sep-24	9
45160	Prepour inspection	1	1	18-Sep-24	18-Sep-24	9
45170	Pour Foundations/Matt Slab	1	1	19-Sep-24	19-Sep-24	9
45180	Strip templates/Clean up	3	3	19-Sep-24	23-Sep-24	9
45190	Rough in Below Grade Plumbing	10	10	14-Nov-24	27-Nov-24	0
45200	Lay out edge forms on top of Ftgs	2	2	23-Sep-24	24-Sep-24	43
45210	Set slab edge forms	5	5	25-Sep-24	01-Oct-24	43
45220	Rough in below grade Electrical.	4	4	26-Nov-24	03-Dec-24	0
45230	Install Drain Rock	1	1	04-Dec-24	04-Dec-24	0
45240	Install Vapor Barrier	1	1	04-Dec-24	04-Dec-24	0
45250	Install Slab Rebar	2	2	04-Dec-24	05-Dec-24	0
45290	Install Rebar for HK pads & Curbs tha pour later	1	1	04-Dec-24	04-Dec-24	0
45300	Under Slab Inspections	1	1	05-Dec-24	05-Dec-24	0
45310	Pour Slab on Grade	1	1	06-Dec-24	06-Dec-24	0
45340	Double up Conc Wall forms	3	3	18-Oct-24	22-Oct-24	0
45350	Rebar at Conc wall forms	2	2	11-Oct-24	14-Oct-24	3
45360	Form One side Conc Walls	3	3	08-Oct-24	10-Oct-24	0
45370	Grout HSS Base Plates	1	1	08-Nov-24	08-Nov-24	0
45380	Install Horz Structural steel	4	4	04-Nov-24	07-Nov-24	0
45390	Install HSS Columns	1	1	07-Oct-24	07-Oct-24	0
45400	Pour Concrete walls	1	1	23-Oct-24	23-Oct-24	0
45410	Install MEP Sleeves	5	5	11-Oct-24	17-Oct-24	0
45420	Back fill walls	2	2	31-Oct-24	01-Nov-24	0
45430	Install Decking	3	3	11-Nov-24	13-Nov-24	0
45440	Cure & Strip wall forms	5	5	24-Oct-24	30-Oct-24	0
45560	Form and Pour Stair and Landing	5	5	09-Dec-24	13-Dec-24	52
45570	Install Railing sleeves at wall forms	2	2	15-Oct-24	16-Oct-24	4
45580	Form and Pour HK Pads	8	8	09-Dec-24	18-Dec-24	6
Roof						
60000	Install Flue penatration Jacks	2	2	14-Nov-24	15-Nov-24	52
60020	Install Metal Roofing/Flashings/Gutter	8	8	05-Feb-25	14-Feb-25	0
Exterior Shell						
Existing Swim Center Building						
65010	Remove (E) Signage and patch Plaster	5	5	15-Aug-24	21-Aug-24	163
65100	Exterior Painting of Building	10	10	14-Oct-24	25-Oct-24	128
65110	Install Shower trim, Heads and Valves	1	1	14-Oct-24	14-Oct-24	149
65120	Install Ceramic tile at Shower areas	15	15	23-Sep-24	11-Oct-24	128
65130	Install Drinking Fountain	1	1	28-Oct-24	28-Oct-24	128
65140	Install Drinking Fountain Rails	1	1	29-Oct-24	29-Oct-24	128
Equipment Enclosure						

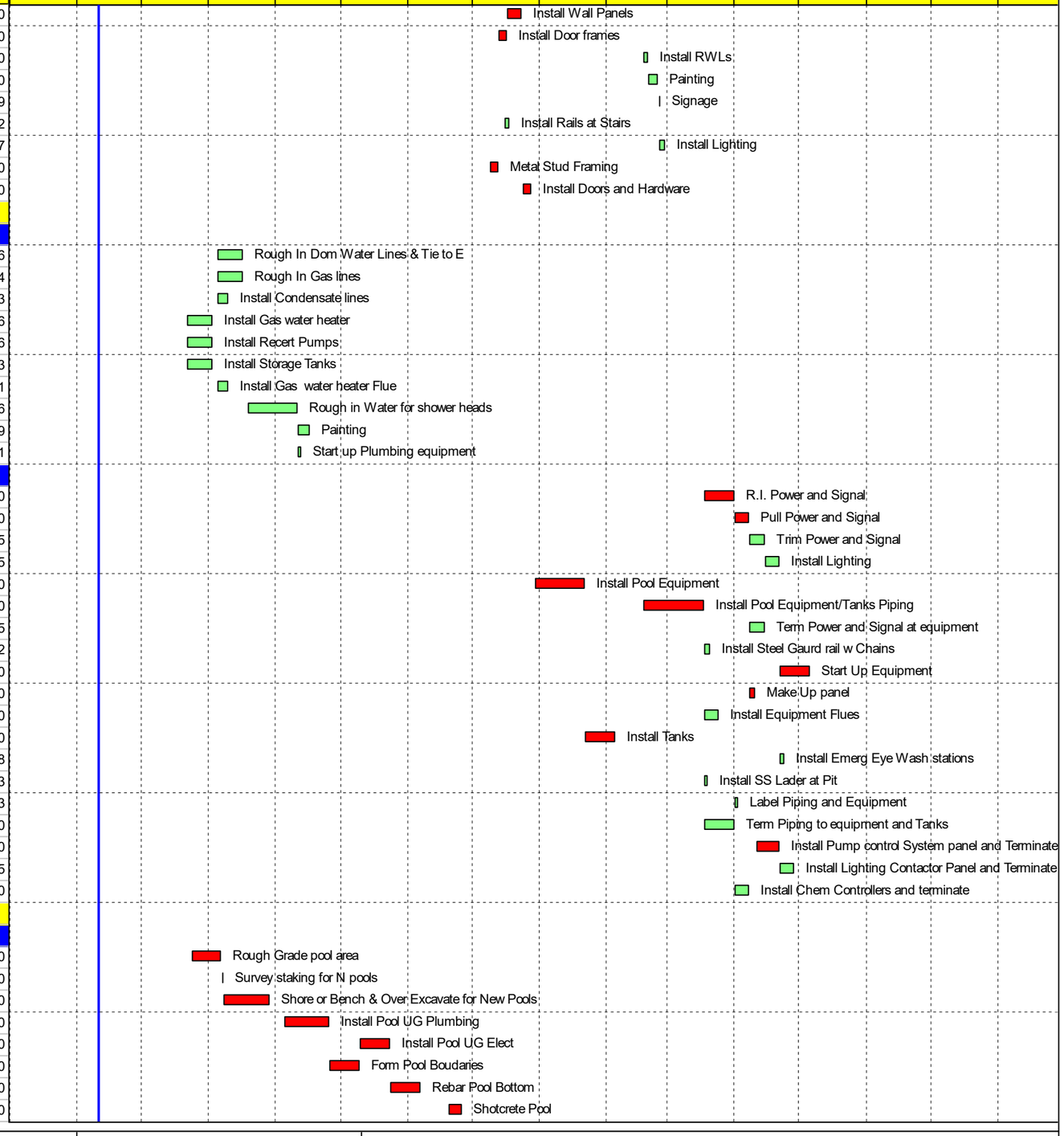


Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | Milestone

TASK filter: All Activities

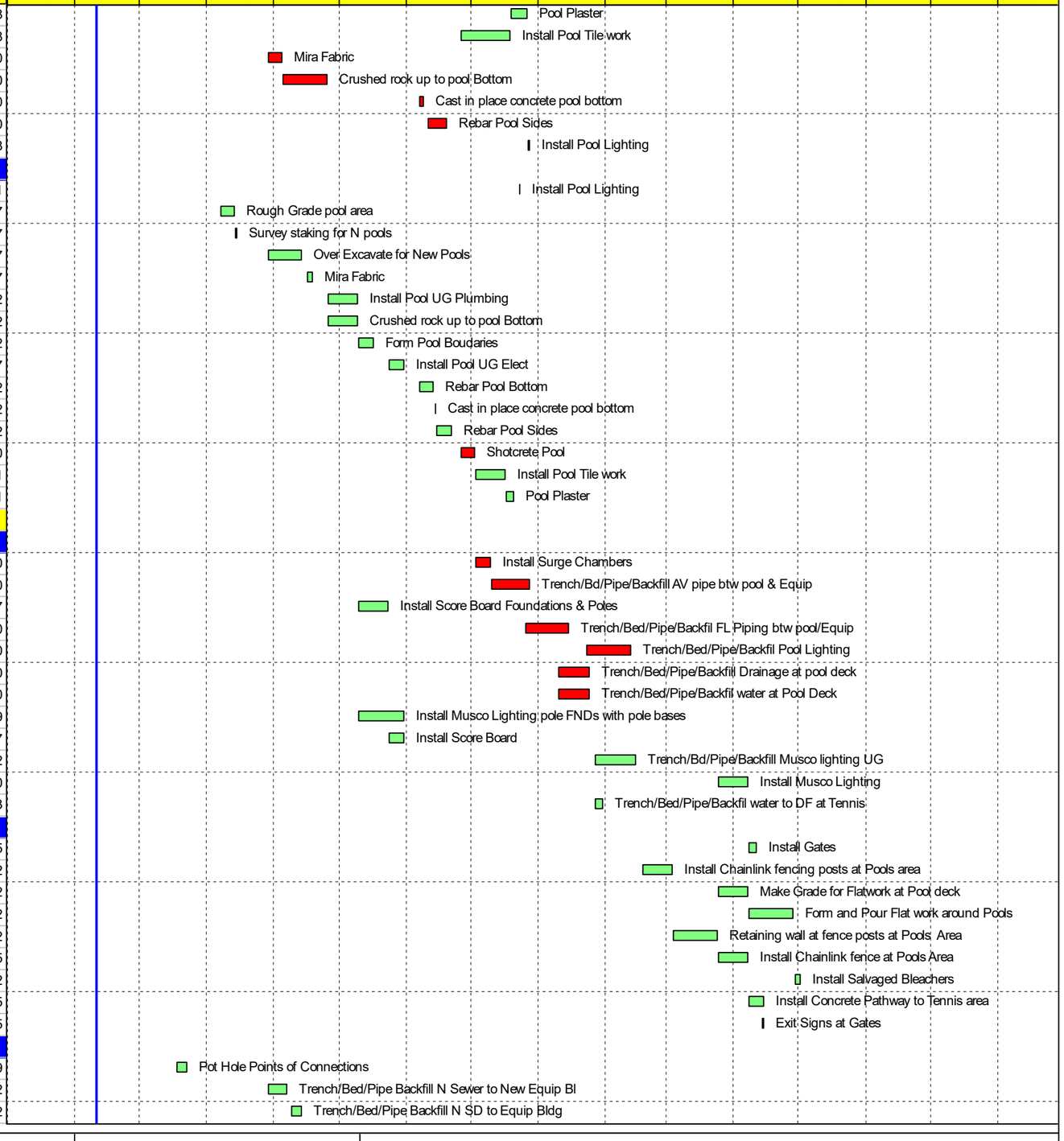
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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
65000	Install Wall Panels	5	5	17-Dec-24	23-Dec-24	0
65020	Install Door frames	2	2	13-Dec-24	16-Dec-24	0
65030	Install RWLs	2	2	18-Feb-25	19-Feb-25	10
65040	Painting	3	3	20-Feb-25	24-Feb-25	10
65050	Signage	1	1	25-Feb-25	25-Feb-25	49
65060	Install Rails at Stairs	2	2	16-Dec-24	17-Dec-24	52
65070	Install Lighting	3	3	25-Feb-25	27-Feb-25	47
65080	Metal Stud Framing	4	4	09-Dec-24	12-Dec-24	0
65090	Install Doors and Hardware	3	3	24-Dec-24	27-Dec-24	0
Interiors						
Existing Swim Center Building						
70190	Rough In Dom Water Lines & Tie to E	10	10	05-Aug-24	16-Aug-24	136
70200	Rough In Gas lines	10	10	05-Aug-24	16-Aug-24	174
70210	Install Condensate lines	5	5	05-Aug-24	09-Aug-24	173
70220	Install Gas water heater	10	10	22-Jul-24	02-Aug-24	136
70230	Install Recert Pumps	10	10	22-Jul-24	02-Aug-24	136
70240	Install Storage Tanks	10	10	22-Jul-24	02-Aug-24	173
70250	Install Gas water heater Flue	5	5	05-Aug-24	09-Aug-24	181
70270	Rough in Water for shower heads	15	15	19-Aug-24	10-Sep-24	136
70290	Painting	4	4	11-Sep-24	16-Sep-24	159
70300	Start up Plumbing equipment	2	2	11-Sep-24	12-Sep-24	161
Equipment Enclosure						
70000	R.I. Power and Signal	10	10	18-Mar-25	31-Mar-25	0
70010	Pull Power and Signal	5	5	01-Apr-25	07-Apr-25	0
70020	Trim Power and Signal	5	5	08-Apr-25	14-Apr-25	5
70030	Install Lighting	5	5	15-Apr-25	21-Apr-25	5
70040	Install Pool Equipment	15	15	30-Dec-24	21-Jan-25	0
70050	Install Pool Equipment/Tanks Piping	20	20	18-Feb-25	17-Mar-25	0
70060	Term Power and Signal at equipment	5	5	08-Apr-25	14-Apr-25	5
70070	Install Steel Gaurd rail w Chains	3	3	18-Mar-25	20-Mar-25	22
70080	Start Up Equipment	10	10	22-Apr-25	05-May-25	0
70090	Make Up panel	3	3	08-Apr-25	10-Apr-25	0
70100	Install Equipment Flues	5	5	18-Mar-25	24-Mar-25	20
70110	Install Tanks	10	10	22-Jan-25	04-Feb-25	0
70120	Install Emerg Eye Wash stations	2	2	22-Apr-25	23-Apr-25	8
70130	Install SS Lader at Pit	2	2	18-Mar-25	19-Mar-25	33
70140	Label Piping and Equipment	2	2	01-Apr-25	02-Apr-25	23
70150	Term Piping to equipment and Tanks	10	10	18-Mar-25	31-Mar-25	10
70160	Install Pump control System panel and Terminate	7	7	11-Apr-25	21-Apr-25	0
70170	Install Lighting Contactor Panel and Terminate	5	5	22-Apr-25	28-Apr-25	5
70180	Install Chem Controllers and terminate	5	5	01-Apr-25	07-Apr-25	10
Pools						
Competition Pool						
75050	Rough Grade pool area	10	10	24-Jul-24	06-Aug-24	0
75150	Survey staking for N pools	1	1	07-Aug-24	07-Aug-24	0
75160	Shore or Bench & Over Excavate for New Pools	15	15	08-Aug-24	28-Aug-24	0
75170	Install Pool UG Plumbing	15	15	05-Sep-24	25-Sep-24	0
75180	Install Pool UG Elect	10	10	10-Oct-24	23-Oct-24	0
75190	Form Pool Boudaries	10	10	26-Sep-24	09-Oct-24	0
75200	Rebar Pool Bottom	10	10	24-Oct-24	06-Nov-24	0
75210	Shotcrete Pool	4	4	20-Nov-24	25-Nov-24	0



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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
75220	Pool Plaster	5	5	19-Dec-24	26-Dec-24	88
75230	Install Pool Tile work	15	15	26-Nov-24	18-Dec-24	88
75260	Mira Fabric	3	3	29-Aug-24	04-Sep-24	0
75270	Crushed rock up to pool Bottom	15	15	05-Sep-24	25-Sep-24	0
75280	Cast in place concrete pool bottom	2	2	07-Nov-24	08-Nov-24	0
75290	Rebar Pool Sides	7	7	11-Nov-24	19-Nov-24	0
75300	Install Pool Lighting	1	1	27-Dec-24	27-Dec-24	88
Swimming Pool						
75240	Install Pool Lighting	1	1	23-Dec-24	23-Dec-24	91
76000	Rough Grade pool area	5	5	07-Aug-24	13-Aug-24	27
76010	Survey staking for N pools	1	1	14-Aug-24	14-Aug-24	27
76020	Over Excavate for New Pools	10	10	29-Aug-24	13-Sep-24	17
76030	Mira Fabric	3	3	16-Sep-24	18-Sep-24	17
76040	Install Pool UG Plumbing	10	10	26-Sep-24	09-Oct-24	12
76050	Crushed rock up to pool Bottom	10	10	26-Sep-24	09-Oct-24	12
76060	Form Pool Boudaries	5	5	10-Oct-24	16-Oct-24	12
76070	Install Pool UG Elect	5	5	24-Oct-24	30-Oct-24	7
76080	Rebar Pool Bottom	5	5	07-Nov-24	13-Nov-24	2
76090	Cast in place concrete pool bottom	1	1	14-Nov-24	14-Nov-24	2
76100	Rebar Pool Sides	5	5	15-Nov-24	21-Nov-24	2
76110	Shotcrete Pool	3	3	26-Nov-24	02-Dec-24	0
76120	Install Pool Tile work	10	10	03-Dec-24	16-Dec-24	91
76130	Pool Plaster	4	4	17-Dec-24	20-Dec-24	91
Sitework						
Utilities at Pool Area						
75060	Install Surge Chambers	5	5	03-Dec-24	09-Dec-24	0
75070	Trench/Bd/Pipe/Backfill AV pipe btw pool & Equip	13	13	10-Dec-24	27-Dec-24	0
75310	Install Score Board Foundations & Poles	10	10	10-Oct-24	23-Oct-24	127
75320	Trench/Bed/Pipe/Backfil FL Piping btw pool/Equip	12	12	26-Dec-24	14-Jan-25	0
75330	Trench/Bed/Pipe/Backfil Pool Lighting	15	15	23-Jan-25	12-Feb-25	0
75340	Trench/Bed/Pipe/Backfill Drainage at pool deck	10	10	10-Jan-25	24-Jan-25	0
75350	Trench/Bed/Pipe/Backfil water at Pool Deck	10	10	10-Jan-25	24-Jan-25	0
75360	Install Musco Lighting pole FNDs with pole bases	15	15	10-Oct-24	30-Oct-24	59
75380	Install Score Board	5	5	24-Oct-24	30-Oct-24	127
75400	Trench/Bd/Pipe/Backfill Musco lighting UG	15	15	27-Jan-25	14-Feb-25	2
75530	Install Musco Lighting	10	10	25-Mar-25	07-Apr-25	20
75770	Trench/Bed/Pipe/Backfil water to DF at Tennis	4	4	27-Jan-25	30-Jan-25	13
Hardscape at Pool Area						
75110	Install Gates	4	4	08-Apr-25	11-Apr-25	15
75250	Install Chainlink fencing posts at Pools area	10	10	18-Feb-25	03-Mar-25	2
75390	Make Grade for Flatwork at Pool deck	10	10	25-Mar-25	07-Apr-25	2
75550	Form and Pour Flat work around Pools	15	15	08-Apr-25	28-Apr-25	2
75570	Retaining wall at fence posts at Pools Area	15	15	04-Mar-25	24-Mar-25	2
75580	Install Chainlink fence at Pools Area	10	10	25-Mar-25	07-Apr-25	15
75730	Install Salvaged Bleachers	3	3	29-Apr-25	01-May-25	2
75740	Install Concrete Pathway to Tennis area	5	5	08-Apr-25	14-Apr-25	5
75830	Exit Signs at Gates	1	1	14-Apr-25	14-Apr-25	15
Utilities at Equipment Building Area						
75010	Pot Hole Points of Connections	3	3	18-Jul-24	22-Jul-24	79
75020	Trench/Bed/Pipe Backfill N Sewer to New Equip Bl	5	5	29-Aug-24	06-Sep-24	62
75030	Trench/Bed/Pipe Backfill N SD to Equip Bldg	5	5	09-Sep-24	13-Sep-24	62

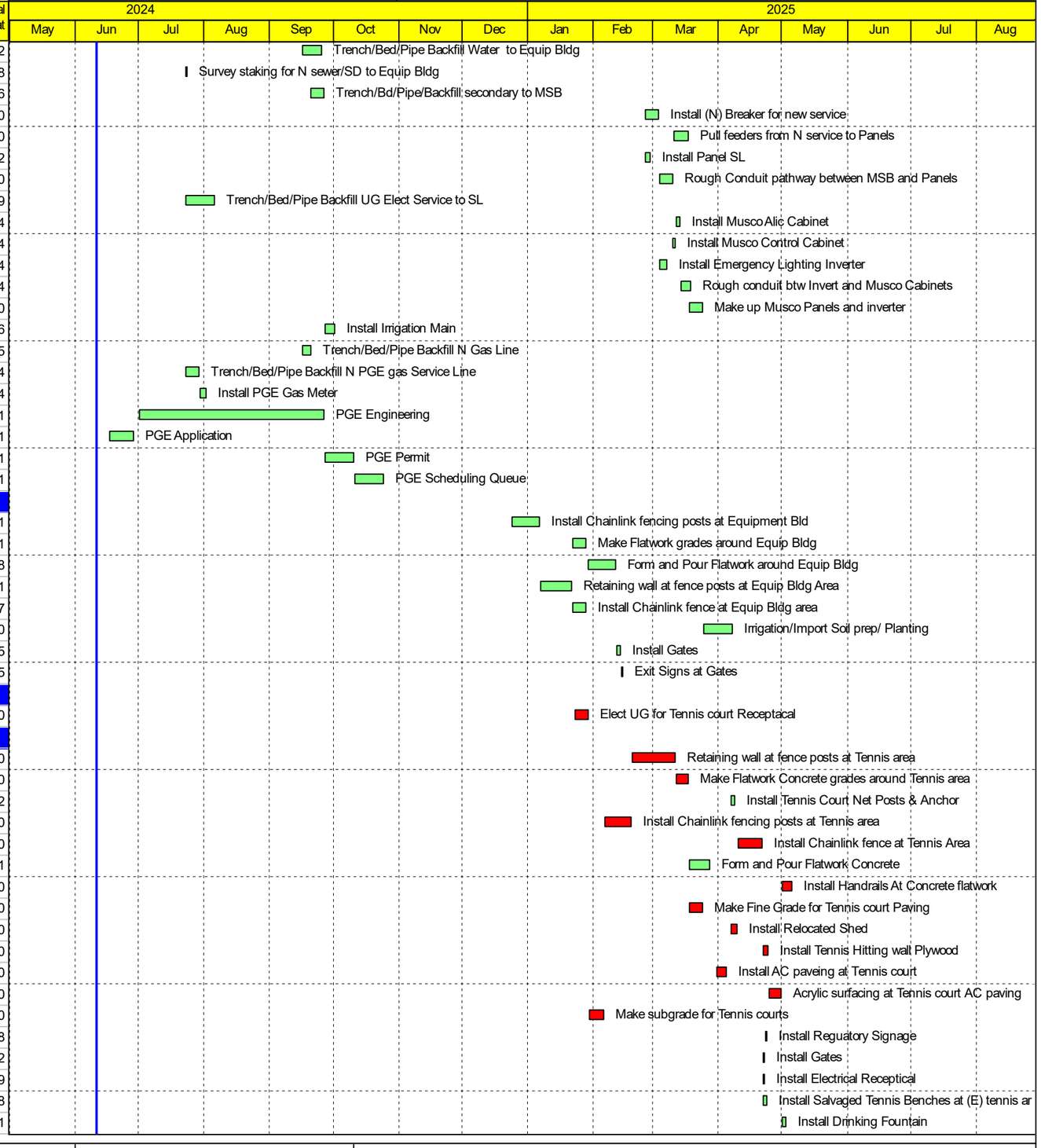


Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | Milestone

TASK filter: All Activities

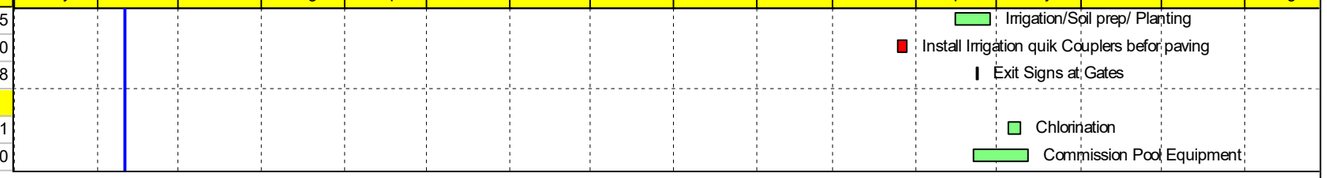
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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
75040	Trench/Bed/Pipe Backfill Water to Equip Bldg	8	8	16-Sep-24	25-Sep-24	62
75080	Survey staking for N sewer/SD to Equip Bldg	1	1	23-Jul-24	23-Jul-24	88
75410	Trench/Bd/Pipe/Backfill secondary to MSB	5	5	20-Sep-24	26-Sep-24	76
75420	Install (N) Breaker for new service	5	5	25-Feb-25	03-Mar-25	10
75430	Pull feeders from N service to Panels	5	5	11-Mar-25	17-Mar-25	10
75440	Install Panel SL	3	3	25-Feb-25	27-Feb-25	12
75450	Rough Conduit pathway between MSB and Panels	5	5	04-Mar-25	10-Mar-25	10
75460	Trench/Bed/Pipe Backfill UG Elect Service to SL	10	10	23-Jul-24	05-Aug-24	79
75490	Install Musco Alic Cabinet	2	2	12-Mar-25	13-Mar-25	24
75500	Install Musco Control Cabinet	2	2	10-Mar-25	11-Mar-25	24
75510	Install Emergency Lighting Inverter	4	4	04-Mar-25	07-Mar-25	24
75520	Rough conduit btw Invert and Musco Cabinets	3	3	14-Mar-25	18-Mar-25	24
75540	Make up Musco Panels and inverter	5	5	18-Mar-25	24-Mar-25	10
75780	Install Irrigation Main	3	3	27-Sep-24	01-Oct-24	76
75860	Trench/Bed/Pipe Backfill N Gas Line	5	5	16-Sep-24	20-Sep-24	145
75870	Trench/Bed/Pipe Backfill N PGE gas Service Line	5	5	23-Jul-24	29-Jul-24	174
75880	Install PGE Gas Meter	3	3	30-Jul-24	01-Aug-24	174
75900	PGE Engineering	60	60	01-Jul-24	26-Sep-24	121
75920	PGE Application	10	10	17-Jun-24	28-Jun-24	121
75940	PGE Permit	10	10	27-Sep-24	10-Oct-24	121
75960	PGE Scheduling Queue	10	10	11-Oct-24	24-Oct-24	121
Hardscape at Equipment Building Area						
75000	Install Chainlink fencing posts at Equipment Bld	8	8	24-Dec-24	06-Jan-25	1
75090	Make Flatwork grades around Equip Bldg	5	5	22-Jan-25	28-Jan-25	1
75100	Form and Pour Flatwork around Equip Bldg	10	10	29-Jan-25	11-Feb-25	18
75120	Retaining wall at fence posts at Equip Bldg Area	10	10	07-Jan-25	21-Jan-25	1
75590	Install Chainlink fence at Equip Bldg area	5	5	22-Jan-25	28-Jan-25	67
75790	Irrigation/Import Soil prep/ Planting	10	10	25-Mar-25	07-Apr-25	10
75820	Install Gates	2	2	12-Feb-25	13-Feb-25	55
75840	Exit Signs at Gates	1	1	14-Feb-25	14-Feb-25	55
Utilities at Tennis Area						
75720	Elect UG for Tennis court Receptacal	5	5	23-Jan-25	29-Jan-25	0
Hardscape at Tennis Area						
75130	Retaining wall at fence posts at Tennis area	15	15	19-Feb-25	11-Mar-25	0
75140	Make Flatwork Concrete grades around Tennis area	4	4	12-Mar-25	17-Mar-25	0
75370	Install Tennis Court Net Posts & Anchor	2	2	07-Apr-25	08-Apr-25	12
75560	Install Chainlink fencing posts at Tennis area	8	8	06-Feb-25	18-Feb-25	0
75600	Install Chainlink fence at Tennis Area	8	8	10-Apr-25	21-Apr-25	0
75610	Form and Pour Flatwork Concrete	8	8	18-Mar-25	27-Mar-25	1
75620	Install Handrails At Concrete flatwork	3	3	01-May-25	05-May-25	0
75630	Make Fine Grade for Tennis court Paving	5	5	18-Mar-25	24-Mar-25	0
75640	Install Relocated Shed	3	3	07-Apr-25	09-Apr-25	0
75650	Install Tennis Hitting wall Plywood	3	3	22-Apr-25	24-Apr-25	0
75660	Install AC paveing at Tennis court	5	5	31-Mar-25	04-Apr-25	0
75670	Acrylic surfacing at Tennis court AC paving	4	4	25-Apr-25	30-Apr-25	0
75680	Make subgrade for Tennis courts	5	5	30-Jan-25	05-Feb-25	0
75690	Install Reguatory Signage	1	1	23-Apr-25	23-Apr-25	8
75700	Install Gates	1	1	22-Apr-25	22-Apr-25	2
75710	Install Electrical Receptical	1	1	22-Apr-25	22-Apr-25	9
75750	Install Salvaged Tennis Benches at (E) tennis ar	2	2	22-Apr-25	23-Apr-25	8
75760	Install Drinking Fountain	2	2	01-May-25	02-May-25	1



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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float
75800	Irrigation/Soil prep/ Planting	10	10	15-Apr-25	28-Apr-25	5
75810	Install Irrigation quik Couplers befor paving	4	4	25-Mar-25	28-Mar-25	0
75850	Exit Signs at Gates	1	1	23-Apr-25	23-Apr-25	8
Commissioning / Closeout						
80000	Chlorination	5	5	05-May-25	09-May-25	11
80010	Commission Pool Equipment	15	15	22-Apr-25	12-May-25	10



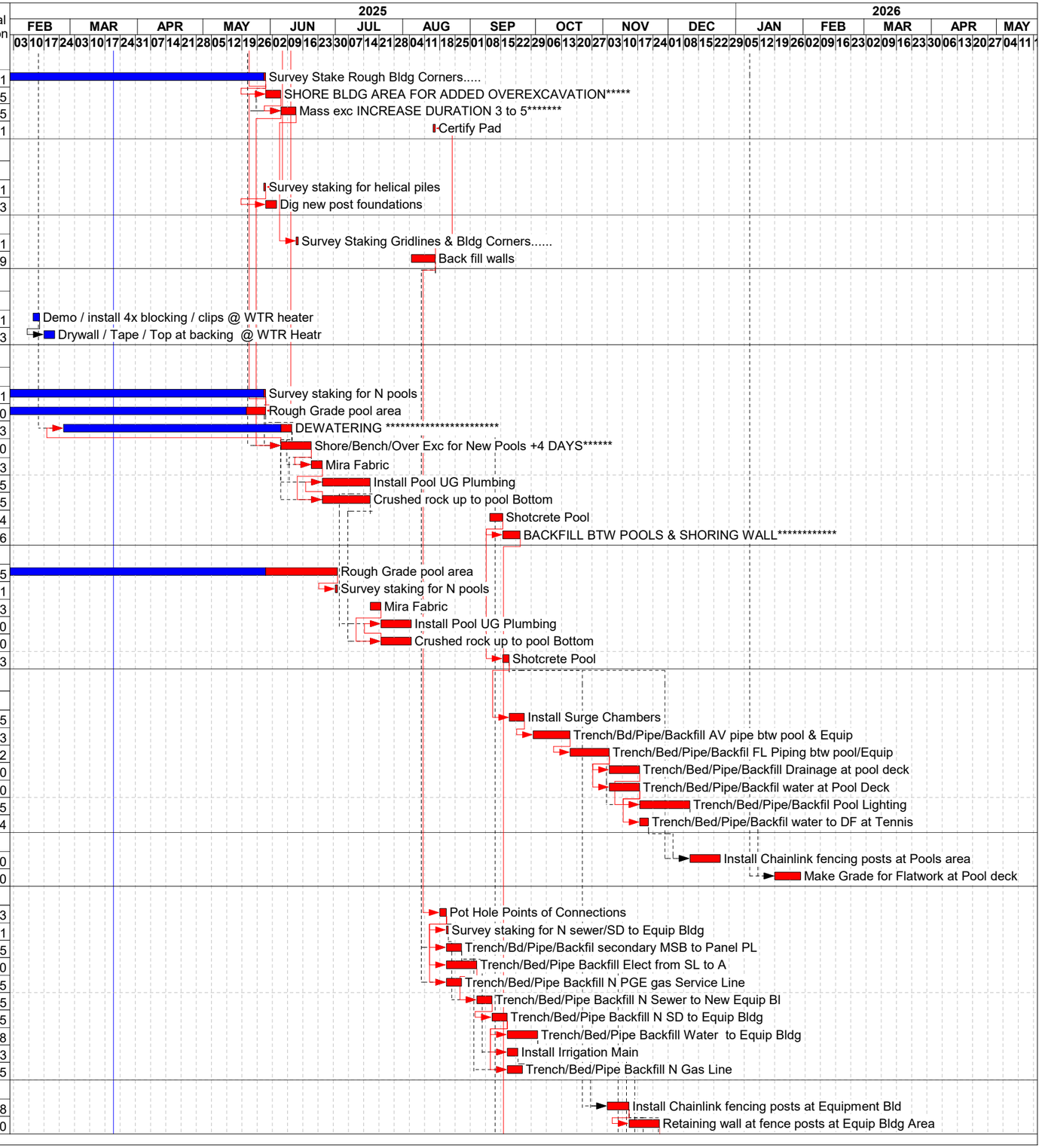
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Alten Construction
Alameda HS
Swim Center . soil sort schedule 3-21-2025

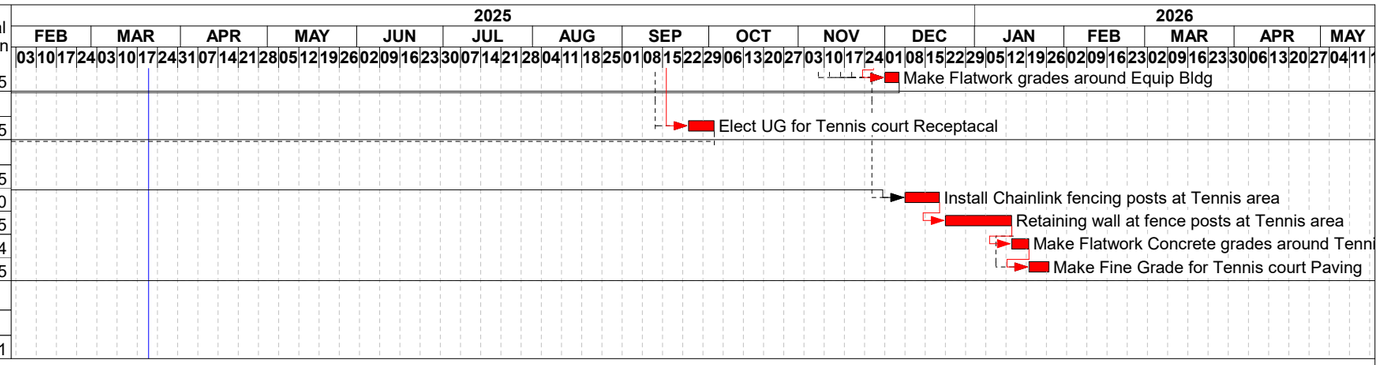
Activity ID	Description	Area	Early Start	Early Finish	Resp	Original Duration
MOBILIZE						
INPCT SOIL						
25520	Topo site after class 1 haul off	MOB	DEC1824 A	DEC1824 A	D & V	1
80060	Health dept review & Approve Report	MOB	JAN1025 A	FEB1725 A	HLTH DPT	5
80110	Health Dept provd summ of rprt/review respond	MOB	FEB1425 A	FEB1725 A	HLTH DPT	2
25490	Develop Submtl fill Characterization Report	MOB	FEB1825 A	MAR1125 A	KLINF/HLTH	10
80100	Health Dept meeting to discuss summery of report	MOB	FEB1825 A	FEB1825 A	HLTH DPT	1
80180	Get community outreach consultant on board	MOB	FEB1825 A	FEB2125 A	ALTEN	1
80240	Develop Construction Tech Memo	MOB	FEB1825 A	MAR0525 A	KLINF/ALT	12
80120	Develop Gant Chart /site soil with all work	MOB	FEB1925 A	MAR2425 *	KLINF/ALT	5
80130	Approve New Sampling plan by Kleinfelder	MOB	FEB2125 A	FEB2625 A	HLTH DPT	4
80190	Community outreach	MOB	FEB2125 A	JAN0926	ALTEN	297
80070	Health dept additional soil sampling	MOB	FEB2625 A	MAR1125 A	KLINF	10
80140	Mobolize equipment for addtlnal sampling	MOB	FEB2625 A	FEB2625 A	KLINF	1
80200	Mobolize baker tank and filtration system	MOB	FEB2625 A	FEB2625 A	ALTEN	1
80210	Pump storm water from Ponded Water	MOB	FEB2625 A	FEB2625 A	ALTEN	1
80330	Develop site Characterization Plan	MOB	FEB2725 A	MAR0325 A	KLINF/ALT	10
80360	Develop Draft Data Deliverable	MOB	FEB2725 A	MAR1925 A	KLINF/ALT	10
80340	Submit Site Charactz. Plan	MOB	MAR0325 A	MAR0325 A	KLINF/ALT	1
80350	Approve site Characterization Plan	MOB	MAR0425 A	MAR2625	HLTH DPT	5
80250	Submit Construction Tech Memo	MOB	MAR0525 A	MAR0525 A	KLINF/ALT	1
80260	Approve Construction Tech Memo	MOB	MAR0625 A	MAR2725	HLTH DPT	5
80270	Develop Dewatering plan	MOB	MAR1025 A	MAR2825 *	KLINF/ALT	15
80230	Approve fill Characterization report	MOB	MAR1125 A	MAR1925 A	HLTH DPT	5
80220	Submit fill Characterization Report	MOB	MAR1425 A	MAR1425 A	KLINF/ALT	1
80300	Submit Draft. Data Deliverable	MOB	MAR2025 A	MAR2025 A	KLINF/ALT	1
80310	Approve Draft Data Deliverable	MOB	MAR2025 A	MAR2725	HLTH DPT	5
80320	Submit Gant Chart/ Site Soil with all work	MOB	MAR2125 *	MAR2125	KLINF/ALT	1
80440	Submit PCO for drill and install Piezometer	MOB	MAR2125	MAR2125	ALTEN	1
80450	Approve PCO to drill and install Piezometer	MOB	MAR2125	MAR2425	AUSD	2
80530	Schedule testing of water at Baker tanks	MOB	MAR2125	MAR2425	KLINF	2
80370	Approve Gant Chart/Site Soil with all work	MOB	MAR2425	MAR2825	KLINF/ALT	5
80380	Test Water In Baker Tanks For PCB's	MOB	MAR2525	MAR2725	KLINF	3
80460	Schedule Drill rig to drill /instl Piezometer	MOB	MAR2525	MAR2625	ALTEN	2
80470	Drill & install Piezometer/Test grnd water level	MOB	MAR2725	MAR2825	CASE P	2
80390	Submit filtration System metals/PCB's PCO	MOB	MAR2825	MAR2825	ALTEN	1
80280	Submit Dewatering plan	MOB	MAR3125	MAR3125	KLINF/ALT	1
80400	AusdApprove Filtration System Metals/ PCB's PCO	MOB	MAR3125	APR0225	AUSD	3
80290	Approve Dewatering plan	MOB	APR0125	APR0725	HLTH DPT	5
80410	Install Filtration System Metals/PCB's if needed	MOB	APR0325	APR0825	ATS	4
80480	Price two wells to draw dwn for soil removal	MOB	APR0825	APR0925	ALTEN	2
80420	Kleinfelderdo dump Test and EBMUD Approval	MOB	APR0925	APR1525	KLINF	5
80490	Approve PCO two wells to drw dwn for soil Rmv	MOB	APR1025	APR1425	AUSD	3
80500	Schedule/install two wells DRW DWN for soil RMV	MOB	APR1525	APR2125	CASE P	5
80430	Dump Tanks in S.S.	MOB	APR1625	APR1725	ALTEN	2
80510	Hook up power and hoses to tow wells	MOB	APR2225	APR2225	ALTEN	1
80520	Turn on Two Wells and DRW DWN for soil RMV	MOB	APR2325	APR2925	ALTEN	5
25480	Additional haul off (If Needed)	MOB	APR3025	MAY0125	D & V	2
80150	RFI37 rmv soft spot @southeast corner cmp pool	MOB	MAY0225	MAY0625	D & V	3
80160	RFI37 fabric add rock to -10' burrito wrap	MOB	MAY0225	MAY0625	D & V	3
80170	RFI37 stock pile wet cls 2 soil for haul off	MOB	MAY0225	MAY0625	D & V	3
25320	Import to minus 16" from finsh grade for shoring	MOB	MAY0725	MAY2925	D & V	15
80080	Stock pile Cl 2 Non Haz soils Rmv as needed	MOB	MAY3025	JUN1225	D & V	10
25510	Import /backfill finish grade for conc decking	MOB	DEC1125	DEC1125	D & V	1
EARTHWORK						



Activity ID	Description	Area	Early Start	Early Finish	Resp	Original Duration
NW BUILD						
40010	Survey Stake Rough Bldg Corners.....	EARTHWORK	AUG1924 A	MAY2925	FULLEN	1
40050	SHORE BLDG AREA FOR ADDED	EARTHWORK	MAY3025	JUN0525	CAS PACF S	5
40040	Mass exc INCREASE DURATION 3 to 5*******	EARTHWORK	JUN0625	JUN1225	CAS P/D&V	5
40030	Certify Pad	EARTHWORK	AUG1525	AUG1525	FULLEN	1
FOUNDATION/SUPERSTRUCTURE						
EXISTING SWIM CENTER BLDG						
45450	Survey staking for helical piles	FND	MAY2925	MAY2925	FULLEN	1
45460	Dig new post foundations	FND	MAY3025	JUN0325	ALTEN	3
EQUIPMENT ENCLOSURE						
45010	Survey Staking Gridlines & Bldg Corners.....	FND	JUN1325	JUN1325	FULLEN	1
45420	Back fill walls	FND	AUG0525	AUG1525	D & V	9
INTERIORS						
EXISTING SWIM CENTER BLDG						
70370	Demo / install 4x blocking / clips @ WTR heater	INTERIORS	FEB1225 A	FEB1425 A	ALTEN	1
70280	Drywall / Tape / Top at backing @ WTR Heatr	INTERIORS	FEB1725 A	FEB2125 A	ALTEN	3
PoolS						
COMPETITION POOL						
75150	Survey staking for N pools	POOLS	AUG2024 A	MAY2925	FULLEN	1
75050	Rough Grade pool area	POOLS	AUG2624 A	MAY2925	D & V	10
75470	DEWATERING **********	POOLS	FEB2625 A	JUN1025	CAS PACF S	3
75160	Shore/Bench/Over Exc for New Pools +4 DAYS******	POOLS	JUN0625	JUN1925	CAS P/D&V	10
75260	Mira Fabric	POOLS	JUN2025	JUN2425	WWF	3
75170	Install Pool UG Plumbing	POOLS	JUN2525	JUL1625	WWF	15
75270	Crushed rock up to pool Bottom	POOLS	JUN2525	JUL1625	WWF	15
75210	Shotcrete Pool	POOLS	SEP1025	SEP1525	WWF	4
75480	BACKFILL BTW POOLS & SHORING	POOLS	SEP1625	SEP2325	D & V	6
SWIMMING POOL						
76000	Rough Grade pool area	POOLS	AUG2624 A	JUL0125	D & V	5
76010	Survey staking for N pools	POOLS	JUL0125	JUL0125	FULLEN	1
76030	Mira Fabric	POOLS	JUL1725	JUL2125	WWF	3
76040	Install Pool UG Plumbing	POOLS	JUL2225	AUG0425	WWF	10
76050	Crushed rock up to pool Bottom	POOLS	JUL2225	AUG0425	WWF	10
76110	Shotcrete Pool	POOLS	SEP1625	SEP1825	WWF	3
SITE WORK						
UTILITIES AT POOL AREA						
75060	Install Surge Chambers	SITE	SEP1925	SEP2525	WWF	5
75070	Trench/Bd/Pipe/Backfill AV pipe btw pool & Equip	SITE	SEP3025	OCT1625	WWF	13
75320	Trench/Bed/Pipe/Backfil FL Piping btw pool/Equip	SITE	OCT1725	NOV0325	WWF	12
75340	Trench/Bed/Pipe/Backfill Drainage at pool deck	SITE	NOV0425	NOV1725	WWF	10
75350	Trench/Bed/Pipe/Backfil water at Pool Deck	SITE	NOV0425	NOV1725	WWF	10
75330	Trench/Bed/Pipe/Backfil Pool Lighting	SITE	NOV1825	DEC1025	WWF	15
75770	Trench/Bed/Pipe/Backfil water to DF at Tennis	SITE	NOV1825	NOV2125	WR FORDE	4
HARDSCAPE POOL AREA						
75250	Install Chainlink fencing posts at Pools area	SITE	DEC1125	DEC2425	AAA FENCE	10
75390	Make Grade for Flatwork at Pool deck	SITE	JAN1926	JAN3026	D & V	10
UTILITIES AT THE EQUIPMENT BLDG AREA						
75010	Pot Hole Points of Connections	SITE	AUG1825	AUG2025	WR FORDE	3
75080	Survey staking for N sewer/SD to Equip Bldg	SITE	AUG2125	AUG2125	FULLEN	1
75410	Trench/Bd/Pipe/Backfil secondary MSB to Panel PL	SITE	AUG2125	AUG2725	ALTEN	5
75460	Trench/Bed/Pipe Backfill Elect from SL to A	SITE	AUG2125	SEP0325	ALTEN	10
75870	Trench/Bed/Pipe Backfill N PGE gas Service Line	SITE	AUG2125	AUG2725	WR FORDE	5
75020	Trench/Bed/Pipe Backfill N Sewer to New Equip Bl	SITE	SEP0425	SEP1025	WR FORDE	5
75030	Trench/Bed/Pipe Backfill N SD to Equip Bldg	SITE	SEP1125	SEP1725	WR FORDE	5
75040	Trench/Bed/Pipe Backfill Water to Equip Bldg	SITE	SEP1825	OCT0125	WR FORDE	8
75780	Install Irrigation Main	SITE	SEP1825	SEP2225	MCG&HESTR	3
75860	Trench/Bed/Pipe Backfill N Gas Line	SITE	SEP1825	SEP2425	WR FORDE	5
HARDSCAPE EQUIPMENT BLDG AREA						
75000	Install Chainlink fencing posts at Equipment Bld	SITE	NOV0325	NOV1225	AAA FENCE	8
75120	Retaining wall at fence posts at Equip Bldg Area	SITE	NOV1325	NOV2625	AAA FENCE	10



Activity ID	Description	Area	Early Start	Early Finish	Resp	Original Duration
75090	Make Flatwork grades around Equip Bldg	SITE	DEC0125	DEC0525	D & V	5
UTILITIES AT TENNIS AREA						
75720	Elect UG for Tennis court Receptacal	SITE	SEP2425	OCT0225	ALTEN	5
HARDSCAPE TENNIS AREA						
75680	Make subgrade for Tennis courts	SITE	SEP0324 A	SEP0524 A	D & V	5
75560	Install Chainlink fencing posts at Tennis area	SITE	DEC0825	DEC1925	AAA FENCE	10
75130	Retaining wall at fence posts at Tennis area	SITE	DEC2225	JAN1326	AAA FENCE	15
75140	Make Flatwork Concrete grades around Tennis area	SITE	JAN1426	JAN1926	D & V	4
75630	Make Fine Grade for Tennis court Paving	SITE	JAN2026	JAN2626	D & V	5
30320	Baseline Org date for Analyticals		JUN1824 A	JUL1024 A	ACC	1



Appendix F: Construction Activities, Materials Used, and Associated Pollutants

Table F.1 Pollutant Source Assessment Form

Phase	Activity	Associated Materials or Pollutants	Pollutant Category (1)
Demolition and Pre- Development Site Preparation Phase	Removal of Existing Structures	Concrete, masonry, framing, roofing, metal structures, HVAC, insulation, paint, litter, trash and debris	Metals, Oil and Grease, Synthetic Organics, Gross Pollutants
	Vehicle and equipment use	Equipment operation, maintenance, washing and fueling	Oil and Grease
	Demolition of site improvements	Asphalt, concrete, masonry, base and subbase material, saw cut slurries	Sediment, Metals, Synthetic Organics
	Clearing and grubbing	Topsoil, plant material, and mulch	Sediment, Nutrients, Metals, Synthetic Organics, Gross Pollutants
	Sanitary Services	Discharge from portable toilets, disturbance of existing sewer lines	Nutrients
	Solid Waste	Litter, trash and debris	Gross Pollutants
Grading and Land Development	Site Grading/Earthwork	Cut and fill from excavation activities, import/export of material	Sediment
	Vehicle and equipment use	Equipment operation, maintenance, washing and fueling	Oil and Grease
	Trenching and Backfilling	Cut and fill from excavation activities, cut and fill import/export	Sediment, Gross Pollutants
	Sanitary Services	Discharge from portable toilets	Nutrients
	Solid Waste	Litter, trash and debris	Gross Pollutants
	Excavation Dewatering	Liquid waste and wash waters	Metals, Synthetic Organics, Sediment, Nutrients

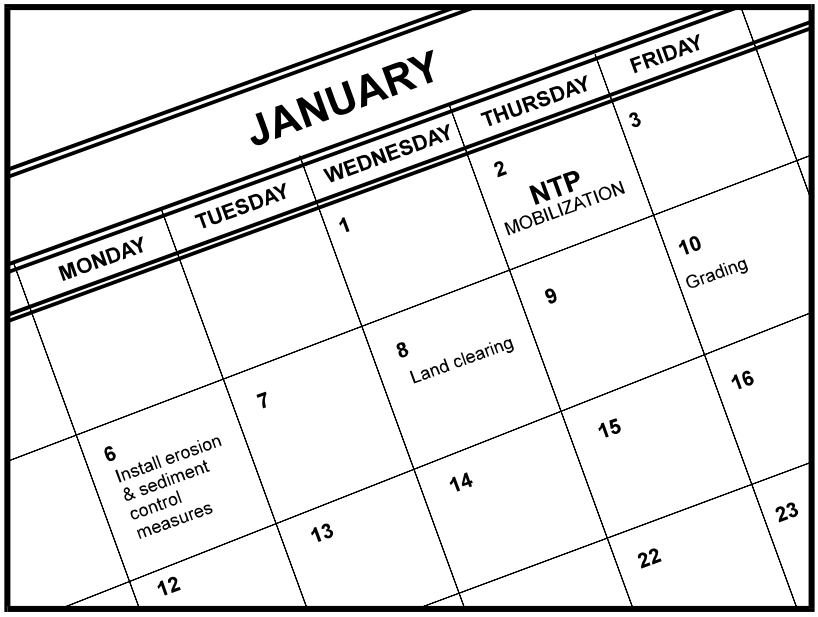
Streets and Utilities Phase	Asphalt Paving	Hot and cold mix, asphaltic emulsions	Oil and Grease
	Concrete placement and paving	Cement Materials including slurries, cement dust, chalks, curing compounds, surface cleaners	Sediment, Metals, Synthetic Organics
	Installation of underground utilities	Laying of pipe and appurtenances, connection to existing utilities using adhesives (PVC cement, etc.)	Sediment, Metals, Synthetic Organics
	Vehicle and equipment use	Equipment operation, maintenance, washing and fueling	Oil and Grease
	Sanitary Services	Discharge from portable toilets	Nutrients, gross pollutants
Vertical Construction Phase Vertical Construction Phase	Solid Waste	Litter, trash and debris	Gross Pollutants
	Utility line testing and flushing	Hydrostatic test water and pipe flushing	Sediment, Synthetic Organics
	Concrete / Masonry	• Cement and brick dust • Colored chalks • Concrete curing compounds • Glazing compounds • Surfaces cleaners • Saw cut slurries Tile cutting	Metals, Synthetic Organics
	Drywall	Saw-cutting drywall	Metals
	Framing/Carpentry	• Sawdust, particle board dust, and treated woods Saw cut slurries	Metals, Synthetic Organics
Final Landscaping and Site Stabilization Phase	Heating, Ventilation, Air Conditioning	Construction of air condition and heating systems	Metals, Synthetic Organics
	Insulation	Construction involving insulation, venting systems	Metals, Synthetic Organics
	Cleaners	• Polishes (metal, ceramic, tile) • Etching agents Cleaners, ammonia, lye, caustic sodas, bleaching agents and chromate salts	Metals, Synthetic Organics
	Adhesives	• Adhesives, glues, resins, epoxy synthetics, PVC cement • Caulks, sealers, putty, sealing agents and Coal tars (naphtha, pitch)	Oil and Grease, Synthetic Organics[1]

	Painting	Paint thinners, acetone, methyl ethyl ketone, stripper paints, lacquers, varnish, enamels, turpentine, gum spirit, solvents, dyes, stripping pigments and sanding	Metals, Synthetic Organics
	Plumbing	• Solder (lead, tin), flux (zinc chloride), pipe fitting Galvanized metal in nails, fences, and electric wiring	Metals, Synthetic Organics

(1) Categories per CASQA BMP Handbook (i.e., Sediment, Nutrients, Bacteria and Viruses, Oil and Grease, Metals, Synthetic Organics, Pesticides, Gross Pollutants, and Vector Production)

Appendix G: CASQA Stormwater BMP Handbook: Construction Fact Sheets

Scheduling EC-1



Description and Purpose

Scheduling is the development of a written plan that includes sequencing of construction activities and the implementation of BMPs such as erosion control and sediment control while taking local climate (rainfall, wind, etc.) into consideration. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking, and to perform the construction activities and control practices in accordance with the planned schedule.

Suitable Applications

Proper sequencing of construction activities to reduce erosion potential should be incorporated into the schedule of every construction project especially during rainy season. Use of other, more costly yet less effective, erosion and sediment control BMPs may often be reduced through proper construction sequencing.

Limitations

- Environmental constraints such as nesting season prohibitions reduce the full capabilities of this BMP.

Implementation

- Avoid rainy periods. Schedule major grading operations during dry months when practical. Allow enough time before rainfall begins to stabilize the soil with vegetation or physical means or to install sediment trapping devices.
- Plan the project and develop a schedule showing each phase of construction. Clearly show how the rainy season relates

Categories

EC	Erosion Control	☑
SE	Sediment Control	☒
TC	Tracking Control	☒
WE	Wind Erosion Control	☒
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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to soil disturbing and re-stabilization activities. Incorporate the construction schedule into the SWPPP.

- Include on the schedule, details on the rainy season implementation and deployment of:
  - Erosion control BMPs
  - Sediment control BMPs
  - Tracking control BMPs
  - Wind erosion control BMPs
  - Non-stormwater BMPs
  - Waste management and materials pollution control BMPs
- Include dates for activities that may require non-stormwater discharges such as dewatering, sawcutting, grinding, drilling, boring, crushing, blasting, painting, hydro-demolition, mortar mixing, pavement cleaning, etc.
- Work out the sequencing and timetable for the start and completion of each item such as site clearing and grubbing, grading, excavation, paving, foundation pouring utilities installation, etc., to minimize the active construction area during the rainy season.
  - Sequence trenching activities so that most open portions are closed before new trenching begins.
  - Incorporate staged seeding and re-vegetation of graded slopes as work progresses.
  - Schedule establishment of permanent vegetation during appropriate planting time for specified vegetation.
- Non-active areas should be stabilized as soon as practical after the cessation of soil disturbing activities or one day prior to the onset of precipitation.
- Monitor the weather forecast for rainfall.
- When rainfall is predicted, adjust the construction schedule to allow the implementation of soil stabilization and sediment treatment controls on all disturbed areas prior to the onset of rain.
- Be prepared year-round to deploy erosion control and sediment control BMPs. Erosion may be caused during dry seasons by un-seasonal rainfall, wind, and vehicle tracking. Keep the site stabilized year-round and retain and maintain rainy season sediment trapping devices in operational condition.
- Apply permanent erosion control to areas deemed substantially complete during the project's defined seeding window.
- Avoid soil disturbance during periods with high wind velocities.

Costs

Construction scheduling to reduce erosion may increase other construction costs due to reduced economies of scale in performing site grading. The cost effectiveness of scheduling techniques

should be compared with the other less effective erosion and sedimentation controls to achieve a cost-effective balance.

Inspection and Maintenance

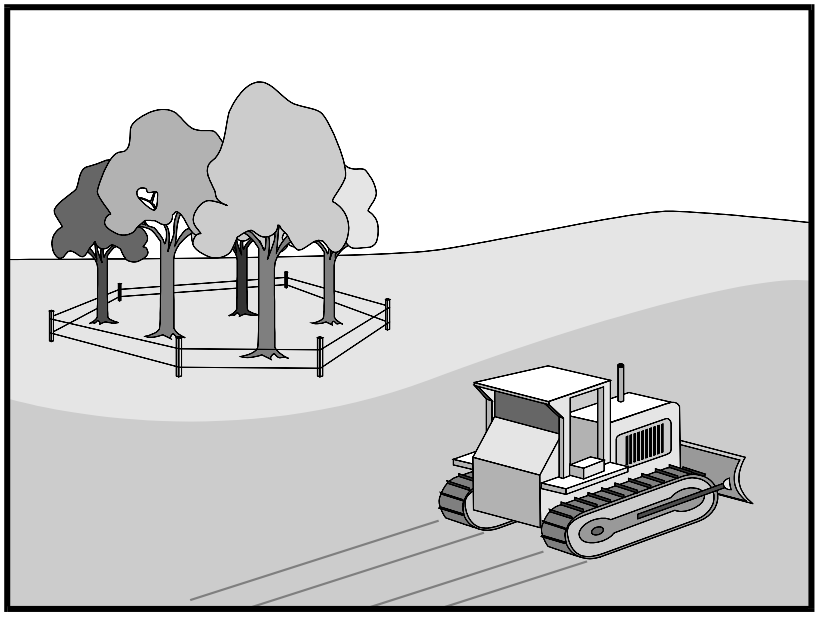
- Verify that work is progressing in accordance with the schedule. If progress deviates, take corrective actions.
- Amend the schedule when changes are warranted.
- Amend the schedule prior to the rainy season to show updated information on the deployment and implementation of construction site BMPs.

References

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities Developing Pollution Prevention Plans and Best Management Practices (EPA 832-R-92-005), U.S. Environmental Protection Agency, Office of Water, September 1992.

Preservation of Existing Vegetation EC-2



Categories		
EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Description and Purpose

Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs, and grasses that protect soil from erosion.

Suitable Applications

Preservation of existing vegetation is suitable for use on most projects. Large project sites often provide the greatest opportunity for use of this BMP. Suitable applications include the following:

- Areas within the site where no construction activity occurs or occurs at a later date. This BMP is especially suitable to multi year projects where grading can be phased.
- Areas where natural vegetation exists and is designated for preservation. Such areas often include steep slopes, watercourse, and building sites in wooded areas.
- Areas where local, state, and federal government require preservation, such as vernal pools, wetlands, marshes, certain oak trees, etc. These areas are usually designated on the plans, or in the specifications, permits, or environmental documents.
- Where vegetation designated for ultimate removal can be temporarily preserved and be utilized for erosion control and sediment control.
- Protecting existing vegetation buffers and swales.

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Preservation of Existing Vegetation EC-2

Limitations

- Requires forward planning by the owner/developer, contractor, and design staff.
- Limited opportunities for use when project plans do not incorporate existing vegetation into the site design.
- For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactory for the planned development.

Implementation

The best way to prevent erosion is to not disturb the land. In order to reduce the impacts of new development and redevelopment, projects may be designed to avoid disturbing land in sensitive areas of the site (e.g., natural watercourses, steep slopes), and to incorporate unique or desirable existing vegetation into the site's landscaping plan. Clearly marking and leaving a buffer area around these unique areas during construction will help to preserve these areas as well as take advantage of natural erosion prevention and sediment trapping.

Existing vegetation to be preserved on the site must be protected from mechanical and other injury while the land is being developed. The purpose of protecting existing vegetation is to ensure the survival of desirable vegetation for shade, beautification, and erosion control. Mature vegetation has extensive root systems that help to hold soil in place, thus reducing erosion. In addition, vegetation helps keep soil from drying rapidly and becoming susceptible to erosion. To effectively save existing vegetation, no disturbances of any kind should be allowed within a defined area around the vegetation. For trees, no construction activity should occur within the drip line of the tree.

Timing

- Provide for preservation of existing vegetation prior to the commencement of clearing and grubbing operations or other soil disturbing activities in areas where no construction activity is planned or will occur at a later date.

Design and Layout

- Mark areas to be preserved with temporary fencing. Include sufficient setback to protect roots.
  - Orange colored plastic mesh fencing works well.
  - Use appropriate fence posts and adequate post spacing and depth to completely support the fence in an upright position.
- Locate temporary roadways, stockpiles, and layout areas to avoid stands of trees, shrubs, and grass.
- Consider the impact of grade changes to existing vegetation and the root zone.
- Maintain existing irrigation systems where feasible. Temporary irrigation may be required.
- Instruct employees and subcontractors to honor protective devices. Prohibit heavy equipment, vehicular traffic, or storage of construction materials within the protected area.

- Consider pruning or mowing vegetation instead of removing it to allow for regrowth.
- If possible, retain vegetation buffer around the site and adjacent waterways.

Costs

There is little cost associated with preserving existing vegetation if properly planned during the project design, and these costs may be offset by aesthetic benefits that enhance property values. During construction, the cost for preserving existing vegetation will likely be less than the cost of applying erosion and sediment controls to the disturbed area. Replacing vegetation inadvertently destroyed during construction can be extremely expensive, sometimes in excess of $10,000 per tree.

Inspection and Maintenance

During construction, the limits of disturbance should remain clearly marked at all times. Irrigation or maintenance of existing vegetation should be described in the landscaping plan. If damage to protected trees still occurs, maintenance guidelines described below should be followed:

- Verify that protective measures remain in place. Restore damaged protection measures immediately.
- Serious tree injuries shall be attended to by an arborist.
- Damage to the crown, trunk, or root system of a retained tree shall be repaired immediately.
- Trench as far from tree trunks as possible, usually outside of the tree drip line or canopy. Curve trenches around trees to avoid large roots or root concentrations. If roots are encountered, consider tunneling under them. When trenching or tunneling near or under trees to be retained, place tunnels at least 18 in. below the ground surface, and not below the tree center to minimize impact on the roots.
- Do not leave tree roots exposed to air. Cover exposed roots with soil as soon as possible. If soil covering is not practical, protect exposed roots with wet burlap or peat moss until the tunnel or trench is ready for backfill.
- Cleanly remove the ends of damaged roots with a smooth cut.
- Fill trenches and tunnels as soon as possible. Careful filling and tamping will eliminate air spaces in the soil, which can damage roots.
- If bark damage occurs, cut back all loosened bark into the undamaged area, with the cut tapered at the top and bottom and drainage provided at the base of the wood. Limit cutting the undamaged area as much as possible.
- Aerate soil that has been compacted over a trees root zone by punching holes 12 in. deep with an iron bar and moving the bar back and forth until the soil is loosened. Place holes 18 in. apart throughout the area of compacted soil under the tree crown.
- Fertilization:

- Fertilize trees in the late fall or early spring. Although to note, many native species do not require fertilization.

- Apply fertilizer to the soil over the feeder roots and in accordance with label instructions, but never closer than 3 ft to the trunk. Increase the fertilized area by one-fourth of the crown area for conifers that have extended root systems.

- Retain protective measures until all other construction activity is complete to avoid damage during site cleanup and stabilization.

References

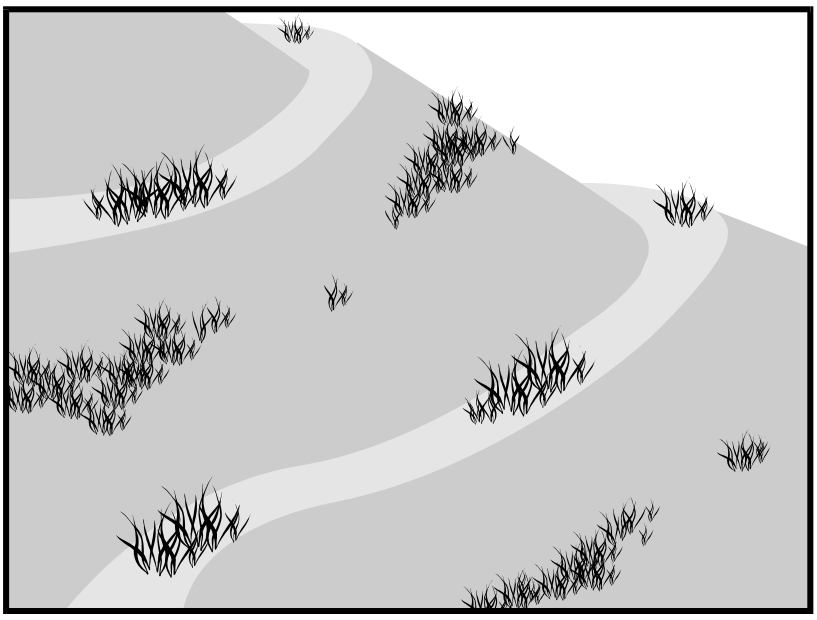
County of Sacramento Tree Preservation Ordinance, September 1981.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management of the Puget Sound Basin, Technical Manual, Publication #91-75, Washington State Department of Ecology, February 1992.

Water Quality Management Plan for The Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.

Hydroseeding EC-4



Description and Purpose

Hydroseeding typically consists of applying a mixture of a hydraulic mulch, seed, and water with the possible addition of tackifier, compost, mycorrhizae inoculant, fertilizer, and/or soil conditioner, to temporarily protect exposed soils from erosion by water and wind. Hydraulic seeding, or hydroseeding, is simply the method by which temporary or permanent seed is applied to the soil surface and temporary erosion control is established by means of the mulch component.

Suitable Applications

Hydroseeding is suitable for disturbed areas requiring temporary protection until permanent stabilization is established, for disturbed areas that will be re-disturbed following an extended period of inactivity, or to apply permanent stabilization measures. Hydroseeding without mulch or other cover (e.g., EC-7, Geotextiles and Mats) is not a stand-alone erosion control BMP and should be combined with additional measures until vegetation establishment.

Typical applications for hydroseeding include:

- Disturbed soil/graded areas where permanent stabilization or continued earthwork is not anticipated prior to seed germination.
- Cleared and graded areas exposed to seasonal rains or temporary irrigation.
- To vegetate swales and earthen berms.

Categories

EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	☒
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

EC-3 Hydraulic Mulch
EC-5 Soil Binders
EC-6 Straw Mulch
EC-7 Geotextiles and Mats
EC-8 Wood Mulching
EC-14 Compost Blanket
EC-16 Non-Vegetative Stabilization

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- Areas not subject to heavy wear by construction equipment or high traffic.

Limitations

- Availability of hydroseeding equipment may be limited just prior to the rainy season and prior to storms due to high demand.
- Hydraulic seed should be applied with hydraulic mulch or a stand-alone hydroseed application should be followed by one of the following:
    - Straw mulch (see Straw Mulch EC-6)
    - Rolled erosion control products (see Geotextiles and Mats EC-7)
    - Application of Compost Blanket (see Compost Blanket EC-14)

  Hydraulic seed may be used alone only on small flat surfaces when there is sufficient time in the season to ensure adequate vegetation establishment and coverage to provide adequate erosion control.
- Hydraulic seed without mulch does not provide immediate erosion control.
- Temporary seeding may not be appropriate for steep slopes (i.e., slopes readily prone to rill erosion or without sufficient topsoil).
- Temporary seeding may not be appropriate in dry periods without supplemental irrigation.
- Temporary vegetation may have to be removed before permanent vegetation is applied.
- Temporary vegetation may not be appropriate for short term inactivity (i.e., less than 3-6 months).
- Vegetation may not establish when hydroseed is applied to very compact soils.
- Mulch may inhibit germination when applied at high rates.
- This BMP consists of a mixture of several constituents (e.g., fibers/mulches, tackifiers, and other chemical constituents), some of which may be proprietary and may come pre-mixed by the manufacturer. The water quality impacts of these constituents are relatively unknown, and some may have water quality impacts due to their chemical makeup. Additionally, these constituents may require non-visible pollutant monitoring. Refer to specific chemical properties identified in the product's Safety Data Sheet (SDS), although, note that not all SDS's provide ecological information; products should be evaluated for project-specific implementation by the QSD. Refer to fact sheet EC-05, Soil Binders, for further guidance on selecting soil binders.

Implementation

In order to select appropriate hydraulic seed mixtures, an evaluation of site conditions should be performed with respect to:

- Soil conditions
- Site topography and exposure (sun/wind)
- Season and climate
- Vegetation types
- Maintenance requirements
- Sensitive adjacent areas
- Water availability
- Plans for permanent vegetation

The local office of the U.S.D.A. Natural Resources Conservation Service (NRCS), Resource Conservation Districts and Agricultural Extension Service can provide information on appropriate seed mixes.

The following steps should be followed for implementation:

- Where appropriate or feasible, soil should be prepared to receive the seed by disking or otherwise scarifying (See EC-15, Soil Preparation) the surface to eliminate crust, improve air and water infiltration and create a more favorable environment for germination and growth.
- Avoid use of hydraulic seed in areas where the BMP would be incompatible with future earthwork activities.
- Hydraulic seed can be applied using a multiple step or one step process.
  - In a multiple step process, hydraulic seed is applied first, followed by mulch or a Rolled Erosion Control Product (RECP).
  - In the one step process, hydraulic seed is applied with hydraulic mulch in a hydraulic matrix. When the one step process is used to apply the mixture of fiber, seed, etc., the seed rate should be increased to compensate for all seeds not having direct contact with the soil.
- All hydraulically seeded areas should have mulch, or alternate erosion control cover to keep seeds in place and to moderate soil moisture and temperature until the seeds germinate and grow.
- All seeds should be in conformance with the California State Seed Law of the Department of Agriculture. Each seed bag should be delivered to the site sealed and clearly marked as to species, purity, percent germination, dealer's guarantee, and dates of test. The container should be labeled to clearly reflect the amount of Pure Live Seed (PLS) contained. All legume seed should be pellet inoculated. Inoculant sources should be species specific and should be applied at a rate of 2 lb of inoculant per 100 lb seed.
- Commercial fertilizer should conform to the requirements of the California Food and Agricultural Code, which can be found at: http://www.leginfo.ca.gov/.html/fac_table_of_contents.html. Fertilizer should be pelleted or granular form.
- Follow up applications should be made as needed to cover areas of poor coverage or germination/vegetation establishment and to maintain adequate soil protection.
- Avoid over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.

- Additional guidance on the comparison and selection of temporary slope stabilization methods is provided in Appendix F of the Handbook.

Costs

Average cost for installation and maintenance may vary from as low as $2,400 per acre for flat slopes and stable soils, to $5,200 per acre for moderate to steep slopes and/or erosive soils. Cost of seed mixtures vary based on types of required vegetation.

BMP	Installed Cost per Acre
Hydraulic Seed	$2,400-$5,200

Source: Cost information received from individual product manufacturers solicited by Geosyntec Consultants (2004). Adjusted for inflation (2016 dollars) by Tetra Tech, Inc.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Areas where erosion is evident should be repaired and BMPs re-applied as soon as possible. Care should be exercised to minimize the damage to protected areas while making repairs, as any area damaged will require re-application of BMPs.
- Where seeds fail to germinate, or they germinate and die, the area must be re-seeded, fertilized, and mulched within the planting season, using not less than half the original application rates.
- Irrigation systems, if applicable, should be inspected daily while in use to identify system malfunctions and line breaks. When line breaks are detected, the system must be shut down immediately and breaks repaired before the system is put back into operation.
- Irrigation systems should be inspected for complete coverage and adjusted as needed to maintain complete coverage.

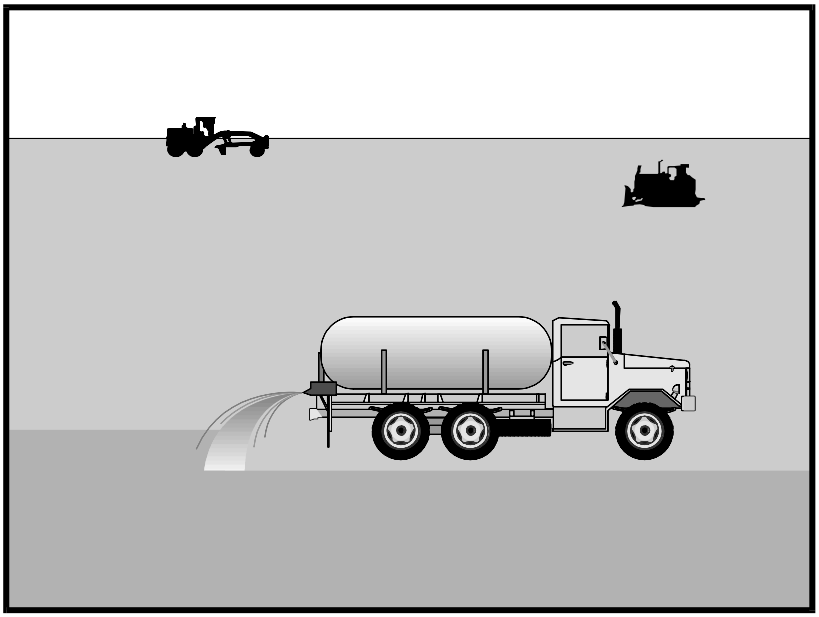
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Guidance Document: Soil Stabilization for Temporary Slopes, State of California Department of Transportation (Caltrans), November 1999.

Wind Erosion Control WE-1



Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	☑
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

EC-5 Soil Binders

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Description and Purpose

Wind erosion or dust control consists of applying water or other chemical dust suppressants as necessary to prevent or alleviate dust nuisance generated by construction activities. Covering small stockpiles or areas is an alternative to applying water or other dust palliatives.

California's Mediterranean climate, with a short "wet" season and a typically long, hot "dry" season, allows the soils to thoroughly dry out. During the dry season, construction activities are at their peak, and disturbed and exposed areas are increasingly subject to wind erosion, sediment tracking, and dust generated by construction equipment. Site conditions and climate can make dust control more of an erosion problem than water-based erosion. Additionally, many local agencies, including Air Quality Management Districts, require dust control and/or dust control permits in order to comply with local nuisance laws, opacity laws (visibility impairment) and the requirements of the Clean Air Act. Wind erosion control is required to be implemented at all construction sites greater than 1 acre by the General Permit.

Suitable Applications

Most BMPs that provide protection against water-based erosion will also protect against wind-based erosion and dust control requirements required by other agencies will generally meet wind erosion control requirements for water quality protection. Wind erosion control BMPs are suitable during the following construction activities:

- Construction vehicle traffic on unpaved roads
- Drilling and blasting activities
- Soils and debris storage piles
- Batch drop from front-end loaders
- Areas with unstabilized soil
- Final grading/site stabilization

Limitations

- Watering prevents dust only for a short period (generally less than a few hours) and should be applied daily (or more often) to be effective.
- Over watering may cause erosion and track-out.
- Oil or oil-treated subgrade should not be used for dust control because the oil may migrate into drainageways and/or seep into the soil.
- Chemical dust suppression agents may have potential environmental impacts. Selected chemical dust control agents should be environmentally benign.
- Effectiveness of controls depends on soil, temperature, humidity, wind velocity and traffic.
- Chemical dust suppression agents should not be used within 100 feet of wetlands or water bodies.
- Chemically treated subgrades may make the soil water repellant, interfering with long-term infiltration and the vegetation/re-vegetation of the site. Some chemical dust suppressants may be subject to freezing and may contain solvents and should be handled properly.
- In compacted areas, watering and other liquid dust control measures may wash sediment or other constituents into the drainage system.
- If the soil surface has minimal natural moisture, the affected area may need to be pre-wetted so that chemical dust control agents can uniformly penetrate the soil surface.

Implementation

Dust Control Practices

Dust control BMPs generally stabilize exposed surfaces and minimize activities that suspend or track dust particles. The following table presents dust control practices that can be applied to varying site conditions that could potentially cause dust. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel asphalt surfacing, temporary gravel construction entrances, equipment wash-out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching can be employed for areas of occasional or no construction traffic. Preventive measures include minimizing surface areas to be disturbed, limiting onsite vehicle traffic to 15 mph or less, and controlling the number and activity of vehicles on a site at any given time.

Chemical dust suppressants include: mulch and fiber based dust palliatives (e.g. paper mulch with gypsum binder), salts and brines (e.g. calcium chloride, magnesium chloride), non-petroleum based organics (e.g. vegetable oil, lignosulfonate), petroleum based organics (e.g. asphalt emulsion, dust oils, petroleum resins), synthetic polymers (e.g. polyvinyl acetate, vinyl, acrylic), clay additives (e.g. bentonite, montmorillonite) and electrochemical products (e.g. enzymes, ionic products).

Site Condition	Dust Control Practices							
	Permanent Vegetation	Mulching	Wet Suppression (Watering)	Chemical Dust Suppression	Gravel or Asphalt	Temporary Gravel Construction Entrances/Equipment Wash Down	Synthetic Covers	Minimize Extent of Disturbed Area
Disturbed Areas not Subject to Traffic	X	X	X	X	X			X
Disturbed Areas Subject to Traffic			X	X	X	X		X
Material Stockpiles		X	X	X			X	X
Demolition			X			X	X	
Clearing/ Excavation			X	X				X
Truck Traffic on Unpaved Roads			X	X	X	X	X	
Tracking					X	X		

Additional preventive measures include:

- Schedule construction activities to minimize exposed area (see EC-1, Scheduling).
- Quickly treat exposed soils using water, mulching, chemical dust suppressants, or stone/gravel layering.
- Identify and stabilize key access points prior to commencement of construction.
- Minimize the impact of dust by anticipating the direction of prevailing winds.
- Restrict construction traffic to stabilized roadways within the project site, as practicable.
- Water should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment should be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the project.
- If reclaimed waste water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality

Control Board (RWQCB) requirements. Non-potable water should not be conveyed in tanks or drain pipes that will be used to convey potable water and there should be no connection between potable and non-potable supplies. Non-potable tanks, pipes, and other conveyances should be marked, "NON-POTABLE WATER - DO NOT DRINK."

- Pave or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Provide covers for haul trucks transporting materials that contribute to dust.
- Provide for rapid clean up of sediments deposited on paved roads. Furnish stabilized construction road entrances and wheel wash areas.
- Stabilize inactive areas of construction sites using temporary vegetation or chemical stabilization methods.

For chemical stabilization, there are many products available for chemically stabilizing gravel roadways and stockpiles. If chemical stabilization is used, the chemicals should not create any adverse effects on stormwater, plant life, or groundwater and should meet all applicable regulatory requirements.

Costs

Installation costs for water and chemical dust suppression vary based on the method used and the length of effectiveness. Annual costs may be high since some of these measures are effective for only a few hours to a few days.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Check areas protected to ensure coverage.
- Most water-based dust control measures require frequent application, often daily or even multiple times per day. Obtain vendor or independent information on longevity of chemical dust suppressants.

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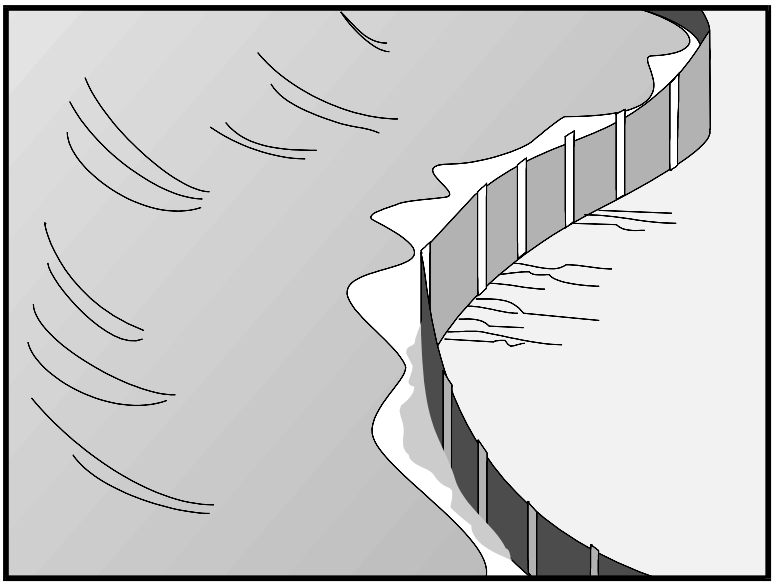
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Silt Fence SE-1



Categories		
EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Description and Purpose

A silt fence is made of a woven geotextile that has been entrenched, attached to supporting poles, and sometimes backed by a plastic or wire mesh for support. The silt fence detains water, promoting sedimentation of coarse sediment behind the fence. Silt fence does not retain soil fine particles like clays or silts.

Suitable Applications

Silt fences are suitable for perimeter control, placed below areas where sheet flows discharge from the site. They could also be used as interior controls below disturbed areas where runoff may occur in the form of sheet and rill erosion and around inlets within disturbed areas (Storm Drain Inlet Protection, SE-10). Silt fences should not be used in locations where the flow is concentrated. Silt fences should always be used in combination with erosion controls. Suitable applications include:

- At perimeter of a project (although they should not be installed up and down slopes).
- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels.
- Around temporary spoil areas and stockpiles.
- Around inlets.
- Below other small cleared areas.

Targeted Constituents	
Sediment (coarse sediment)	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm SE-12 Manufactured Linear Sediment Controls

SE-13 Compost Socks and Berms

SE-14 Biofilter Bags

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Limitations

- Do not use in streams, channels, drain inlets, or anywhere flow is concentrated.
- Do not use in locations where ponded water may cause a flooding hazard.
- Do not use silt fence to divert water flows or place across any contour line.
- Improperly installed fences are subject to failure from undercutting, overtopping, or collapsing.
- Must be trenched and keyed in.
- According to the State Water Board's *CGP Review, Issue #2* (2014), silt fences reinforced with metal or plastic mesh should be avoided due to plastic pollution and wildlife concerns.
- Not intended for use as a substitute for Fiber Rolls (SE-5), when fiber rolls are being used as a slope interruption device.
- Do not use on slopes subject to creeping, slumping, or landslides.

Implementation

General

A silt fence is a temporary sediment barrier consisting of woven geotextile stretched across and attached to supporting posts, trenched-in, and, depending upon the strength of fabric used, supported with plastic or wire mesh fence. Silt fences trap coarse sediment by intercepting and detaining sediment-laden runoff from disturbed areas in order to promote sedimentation behind the fence.

The following layout and installation guidance can improve performance and should be followed:

- Silt fence should be used in combination with erosion controls up-slope in order to provide the most effective sediment control.
- Silt fence alone is not effective at reducing turbidity. (Barrett and Malina, 2004)
- Designers should consider diverting sediment laden water to a temporary sediment basin or trap. (EPA, 2012)
- Use principally in areas where sheet flow occurs.
- Install along a level contour, so water does not pond more than 1.5 ft. at any point along the silt fence.
- Provide sufficient room for runoff to pond behind the fence and to allow sediment removal equipment to pass between the silt fence and toes of slopes or other obstructions. About 1200 ft.^{2} of ponding area should be provided for every acre draining to the fence.
- Efficiency of silt fences is primarily dependent on the detention time of the runoff behind the control. (Barrett and Malina, 2004)

- The drainage area above any fence should not exceed a quarter of an acre. (Rule of Thumb-100-feet of silt fence per 10,000 ft.^{2} of disturbed area.) (EPA, 2012)
- The maximum length of slope draining to any point along the silt fence should be 100 ft. per ft of silt fence.
- Turn the ends of the filter fence uphill to prevent stormwater from flowing around the fence.
- Leave an undisturbed or stabilized area immediately down slope from the fence where feasible.
- Silt fences should remain in place until the disturbed area draining to the silt fence is permanently stabilized, after which, the silt fence fabric and posts should be removed and properly disposed.
- J-hooks, which have ends turning up the slope to break up long runs of fence and provide multiple storage areas that work like mini-retention areas, may be used to increase the effectiveness of silt fence.
- Be aware of local regulations regarding the type and installation requirements of silt fence, which may differ from those presented in this fact sheet.

Design and Layout

In areas where high winds are anticipated the fence should be supported by a plastic or wire mesh. The geotextile fabric of the silt fence should contain ultraviolet inhibitors and stabilizers to provide longevity equivalent to the project life or replacement schedule.

- Layout in accordance with the attached figures.
- For slopes that contain a high number of rocks or large dirt clods that tend to dislodge, it may be necessary to protect silt fence from rocks (e.g., rockfall netting) ensure the integrity of the silt fence installation.

Standard vs. Heavy Duty Silt Fence

Standard Silt Fence

- Generally applicable in cases where the area draining to fence produces moderate sediment loads.

Heavy Duty Silt Fence

- Heavy duty silt fence usually has 1 or more of the following characteristics, not possessed by standard silt fence.
  - Fabric is reinforced with wire backing or additional support.
  - Posts are spaced closer than pre-manufactured, standard silt fence products.
- Use is generally limited to areas affected by high winds.
- Area draining to fence produces moderate sediment loads.

Materials

Standard Silt Fence

- Silt fence material should be woven geotextile with a minimum width of 36 in. The fabric should conform to the requirements in ASTM designation D6461.

- Wooden stakes should be commercial quality lumber of the size and shape shown on the plans. Each stake should be free from decay, splits or cracks longer than the thickness of the stake or other defects that would weaken the stakes and cause the stakes to be structurally unsuitable.

- Staples used to fasten the fence fabric to the stakes should be not less than 1.75 in. long and should be fabricated from 15-gauge or heavier wire. The wire used to fasten the tops of the stakes together when joining two sections of fence should be 9 gauge or heavier wire. Galvanizing of the fastening wire will not be required.

Heavy-Duty Silt Fence

- Some silt fence has a wire backing to provide additional support, and there are products that may use prefabricated plastic holders for the silt fence and use metal posts instead of wood stakes.

Installation Guidelines – Traditional Method

Silt fences are to be constructed on a level contour. Sufficient area should exist behind the fence for ponding to occur without flooding or overtopping the fence.

- A trench should be excavated approximately 6 in. wide and 6 in. deep along the line of the proposed silt fence (trenches should not be excavated wider or deeper than necessary for proper silt fence installation).

- Bottom of the silt fence should be keyed-in a minimum of 12 in.

- Posts should be spaced a maximum of 6 ft. apart and driven securely into the ground a minimum of 18 in. or 12 in. below the bottom of the trench.

- When standard strength geotextile is used, a plastic or wire mesh support fence should be fastened securely to the upslope side of posts using heavy–duty wire staples at least 1 in. long. The mesh should extend into the trench.

- When extra-strength geotextile and closer post spacing are used, the mesh support fence may be eliminated.

- Woven geotextile should be purchased in a long roll, then cut to the length of the barrier. When joints are necessary, geotextile should be spliced together only at a support post, with a minimum 6 in. overlap and both ends securely fastened to the post.

- The trench should be backfilled with native material and compacted.

- Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/3 the height of the barrier; in no case should the reach exceed 500 ft.

- Cross barriers should be a minimum of 1/3 and a maximum of ½ the height of the linear barrier.

- See typical installation details at the end of this fact sheet.

Installation Guidelines - Static Slicing Method

- Static Slicing is defined as insertion of a narrow blade pulled behind a tractor, similar to a plow blade, at least 10 in. into the soil while at the same time pulling silt geotextile fabric into the ground through the opening created by the blade to the depth of the blade. Once the geotextile is installed, the soil is compacted using tractor tires.
- This method will not work with pre-fabricated, wire backed silt fence.
- Benefits:
    - Ease of installation (most often done with a 2-person crew).
    - Minimal soil disturbance.
    - Better level of compaction along fence, less susceptible to undercutting
    - Uniform installation.
- Limitations:
    - Does not work in shallow or rocky soils.
    - Complete removal of geotextile material after use is difficult.
    - Be cautious when digging near potential underground utilities.

Costs

- It should be noted that costs vary greatly across regions due to available supplies and labor costs.
- Average annual cost for installation using the traditional silt fence installation method (assumes 6 month useful life) is $7 per linear foot based on vendor research. Range of cost is $3.50 - $9.10 per linear foot.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Repair undercut silt fences.
- Repair or replace split, torn, slumping, or weathered fabric. The lifespan of silt fence fabric is generally 5 to 8 months.
- Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed, and replaced with new silt fence barriers.
- Sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches 1/3 of the barrier height.

- Silt fences should be left in place until the upgradient area is permanently stabilized. Until then, the silt fence should be inspected and maintained regularly.
- Remove silt fence when upgradient areas are stabilized. Fill and compact post holes and anchor trench, remove sediment accumulation, grade fence alignment to blend with adjacent ground, and stabilize disturbed area.

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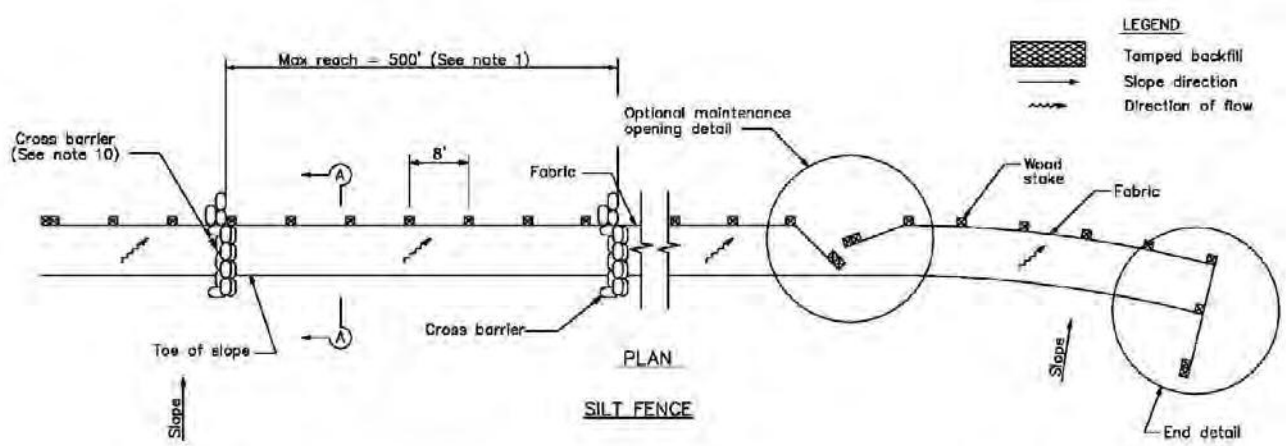
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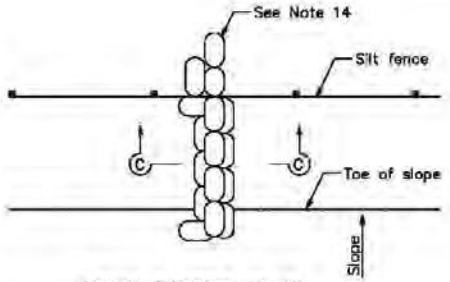
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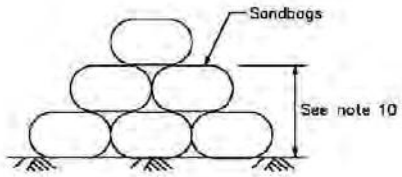


NOTES

1. Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/3 the height of the linear barrier, in no case shall the reach length exceed 500'.
2. The last 8'–0" of fence shall be turned up slope.
3. Stake dimensions are nominal.
4. Dimension may vary to fit field condition.
5. Stakes shall be spaced at 8'–0" maximum and shall be positioned on downstream side of fence.
6. Stakes to overlap and fence fabric to fold around each stake one full turn. Secure fabric to stake with 4 staples.
7. Stakes shall be driven tightly together to prevent potential flow–through of sediment at joint. The tops of the stakes shall be secured with wire.
8. For end stake, fence fabric shall be folded around two stakes one full turn and secured with 4 staples.
9. Minimum 4 staples per stake. Dimensions shown are typical.
10. Cross barriers shall be a minimum of 1/3 and a maximum of 1/2 the height of the linear barrier.
11. Maintenance openings shall be constructed in a manner to ensure sediment remains behind silt fence.
12. Joining sections shall not be placed at sump locations.
13. Sandbag rows and layers shall be offset to eliminate gaps.
14. Add 3–4 bags to cross barrier on downgradient side of silt fence as needed to prevent bypass or undermining and as allowable based on site limits of disturbance.



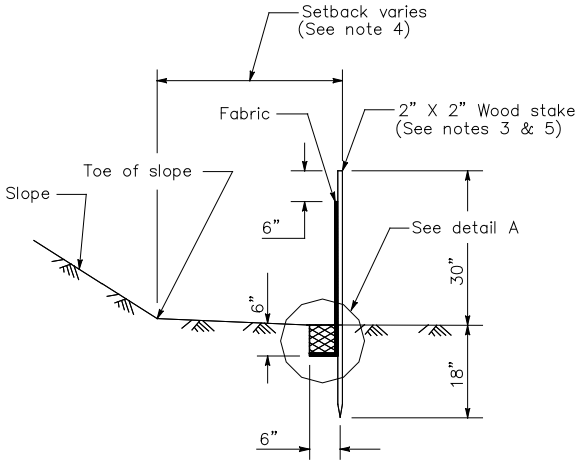
CROSS BARRIER DETAIL



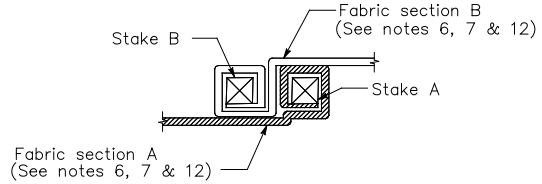
SECTION C–C

Silt Fence

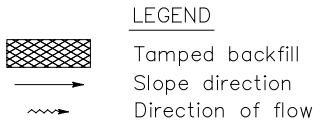
SE-1

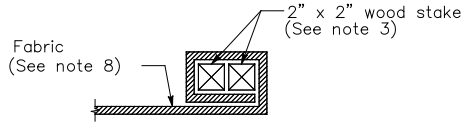


SECTION A–A

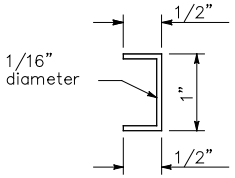


JOINING SECTION DETAIL (TOP VIEW)

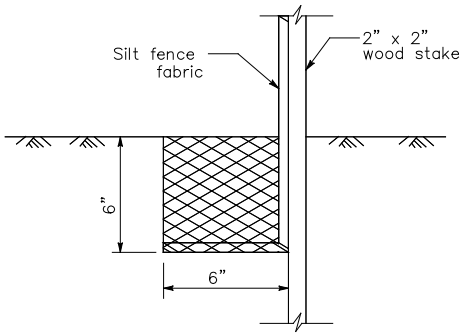




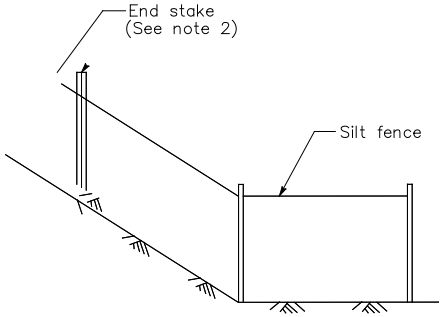
END STAKE DETAIL (TOP VIEW)



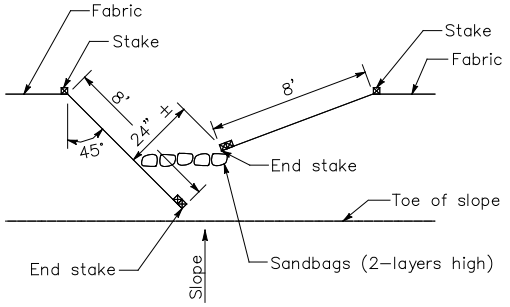
STAPLE DETAIL
(SEE NOTE 9)



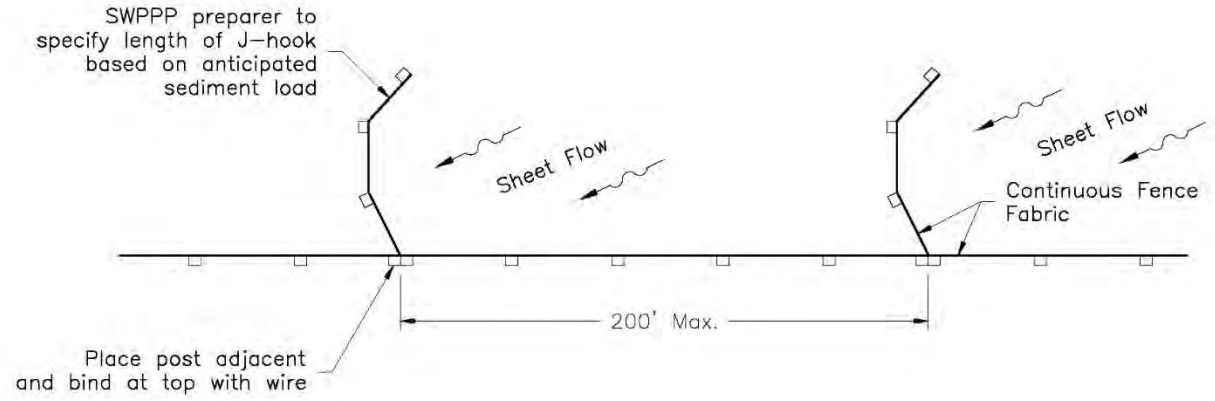
DETAIL A



END DETAIL

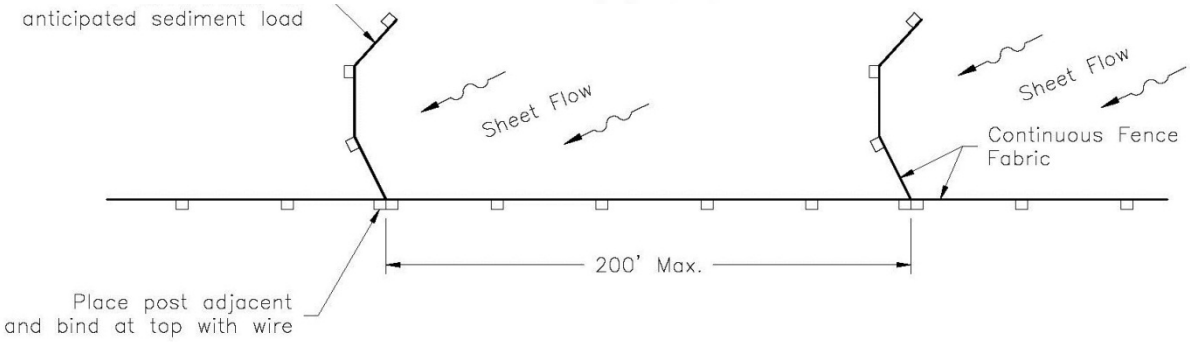


OPTIONAL MAINTENANCE OPENING DETAIL
(SEE NOTE 11)



Plan

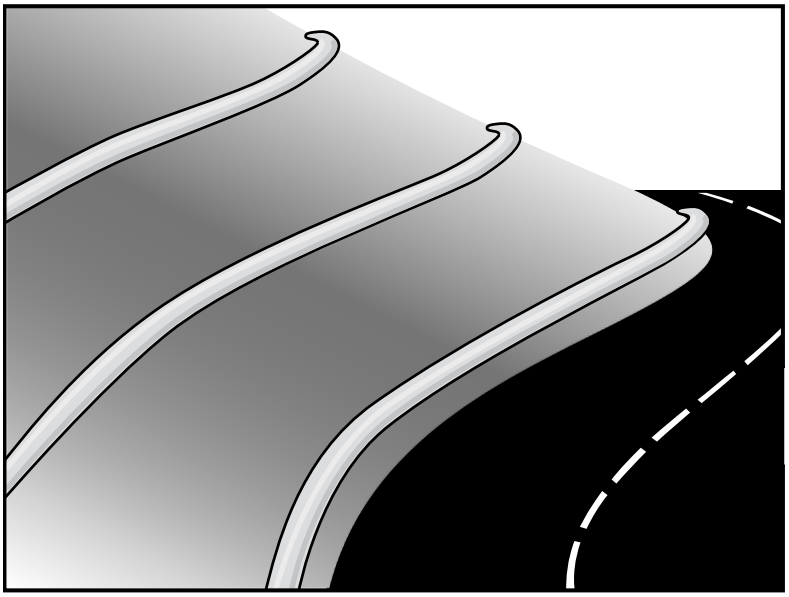
J–HOOK



Plan

J–HOOK

Fiber Rolls SE-5



Description and Purpose

A fiber roll (also known as wattles or logs) consists of straw, coir, curled wood fiber, or other biodegradable materials bound into a tight tubular roll wrapped by plastic netting, which can be photodegradable, or natural fiber, such as jute, cotton, or sisal. Additionally, gravel core fiber rolls are available, which contain an imbedded ballast material such as gravel or sand for additional weight when staking the rolls are not feasible (such as use as inlet protection). When fiber rolls are placed at the toe and on the face of slopes along the contours, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff (through sedimentation). By interrupting the length of a slope, fiber rolls can also reduce sheet and rill erosion until vegetation is established.

Suitable Applications

Fiber rolls may be suitable:

- Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
- At the end of a downward slope where it transitions to a steeper slope.
- Along the perimeter of a project.
- As check dams in unlined ditches with minimal grade.
- Down-slope of exposed soil areas.

Categories

EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-6 Gravel Bag Berm

SE-8 Sandbag Barrier

SE-12 Manufactured Linear Sediment Controls

SE-14 Biofilter Bags

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- At operational storm drains as a form of inlet protection.
- Around temporary stockpiles.

Limitations

- Fiber rolls should be used in conjunction with erosion control, such as hydroseed, RECPs, etc.
- Only biodegradable fiber rolls containing no plastic can remain on a site applying for a Notice of Termination due to plastic pollution and wildlife concerns (State Water Board, 2016). Fiber rolls containing plastic that are used on a site must be disposed of for final stabilization.
- Fiber rolls are not effective unless trenched in and staked. If not properly staked and trenched in, fiber rolls will not work as intended and could be transported by high flows.
- Not intended for use in high flow situations (i.e., for concentrated flows).
- Difficult to move once saturated.
- Fiber rolls have a limited sediment capture zone.
- Fiber rolls should not be used on slopes subject to creep, slumping, or landslide.
- Rolls typically function for 12-24 months, depending upon local conditions and roll material.

Implementation

Fiber Roll Materials

- Fiber rolls should be prefabricated.
- Fiber rolls may come manufactured containing polyacrylamide (PAM), a flocculating agent within the roll. Fiber rolls impregnated with PAM provide additional sediment removal capabilities and should be used in areas with fine, clayey or silty soils to provide additional sediment removal capabilities. Monitoring may be required for these installations.
- Fiber rolls are made from weed-free rice straw, flax, curled wood fiber, or coir bound into a tight tubular roll by netting or natural fiber (see *Limitations* above regarding plastic netting).
- Typical fiber rolls vary in diameter from 6 in. to 20 in. Larger diameter rolls are available as well. The larger the roll, the higher the sediment retention capacity.
- Typical fiber rolls lengths are 4, 10, 20 and 25 ft., although other lengths are likely available.

Installation

- Locate fiber rolls on level contours spaced as follows:
  - Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20 ft.

- Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15 ft. (a closer spacing is more effective).
- Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10 ft. (a closer spacing is more effective).

- Prepare the slope before beginning installation.
- Dig small trenches across the slope on the contour. The trench depth should be ¼ to 1/3 of the thickness of the roll, and the width should equal the roll diameter, in order to provide area to backfill the trench.
- It is critical that rolls are installed perpendicular to water movement, and parallel to the slope contour.
- Start building trenches and installing rolls from the bottom of the slope and work up.
- It is recommended that pilot holes be driven through the fiber roll. Use a straight bar to drive holes through the roll and into the soil for the wooden stakes.
- Turn the ends of the fiber roll up slope to prevent runoff from going around the roll.
- Stake fiber rolls into the trench.
  - Drive stakes at the end of each fiber roll and spaced 4 ft maximum on center.
  - Use wood stakes with a nominal classification of 0.75 by 0.75 in. and minimum length of 24 in.
- If more than one fiber roll is placed in a row, the rolls should be overlapped, not abutted.
- See typical fiber roll installation details at the end of this fact sheet.

Removal

- Fiber rolls can be left in place or removed depending on the type of fiber roll and application (temporary vs. permanent installation). Fiber rolls encased with plastic netting or containing any plastic material will need to be removed from the site for final stabilization. Fiber rolls used in a permanent application are to be encased with a non-plastic material and are left in place. Removal of a fiber roll used in a permanent application can result in greater disturbance; therefore, during the BMP planning phase, the areas where fiber rolls will be used on final slopes, only fiber rolls wrapped in non-plastic material should be selected.
- Temporary installations should only be removed when up gradient areas are stabilized per General Permit requirements, and/or pollutant sources no longer present a hazard. But they should also be removed before vegetation becomes too mature so that the removal process does not disturb more soil and vegetation than is necessary.

Costs

Material costs for straw fiber rolls range from $26 - $38 per 25-ft. roll[1] and curled wood fiber rolls range from $30 - $40 per roll[2].

Material costs for PAM impregnated fiber rolls range between $9.00-$12.00 per linear foot, based upon vendor research[1] .

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Repair or replace split, torn, unraveling, or slumping fiber rolls.
- If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when sediment accumulation reaches one-third the designated sediment storage depth.
- If fiber rolls are used for erosion control, such as in a check dam, sediment removal should not be required as long as the system continues to control the grade. Sediment control BMPs will likely be required in conjunction with this type of application.
- Repair any rills or gullies promptly.

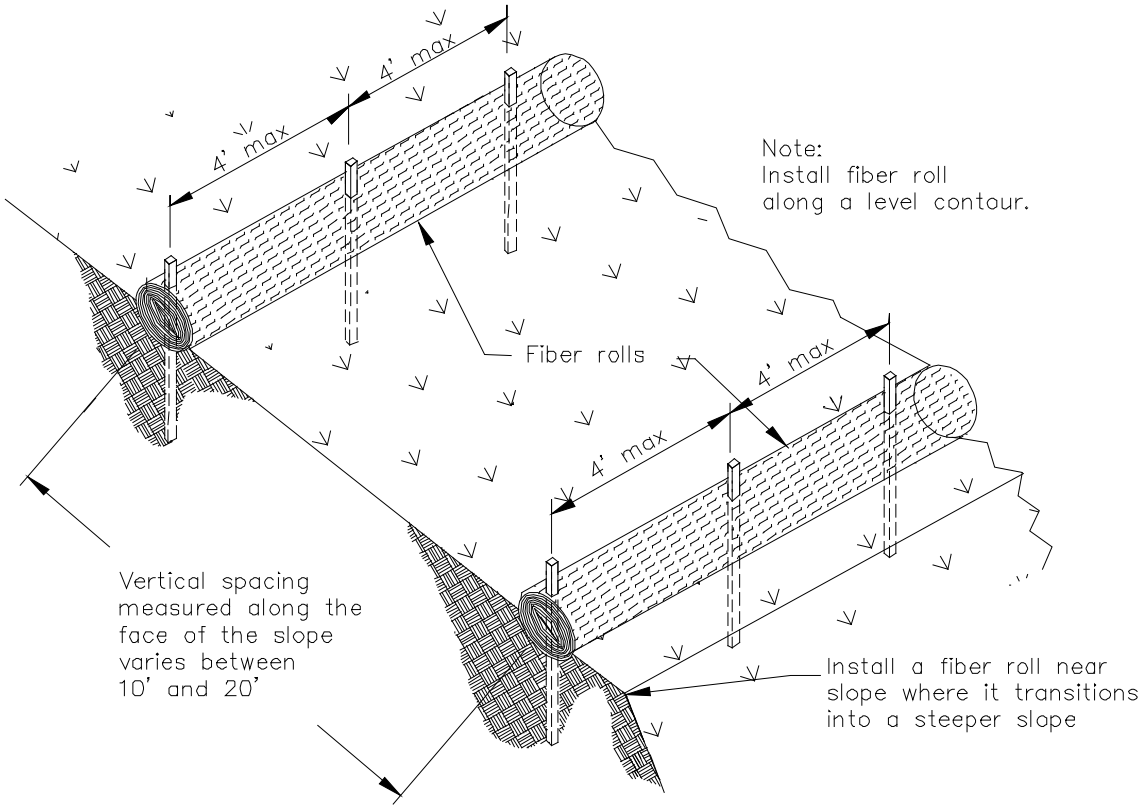
References

General Construction – Frequently Asked Questions, Storm Water Program website, State Water Resources Control Board, 2009 updated in 2016. Available online at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/gen_const_faq.shtml.

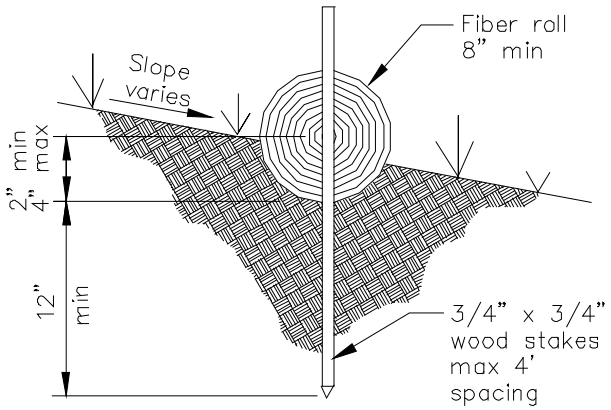
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

[1] Adjusted for inflation (2016 dollars) by Tetra Tech, Inc.
[2] Costs estimated based on vendor query by Tetra Tech, Inc. 2016.

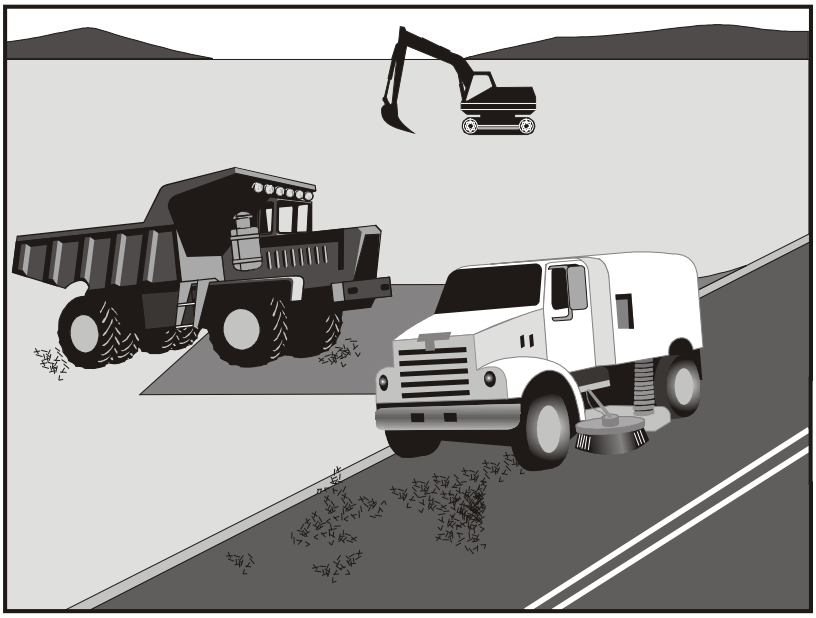


TYPICAL FIBER ROLL INSTALLATION
N.T.S.



ENTRENCHMENT DETAIL
N.T.S.

Street Sweeping and Vacuuming SE-7



Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	☑
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

- Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).
- Sweeping may be less effective for fine particle soils (i.e., clay).

Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming efforts to be focused and perhaps save money.
- Inspect potential sediment tracking locations daily.

- Visible sediment tracking should be swept or vacuumed on a daily basis.
- Do not use kick brooms or sweeper attachments. These tend to spread the dirt rather than remove it.
- If not mixed with debris or trash, consider incorporating the removed sediment back into the project

Costs

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from $ 650/day to $2,500/day[1], plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent dumping.

Inspection and Maintenance

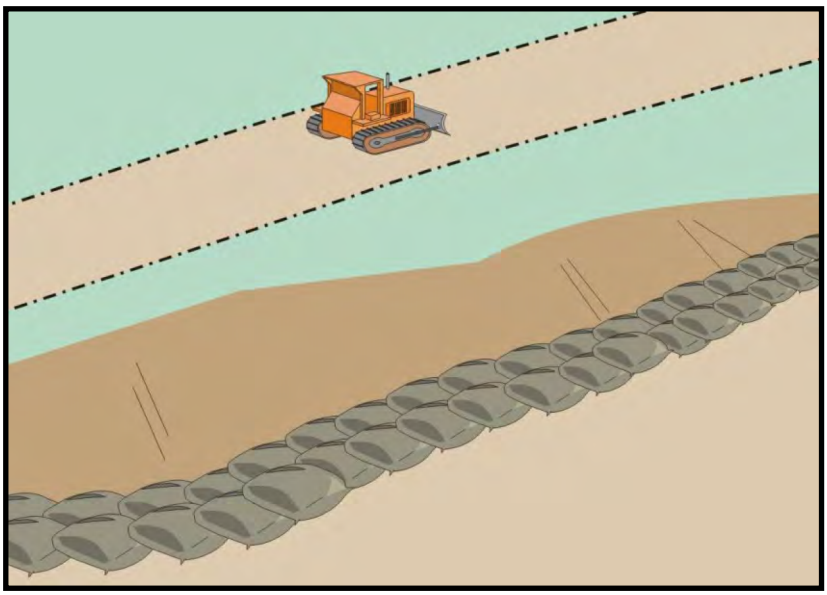
- Inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily. More frequent removal, even continuous removal, may be required in some jurisdictions.
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

[1] Based on contractor query conducted by Tetra Tech, Inc. November 2016.

Sandbag Barrier SE-8



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Description and Purpose

A sandbag barrier is a series of sand-filled bags placed on a level contour to intercept or to divert sheet flows. Sandbag barriers placed on a level contour pond sheet flow runoff, allowing sediment to settle out.

Suitable Applications

Sandbag barriers may be a suitable control measure for the applications described below. It is important to consider that sand bags are less porous than gravel bags and ponding or flooding can occur behind the barrier. Also, sand is easily transported by runoff if bags are damaged or ruptured. The SWPPP Preparer should select the location of a sandbag barrier with respect to the potential for flooding, damage, and the ability to maintain the BMP.

- As a linear sediment control measure:
  - Below the toe of slopes and erodible slopes.
  - As sediment traps at culvert/pipe outlets.
  - Below other small cleared areas.
  - Along the perimeter of a site.
  - Down slope of exposed soil areas.
  - Around temporary stockpiles and spoil areas.
  - Parallel to a roadway to keep sediment off paved areas.
  - Along streams and channels.

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-12 Manufactured Linear Sediment Controls

SE-14 Biofilter Bags

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- As linear erosion control measure:
  - Along the face and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
  - At the top of slopes to divert runoff away from disturbed slopes.
  - As check dams across mildly sloped construction roads.

Limitations

- It is necessary to limit the drainage area upstream of the barrier to 5 acres.
- Sandbags are not intended to be used as filtration devices.
- Easily damaged by construction equipment.
- Degraded sandbags may rupture when removed, spilling sand.
- Installation can be labor intensive.
- Durability of sandbags is somewhat limited, and bags will need to be replaced when there are signs of damage or wear.
- Burlap should not be used for sandbags.

Implementation

General

A sandbag barrier consists of a row of sand-filled bags placed on a level contour. When appropriately placed, a sandbag barrier intercepts and slows sheet flow runoff, causing temporary ponding. The temporary ponding allows sediment to settle. Sand-filled bags have limited porosity, which is further limited as the fine sand tends to quickly plug with sediment, limiting or completely blocking the rate of flow through the barrier. If a porous barrier is desired, consider SE-1, Silt Fence, SE-5, Fiber Rolls, SE-6, Gravel Bag Berms or SE-14, Biofilter Bags. Sandbag barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets which erode rills, and ultimately gullies, into disturbed, sloped soils. Sandbag barriers are similar to gravel bag berms, but less porous. Generally, sandbag barriers should be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment control.

Design and Layout

- Locate sandbag barriers on a level contour.
- When used for slope interruption, the following slope/sheet flow length combinations apply:
  - Slope inclination of 4:1 (H:V) or flatter: Sandbags should be placed at a maximum interval of 20 ft, with the first row near the slope toe.
  - Slope inclination between 4:1 and 2:1 (H:V): Sandbags should be placed at a maximum interval of 15 ft. (a closer spacing is more effective), with the first row near the slope toe.

  - Slope inclination 2:1 (H:V) or greater: Sandbags should be placed at a maximum interval of 10 ft. (a closer spacing is more effective), with the first row near the slope toe.

- Turn the ends of the sandbag barrier up slope to prevent runoff from going around the barrier.
- Allow sufficient space up slope from the barrier to allow ponding, and to provide room for sediment storage.
- For installation near the toe of the slope, sand bag barriers should be set back from the slope toe to facilitate cleaning. Where specific site conditions do not allow for a set-back, the sand bag barrier may be constructed on the toe of the slope. To prevent flows behind the barrier, bags can be placed perpendicular to a berm to serve as cross barriers.
- Drainage area should not exceed 5 acres.
- Butt ends of bags tightly.
- Overlap butt joints of row beneath with each successive row.
- Use a pyramid approach when stacking bags.
- In non-traffic areas
  - Height = 18 in. maximum
  - Top width = 24 in. minimum for three or more-layer construction
  - Side slope = 2:1 (H:V) or flatter
- In construction traffic areas
  - Height = 12 in. maximum
  - Top width = 24 in. minimum for three or more-layer construction.
  - Side slopes = 2:1 (H:V) or flatter.
- See typical sandbag barrier installation details at the end of this fact sheet.

Materials

- ***Sandbag Material:*** Sandbag should be woven polypropylene, polyethylene or polyamide fabric, minimum unit weight of 4 ounces/yd^2, Mullen burst strength exceeding 300 lb/in^2 in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355. Use of burlap is not an acceptable substitute, as sand can more easily mobilize out of burlap.
- ***Sandbag Size:*** Each sand-filled bag should have a length of 18 in., width of 12 in., thickness of 3 in., and mass of approximately 33 lbs. Bag dimensions are nominal and may vary based on locally available materials.

- ***Fill Material:*** All sandbag fill material should be non-cohesive, Class 3 (Caltrans Standard Specification, Section 25) or similar permeable material free from clay and deleterious material, such as recycled concrete or asphalt.

Costs

Empty sandbags cost $0.25 - $0.75. Average cost of fill material is $8 per yd^3. Additional labor is required to fill the bags. Pre-filled sandbags are more expensive at $1.50 - $2.00 per bag. These costs are based upon vendor research.

Inspection and Maintenance

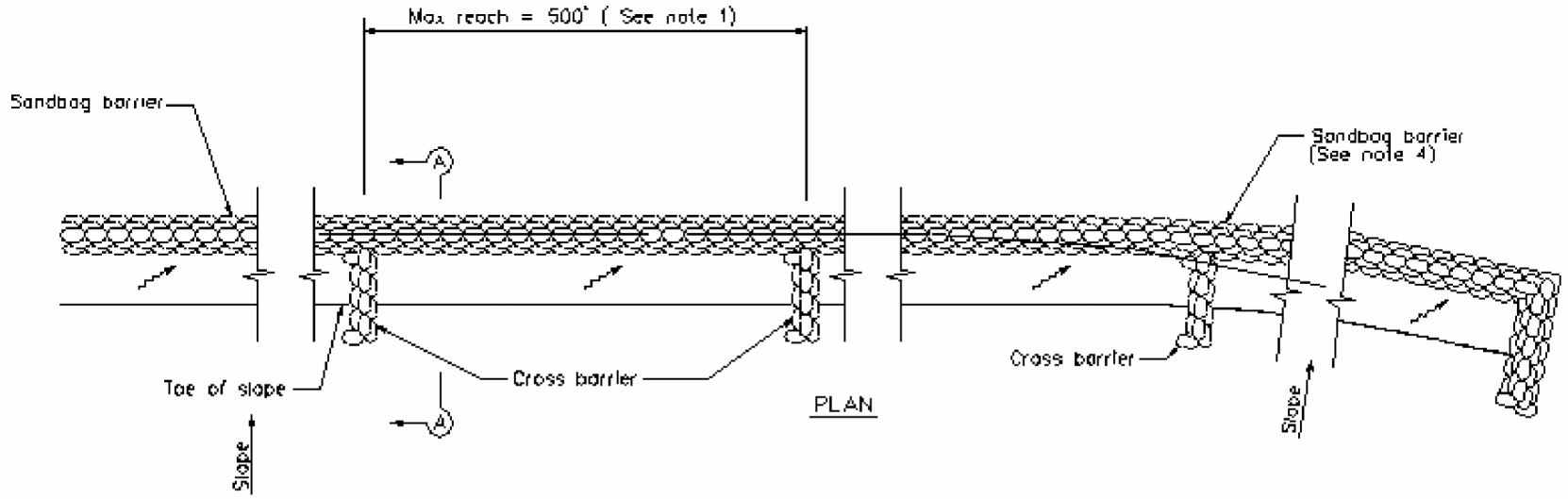
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Sandbags exposed to sunlight will need to be replaced every two to three months due to degradation of the bags.
- Reshape or replace sandbags as needed.
- Repair washouts or other damage as needed.
- Sediment that accumulates behind the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
- Remove sandbags when no longer needed and recycle sand fill whenever possible and properly dispose of bag material. Remove sediment accumulation, and clean, re-grade, and stabilize the area.

References

Standard Specifications for Construction of Local Streets and Roads, California Department of Transportation (Caltrans), July 2002.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

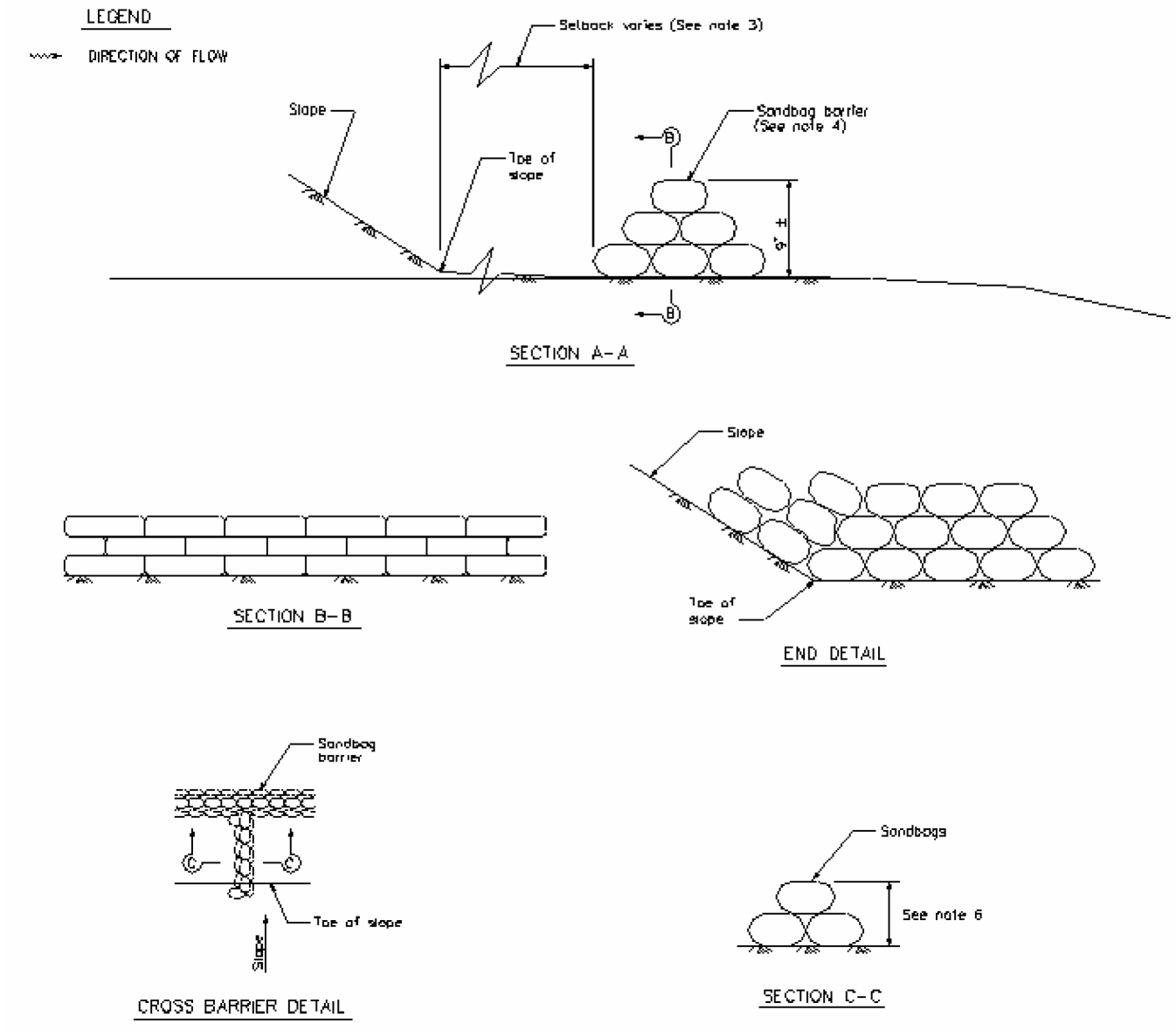
Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.



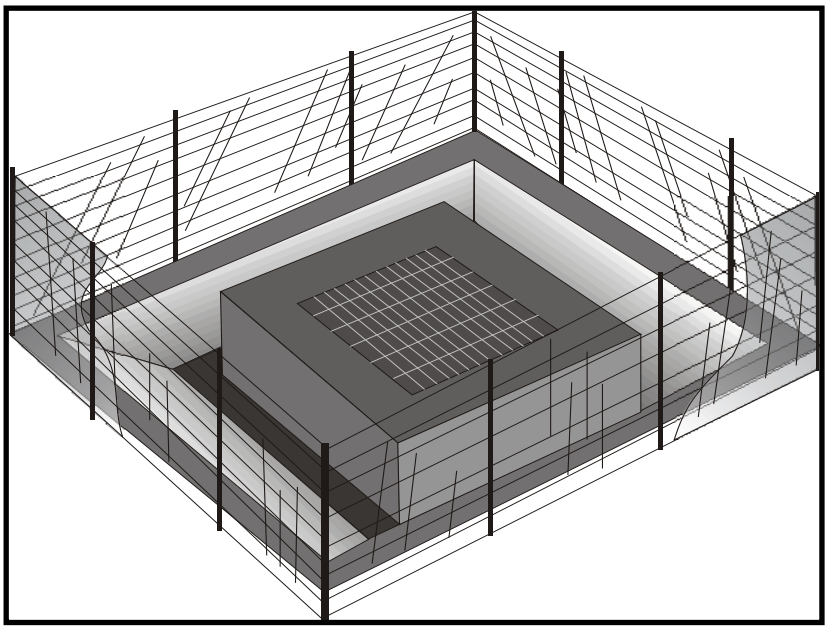
SANDBAG BARRIER

NOTES

1. Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/2 the height of the linear barrier, in no case shall the reach length exceed 500'.
2. Place sandbags tightly
3. Dimension may vary to fit field condition.
4. Sandbag barrier shall be a minimum of 3 bags high.
5. The end of the barrier shall be turned up slope.
6. Cross barriers shall be a min of 1/2 and a max of 2/3 the height of the linear barrier.
7. Sandbag rows and layers shall be staggered to eliminate gaps.


LEGEND
DIRECTION OF FLOW
Setback varies (See note 3)
Slope
Toe of slope
Sandbag barrier (See note 4)
B
H
B
SECTION A-A
SECTION B-B
Slope
Toe of slope
END DETAIL
Sandbag barrier
C
C
Toe of slope
Slope
CROSS BARRIER DETAIL
Sandbags
See note 6
SECTION C-C

Storm Drain Inlet Protection SE-10



Categories

EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-8 Sandbag Barrier

SE-14 Biofilter Bags

SE-13 Compost Socks and Berms

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Description and Purpose

Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

Suitable Applications

- Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Limitations

- Drainage area should not exceed 1 acre.
- In general straw bales should not be used as inlet protection.
- Requires an adequate area for water to pond without encroaching into portions of the roadway subject to traffic.
- Sediment removal may be inadequate to prevent sediment discharges in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use

other onsite sediment trapping techniques in conjunction with inlet protection.

- Frequent maintenance is required.
- Limit drainage area to 1 acre maximum. For drainage areas larger than 1 acre, runoff should be routed to a sediment-trapping device designed for larger flows. See BMPs SE-2, Sediment Basin, and SE-3, Sediment Traps.
- Excavated drop inlet sediment traps are appropriate where relatively heavy flows are expected, and overflow capability is needed.

Implementation

General

Inlet control measures presented in this handbook should not be used for inlets draining more than one acre. Runoff from larger disturbed areas should be first routed through SE-2, Sediment Basin or SE-3, Sediment Trap and/or used in conjunction with other drainage control, erosion control, and sediment control BMPs to protect the site. Different types of inlet protection are appropriate for different applications depending on site conditions and the type of inlet. Alternative methods are available in addition to the methods described/shown herein such as prefabricated inlet insert devices, or gutter protection devices.

Design and Layout

Identify existing and planned storm drain inlets that have the potential to receive sediment-laden surface runoff. Determine if storm drain inlet protection is needed and which method to use.

- The key to successful and safe use of storm drain inlet protection devices is to know where runoff that is directed toward the inlet to be protected will pond or be diverted as a result of installing the protection device.
  - Determine the acceptable location and extent of ponding in the vicinity of the drain inlet. The acceptable location and extent of ponding will influence the type and design of the storm drain inlet protection device.
  - Determine the extent of potential runoff diversion caused by the storm drain inlet protection device. Runoff ponded by inlet protection devices may flow around the device and towards the next downstream inlet. In some cases, this is acceptable; in other cases, serious erosion or downstream property damage can be caused by these diversions. The possibility of runoff diversions will influence whether or not storm drain inlet protection is suitable; and, if suitable, the type and design of the device.
- The location and extent of ponding, and the extent of diversion, can usually be controlled through appropriate placement of the inlet protection device. In some cases, moving the inlet protection device a short distance upstream of the actual inlet can provide more efficient sediment control, limit ponding to desired areas, and prevent or control diversions.
- Seven types of inlet protection are presented below. However, it is recognized that other effective methods and proprietary devices exist and may be selected.

- Silt Fence: Appropriate for drainage basins with less than a 5% slope, sheet flows, and flows under 0.5 cfs.

- Excavated Drop Inlet Sediment Trap: An excavated area around the inlet to trap sediment (SE-3).

- Gravel bag barrier: Used to create a small sediment trap upstream of inlets on sloped, paved streets. Appropriate for sheet flow or when concentrated flow may exceed 0.5 cfs, and where overtopping is required to prevent flooding.

- Block and Gravel Filter: Appropriate for flows greater than 0.5 cfs.

- Temporary Geotextile Storm drain Inserts: Different products provide different features. Refer to manufacturer details for targeted pollutants and additional features.

- Biofilter Bag Barrier: Used to create a small retention area upstream of inlets and can be located on pavement or soil. Biofilter bags slowly filter runoff allowing sediment to settle out. Appropriate for flows under 0.5 cfs.

- Compost Socks: Allow filtered run-off to pass through the compost while retaining sediment and potentially other pollutants (SE-13). Appropriate for flows under 1.0 cfs.

- Select the appropriate type of inlet protection and design as referred to or as described in this fact sheet.

- Provide area around the inlet for water to pond without flooding structures and property.

- Grates and spaces around all inlets should be sealed to prevent seepage of sediment-laden water.

- Excavate sediment sumps (where needed) 1 to 2 ft with 2:1 side slopes around the inlet.

Installation

- ***DI Protection Type 1 - Silt Fence*** **-** Similar to constructing a silt fence; see BMP SE-1, Silt Fence. Do not place fabric underneath the inlet grate since the collected sediment may fall into the drain inlet when the fabric is removed or replaced and water flow through the grate will be blocked resulting in flooding. See typical Type 1 installation details at the end of this fact sheet.

  1. Excavate a trench approximately 6 in. wide and 6 in. deep along the line of the silt fence inlet protection device.

  2. Place 2 in. by 2 in. wooden stakes around the perimeter of the inlet a maximum of 3 ft apart and drive them at least 18 in. into the ground or 12 in. below the bottom of the trench. The stakes should be at least 48 in.

  3. Lay fabric along bottom of trench, up side of trench, and then up stakes. See SE-1, Silt Fence, for details. The maximum silt fence height around the inlet is 24 in.

  4. Staple the filter fabric (for materials and specifications, see SE-1, Silt Fence) to wooden stakes. Use heavy-duty wire staples at least 1 in. in length.

5. Backfill the trench with gravel or compacted earth all the way around.

- ***DI Protection Type 2 - Excavated Drop Inlet Sediment Trap -*** Install filter fabric fence in accordance with DI Protection Type 1. Size excavated trap to provide a minimum storage capacity calculated at the rate 67 yd^3/acre of drainage area. See typical Type 2 installation details at the end of this fact sheet.

- ***DI Protection Type 3 - Gravel bag -*** Flow from a severe storm should not overtop the curb. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Construct gravel bags in accordance with SE-6, Gravel Bag Berm. Gravel bags should be used due to their high permeability. See typical Type 3 installation details at the end of this fact sheet.

  1. Construct on gently sloping street.

  2. Leave room upstream of barrier for water to pond and sediment to settle.

  3. Place several layers of gravel bags – overlapping the bags and packing them tightly together.

  4. Leave gap of one bag on the top row to serve as a spillway. Flow from a severe storm (e.g., 10-year storm) should not overtop the curb.

- ***DI Protection Type 4 – Block and Gravel Filter -*** Block and gravel filters are suitable for curb inlets commonly used in residential, commercial, and industrial construction. See typical Type 4 installation details at the end of this fact sheet.

  1. Place hardware cloth or comparable wire mesh with 0.5 in. openings over the drop inlet so that the wire extends a minimum of 1 ft beyond each side of the inlet structure. If more than one strip is necessary, overlap the strips. Place woven geotextile over the wire mesh.

  2. Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, so that the open ends face outward, not upward. The ends of adjacent blocks should abut. The height of the barrier can be varied, depending on design needs, by stacking combinations of blocks that are 4 in., 8 in., and 12 in. wide. The row of blocks should be at least 12 in. but no greater than 24 in. high.

  3. Place wire mesh over the outside vertical face (open end) of the concrete blocks to prevent stone from being washed through the blocks. Use hardware cloth or comparable wire mesh with 0.5 in. opening.

  4. Pile washed stone against the wire mesh to the top of the blocks. Use 0.75 to 3 in.

- ***DI Protection Type 5 – Temporary Geotextile Insert (proprietary) –*** Many types of temporary inserts are available. Most inserts fit underneath the grate of a drop inlet or inside of a curb inlet and are fastened to the outside of the grate or curb. These inserts are removable, and many can be cleaned and reused. Installation of these inserts differs between manufacturers. Please refer to manufacturer instruction for installation of proprietary devices.

- ***DI Protection Type 6 - Biofilter bags*** – Biofilter bags may be used as a substitute for gravel bags in low-flow situations. Biofilter bags should conform to specifications detailed in SE-14, Biofilter bags.

    1. Construct in a gently sloping area.
    2. Biofilter bags should be placed around inlets to intercept runoff flows.
    3. All bag joints should overlap by 6 in.
    4. Leave room upstream for water to pond and for sediment to settle out.
    5. Stake bags to the ground as described in the following detail. Stakes may be omitted if bags are placed on a paved surface.

- ***DI Protection Type 7 – Compost Socks*** – A compost sock can be assembled on site by filling a mesh sock (e.g., with a pneumatic blower). Compost socks do not require special trenching compared to other sediment control methods (e.g., silt fence). Compost socks should conform to specification detailed in SE-13, Compost Socks and Berms.

Costs

- Average annual cost for installation and maintenance of DI Type 1-4 and 6 (one-year useful life) is $200 per inlet.
- Temporary geotextile inserts are proprietary, and cost varies by region. These inserts can often be reused and may have greater than 1 year of use if maintained and kept undamaged. Average cost per insert ranges from $50-75 plus installation, but costs can exceed $100. This cost does not include maintenance.
- See SE-13 for Compost Sock cost information.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Silt Fences. If the fabric becomes clogged, torn, or degrades, it should be replaced. Make sure the stakes are securely driven in the ground and are in good shape (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes. At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height.
- Gravel Filters. If the gravel becomes clogged with sediment, it should be carefully removed from the inlet and either cleaned or replaced. Since cleaning gravel at a construction site may be difficult, consider using the sediment-laden stone as fill material and put fresh stone around the inlet. Inspect bags for holes, gashes, and snags, and replace bags as needed. Check gravel bags for proper arrangement and displacement.

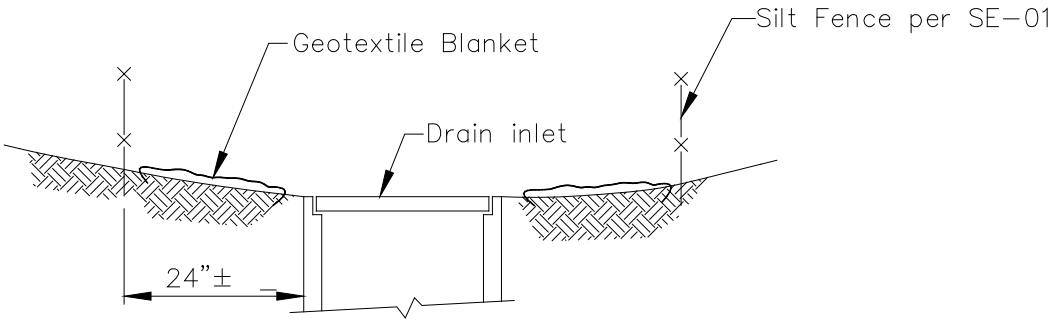
- Sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
- Inspect and maintain temporary geotextile insert devices according to manufacturer's specifications.
- Remove storm drain inlet protection once the drainage area is stabilized.
    - Clean and regrade area around the inlet and clean the inside of the storm drain inlet, as it should be free of sediment and debris at the time of final inspection.

References

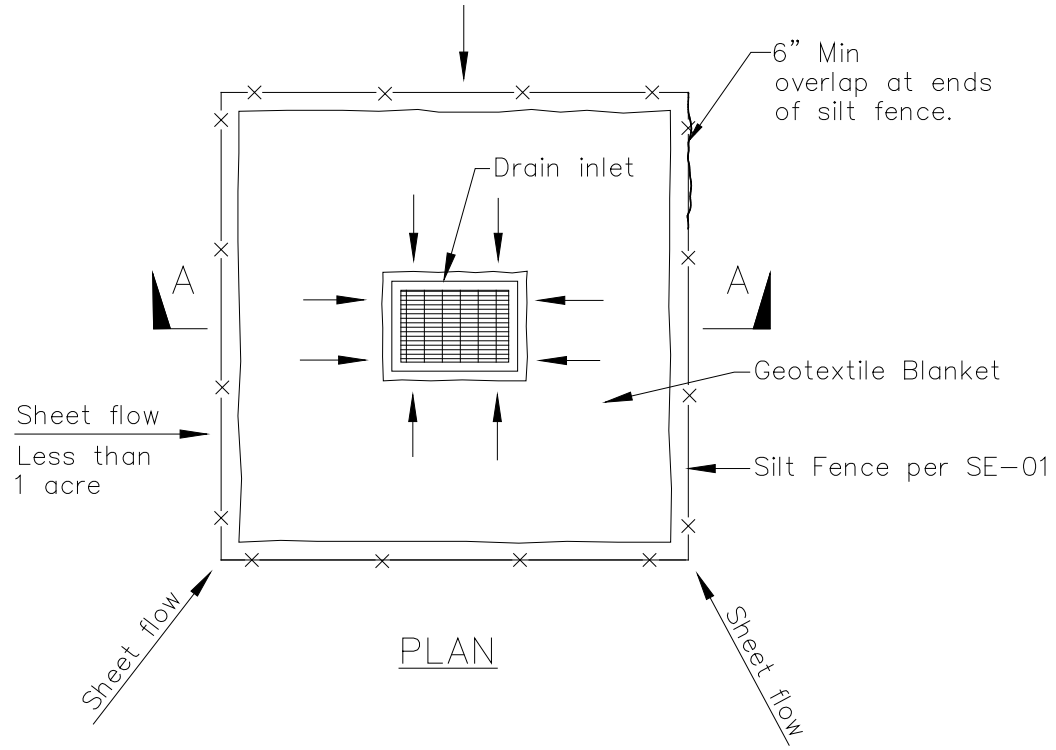
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SECTION A–A

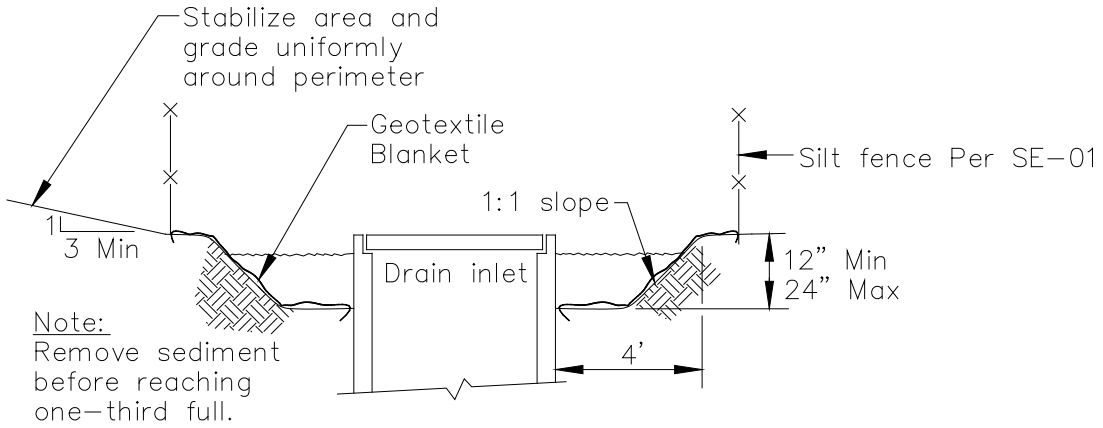


PLAN

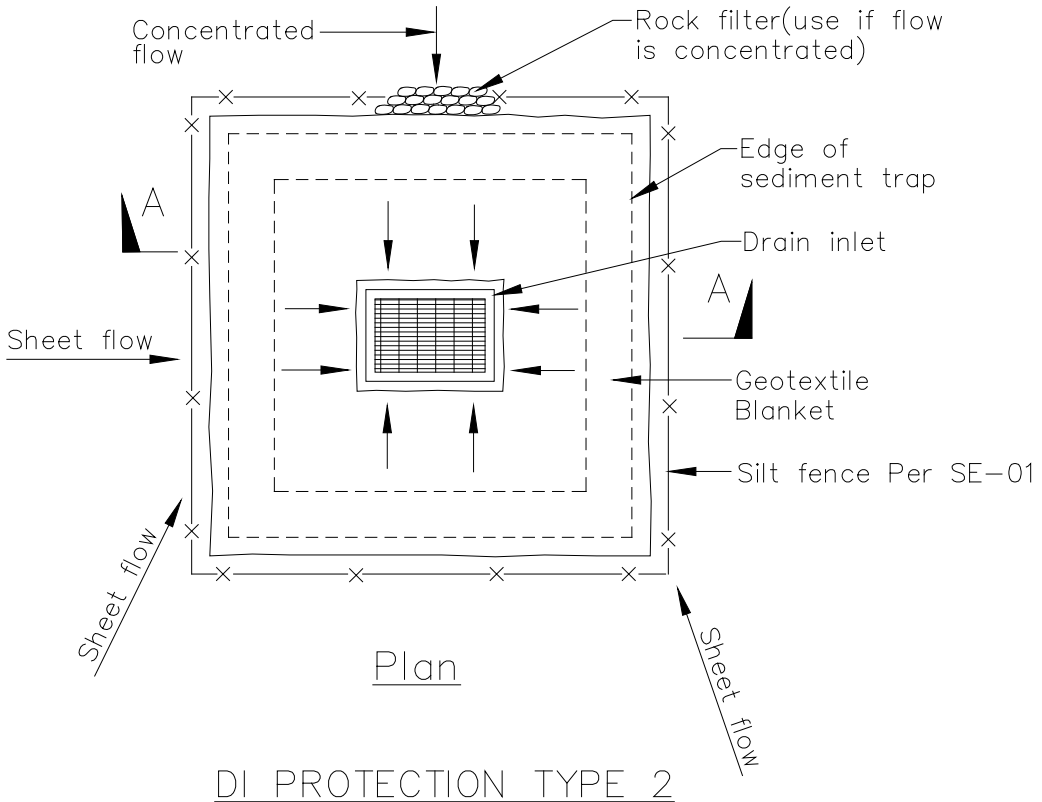
DI PROTECTION TYPE 1
NOT TO SCALE

NOTES:

1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.



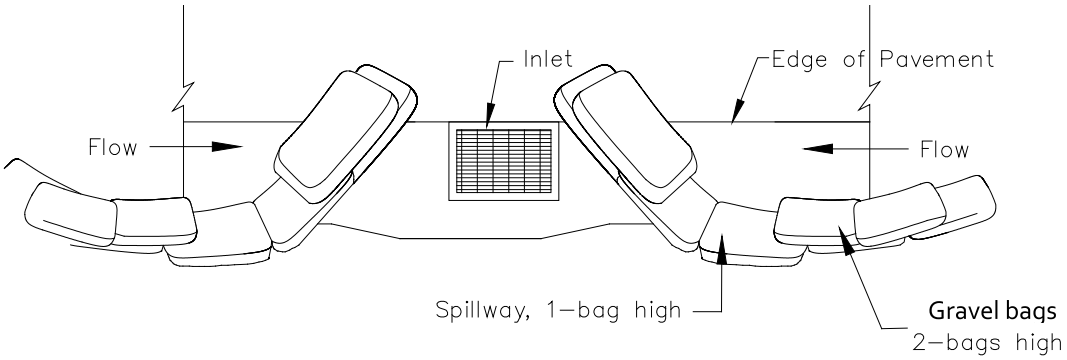
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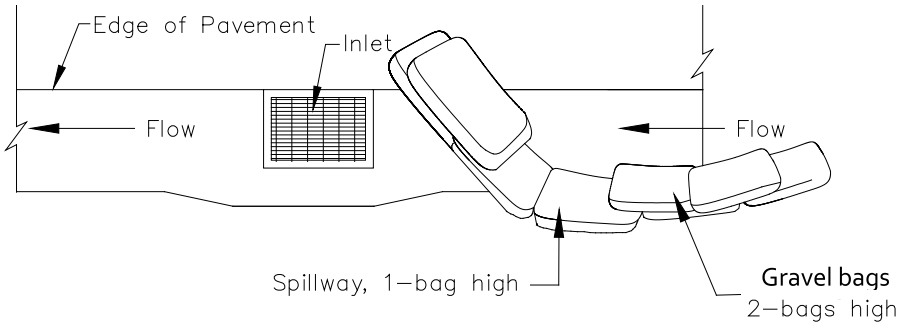
Plan

DI PROTECTION TYPE 2
NOT TO SCALE

Notes
1. For use in cleared and grubbed and in graded areas.
2. Shape basin so that longest inflow area faces longest length of trap.
3. For concentrated flows, shape basin in 2:1 ratio with length oriented towards direction of flow.



TYPICAL PROTECTION FOR INLET ON SUMP

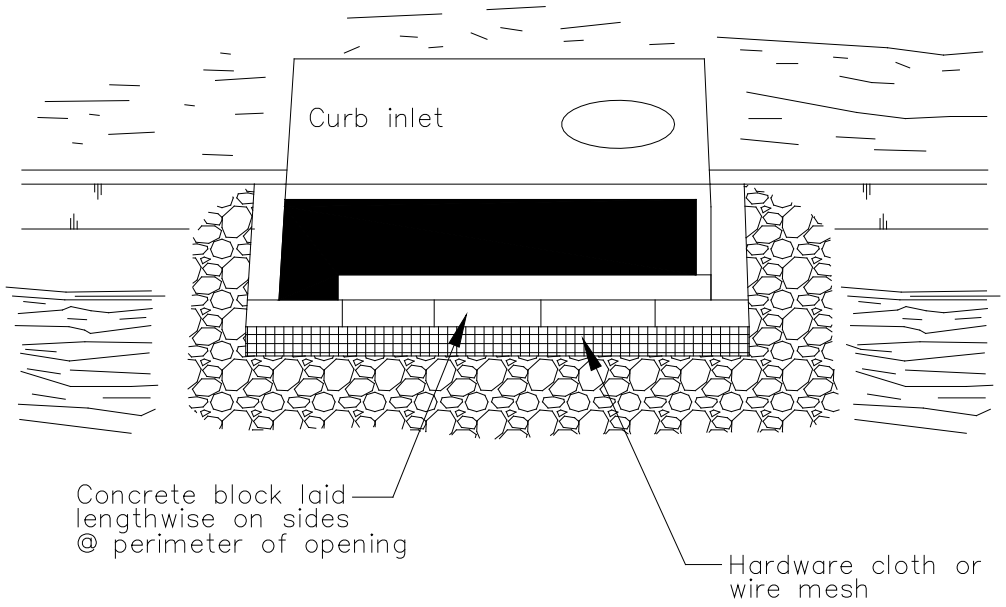


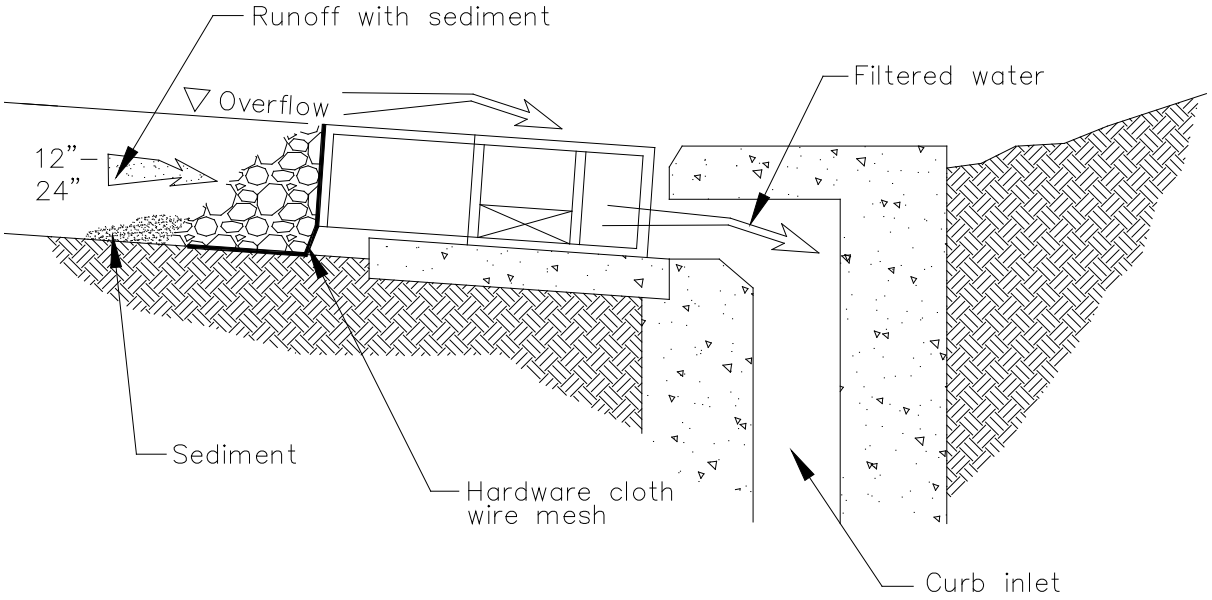
TYPICAL PROTECTION FOR INLET ON GRADE

NOTES:

1. Intended for short–term use.
2. Use to inhibit non–storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed
5. Not applicable in areas with high silts and clays without filter fabric.
6. Protection can be effective even if it is not immediately adjacent to the inlet provided that the inlet is protected from potential sources of pollution.

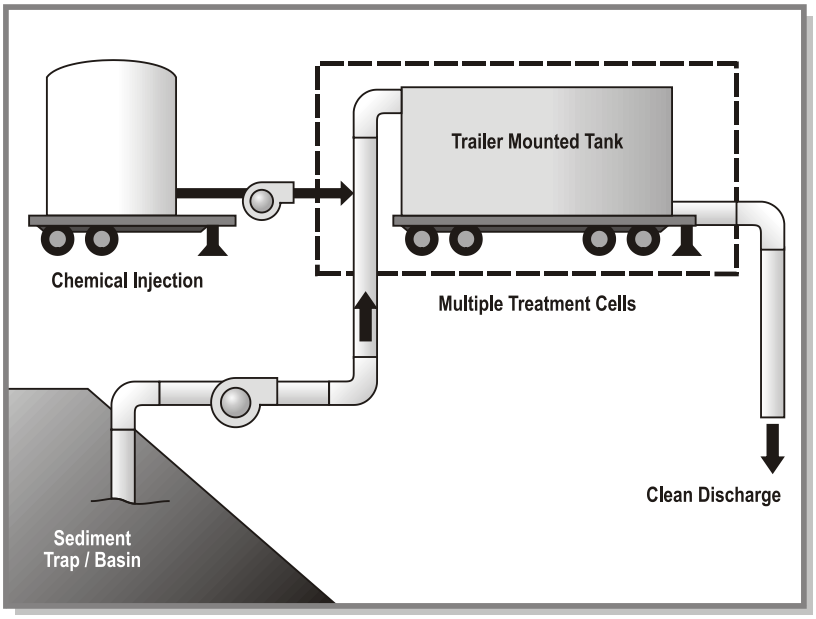
DI PROTECTION TYPE 3
NOT TO SCALE





DI PROTECTION – TYPE 4
NOT TO SCALE

Active Treatment Systems SE-11



Categories

EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Description and Purpose

Active Treatment Systems (ATS) reduce turbidity of construction site runoff by introducing chemicals to stormwater through direct dosing or an electrical current to enhance flocculation, coagulation, and settling of the suspended sediment. Coagulants and flocculants are used to enhance settling and removal of suspended sediments and generally include inorganic salts and polymers (USACE, 2001). The increased flocculation aids in sedimentation and ability to remove fine suspended sediments, thus reducing stormwater runoff turbidity and improving water quality.

Suitable Applications

ATS can reliably provide exceptional reductions of turbidity and associated pollutants and should be considered where turbid discharges to sediment and turbidity sensitive waters cannot be avoided using traditional BMPs. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.

Limitations

Dischargers choosing to utilize chemical treatment in an ATS must follow all guidelines of the Construction General Permit Attachment F – Active Treatment System Requirements. General limitations are as follows:

- Numeric Effluent Limit (NEL) for all discharges (10 NTU daily flow-weighted average)
- Limited availability of chemical residual testing procedures that meet permit requirements for flow-through treatment
- Specific field and classroom ATS training required to operate equipment
- Batch treatment requires extensive toxicity testing of effluent
- Batch treatment requires large footprint to accommodate treatment cells
- Requires additional filtration to remove residual floc and treatment chemicals prior to discharge
- Petroleum based polymers should not be used
- Requires site-specific design and equipment
- Limited discharge rates depending on receiving water body
- Labor intensive operation and maintenance
- ATS costs are higher on a unit basis for smaller sites that would be expected to have a lower volume of treated runoff
- ATS costs are seasonably variable due to increases or decreases in rainfall volumes

Implementation

Turbidity is difficult to control once fine particles are suspended in stormwater runoff from a construction site. Sedimentation ponds are effective at removing larger particulate matter by gravity settling but are ineffective at removing smaller particulates such as clay and fine silt. Sediment ponds are typically designed to remove sediment no smaller than medium silt (0.02 mm). ATS may be used to reduce the turbidity of stormwater runoff. With an ATS, very high turbidities can be reduced to levels comparable to what is found in streams during dry weather.

Criteria for ATS Product Use

Chemically treated stormwater discharged from construction sites must be non-toxic to aquatic organisms. The following protocol should be used to evaluate chemicals proposed for stormwater treatment at construction sites. Authorization to use a chemical in the field based on this protocol does not relieve the applicant from responsibility for meeting all discharge and receiving water criteria applicable to a site.

- An ATS Plan, which includes an Operation and Maintenance component, a Monitoring, Sampling and Reporting component, a Health and Safety component, and a Spill Prevention component must be prepared and submitted to the Regional Water Quality Control Board (RWQCB).

- Treatment chemicals should be approved by EPA for potable water use or otherwise be demonstrated to be protective of human health and the environment. Chemical residual or whole effluent toxicity testing is required.

- Prior to field use of chemical treatment, jar tests are to be conducted to demonstrate that turbidity reduction necessary to meet the NELs and receiving water criteria can be achieved. Test conditions, including but not limited to raw water quality and jar test procedures, should be indicative of field conditions. Although these small-scale tests cannot be expected to reproduce performance under field conditions, they are indicative of treatment capability. A minimum of six site-specific jar tests must be conducted per chemical.

- The proposed maximum dosage should be at least a factor of five lower than the no observed effects concentration (NOEC).

- Effluent discharge from an ATS to a receiving water is conditional upon the favorable results of full-scale whole effluent bioassay/toxicity testing for batch treatment systems and upon chemical residuals testing for flow-through systems.

- Contact the RWQCB for a list of treatment chemicals that may be pre-approved for use.

Active Treatment System Design Considerations

The design and operation of an ATS should take into consideration the factors that determine optimum, cost-effective performance. While site characteristics will influence system design, it is important to recognize the following overriding considerations:

- The right chemical must be used at the right dosage. A dosage that is either too low or too high will not produce the lowest turbidity. There is an optimum dosage rate. This is a situation where the adage “adding more is always better” is not the case.

- The coagulant must be mixed rapidly into the water to insure proper dispersion.

- The mixing system for batch treatment must be sized to provide adequate mixing for the design storage volume. Lack of adequate mixing during the flocculation phase results in flocs that are too small and/or insufficiently dense. Too much mixing can rapidly destroy floc as it is formed.

- Care must be taken in the design of the withdrawal system to minimize outflow velocities and to prevent floc discharge. The discharge should be directed through a filtration system such as sand, bag, or cartridge filter that would catch any unintended floc discharge.

- ATS is also regulated for pH of the discharge. A pH-adjusting chemical should be added into the treated water to control pH if the selected coagulant requires alteration of the pH of the discharge outside of the acceptable range.

Active Treatment System Design

ATS can be designed as batch treatment systems using either ponds or portable trailer-mounted tanks, or as flow-through systems using any number of proprietary designed systems.

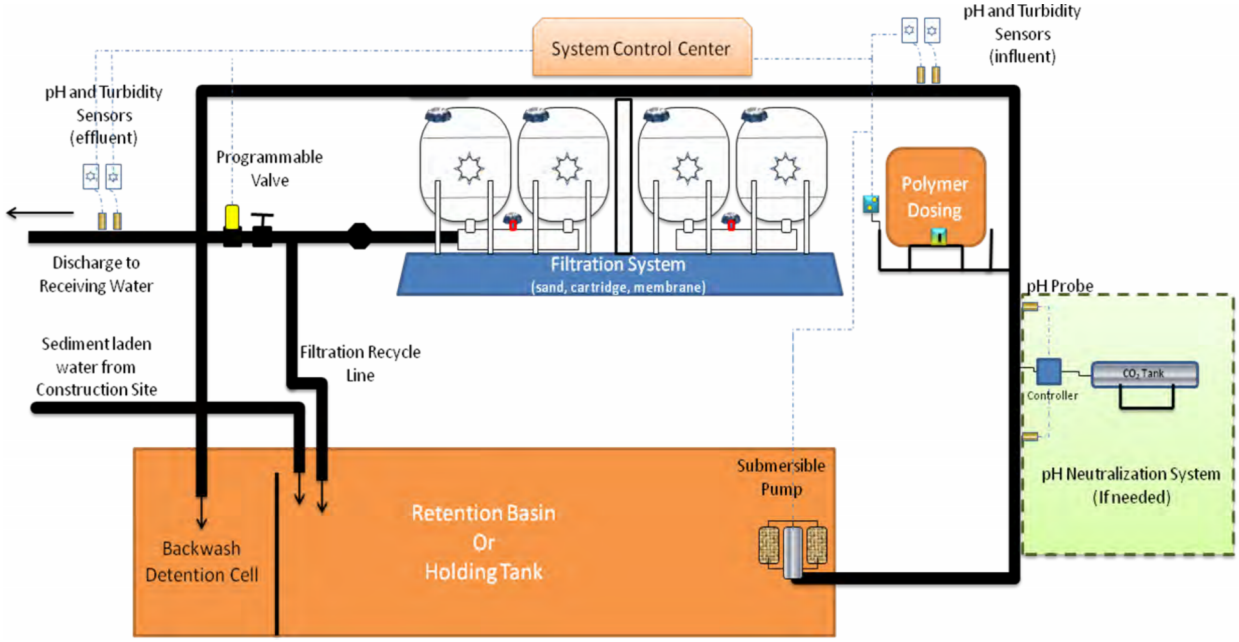


Figure has been adapted from Port of Seattle response to Washington Dept. of Ecology Action Order 2948

Batch Treatment

Batch Treatment systems consist of the stormwater collection system (either temporary diversion or the permanent site drainage system); a sediment basin, trap or holding tanks; pumps; a chemical feed system; treatment cells; and, interconnecting piping.

Batch treatment systems should use a minimum of two lined treatment cells. Multiple treatment cells allow for clarification of treated water while other cells are being filled or emptied. Treatment cells may be basins, traps, or tanks. Portable tanks may also be suitable for some sites.

The following equipment should be located in a secured, covered location:

- The chemical injector
- Secondary contaminant for acid, caustic, buffering compound, and treatment chemical
- Emergency shower and eyewash
- Monitoring equipment which consists of a pH meter and a turbidimeter (if not already within the instrumentation panel of the chemical injector)

Flow-through Treatment

At a minimum, a flow-through ATS system consists of the stormwater collection system (either temporary diversion or the permanent site drainage system), an untreated stormwater storage pond or holding tank, and a chemically enhanced filtration system.

Stormwater is collected at interception point(s) on the site and is diverted by gravity or by pumping to an untreated stormwater storage pond or other untreated stormwater holding area.

The stormwater is stored until treatment occurs. It is important that the holding pond be large enough to provide adequate storage.

Stormwater is then pumped from the untreated stormwater storage pond to the chemically enhanced filtration system where polymer is added. Adjustments to pH may be necessary before chemical addition. The filtration system continually monitors the stormwater for turbidity and pH. If the discharge water is out of the acceptable turbidity or pH range, the water is recycled to the untreated stormwater pond (or holding tank) where it can be retreated. Flow through systems must ensure that:

- Cumulative flow volume shall be recorded daily. The data recording system shall have the capacity to record a minimum of seven days of continuous data.
- Instrumentation systems are interfaced with system control to provide auto shutoff or recirculation in the event that effluent measurements exceed turbidity or pH.
- Upon system upset, power failure, or other catastrophic event, the ATS will default to a recirculation mode or safe shut down.
- The instrumentation system provides a method for controlling coagulant dose, to prevent potential overdosing.

Sizing Criteria

An ATS shall be designed and approved by a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ); a California registered civil engineer; or any other California registered engineer.

ATS must be designed to capture and treat (within 72 hours) runoff from the 10-year 24-hour storm event. The runoff volume of the watershed area to be treated from this size storm event is required to be calculated using the Rational Method with a runoff coefficient of 1.

If sediment basins are used to capture flow-through or batch treatment, see SE-2, Sediment Basin, for design criteria. Bypass should be provided around the ATS to accommodate extreme storm events. Primary settling should be encouraged in the sediment basin/storage pond. A forebay with access for maintenance may be beneficial.

The permissible discharge rate governed by potential downstream effect should be used to calculate the recommended size of the treatment cells. Local requirements related to Phase I or Phase II NPDES permit thresholds should be considered in developing maximum discharge rates the ATS Plan.

Costs

Costs for ATS may be significant due to equipment rental requirements and cost of chemicals. ATS cost is lower on a treated unit-basis for large construction sites with large volumes of runoff.

Inspection and Maintenance

ATS must be operated and maintained by individuals with experience in their use and trained in accordance with training requirements below. ATS should be monitored continuously while in

use. A designated responsible person shall be on site daily at all times during treatment operations. Daily on-site visual monitoring of the system for proper performance shall be conducted and recorded in the project data log. The name, phone number, and training documentation of the person responsible for system operation and monitoring shall be included in the project data log.

The following monitoring requirements and results should be recorded in the data log:

Operational and Compliance Monitoring

- Effluent flow rate and volume shall be continuously monitored and recorded at 15- minute or less intervals.
- Influent and effluent pH must be continuously monitored and recorded at 15-minute or less intervals.
- Influent and effluent turbidity (expressed in NTU) must be continuously monitored and recorded at 15-minute or less intervals.
- The type and amount of chemical used for pH adjustment, if any, shall be monitored and recorded.
- Dose rate of chemical used in the ATS system (expressed in mg/L) shall be monitored and reported 15-minutes after startup and every 8 hours of operation.
- Laboratory duplicates – monthly laboratory duplicates for residual coagulant analysis must be performed and records shall be maintained onsite.
- Effluent shall be monitored and recorded for residual chemical/additive levels.
- If a residual chemical/additive test does not exist and the ATS is operating in a batch treatment mode of operation refer to the toxicity monitoring requirements below.

Toxicity Monitoring

Batch Treatment

Toxicity testing for systems operated in batch treatment mode should be made in accordance with the following:

- Acute toxicity testing on effluent samples representing effluent from each batch prior to discharge shall be undertaken. All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.
- Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas*. Rainbow trout, *Oncorhynchus mykiss,* may be used as a substitute for fathead minnow.

All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.

Flow-through Treatment

Toxicity testing for systems operated in flow-through treatment mode should be made in accordance with the following:

- A residual chemical test method shall be used that has a method detection limit (MDL) of 10% or less than the maximum allowable threshold concentration (MATC) for the specific coagulant in use and for the most sensitive species of the chemical used. The MATC is equal to the geometric mean of the No Observed Effect Concentration (NOEC) and Lowest Observed Effect Concentration (LOEC) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant.
- The residual chemical test method shall produce a result within one hour of sampling.
- A California State certified laboratory shall validate the selected residual chemical test. Specifically, the lab will review the test protocol, test parameters, and the detection limit of the coagulant. The discharger shall electronically submit this documentation as part of the ATS Plan.

Numeric Effluent Limit (NEL) Compliance:

All chemically treated stormwater must be sampled and tested for compliance with pH and turbidity limits. These limits have been established by the Construction General Permit. Sampling and testing for other pollutants may also be necessary at some sites. Turbidity limits have been set as 10 NTU as a daily flow-weighted average or 20 NTU from a single sample. pH must be within the range of 6.0 to 9.0 standard units. It is often possible to discharge treated stormwater that has a lower turbidity than the receiving water and that matches the pH.

Treated stormwater samples and measurements should be taken from the discharge pipe or another location representative of the nature of the treated stormwater discharge. Samples used for determining compliance with the water quality standards in the receiving water should not be taken from the treatment pond prior to decanting. Compliance with the water quality standards is determined in the receiving water.

Operator Training:

Operators shall have training specific to using an ATS and liquid coagulants for stormwater discharges in California. The training shall be in the form of a formal class with a certificate and requirements for testing and certificate renewal. Training shall include a minimum of eight hours classroom and 32 hours field training.

Standard BMPs:

Erosion and sediment control BMPs should be implemented throughout the site to prevent erosion and discharge of sediment to the ATS. Some types of chemical coagulation and flocculation are only achievable in water below a certain turbidity; therefore, minimizing the amount of sediment reaching the system will increase the likelihood of meeting effluent limits and will potentially lower costs of chemical dosing.

Sediment Removal and Disposal

- Sediment shall be removed from the storage or treatment cells as necessary to ensure that the cells maintain their required water storage (i.e., volume) capability.
- Handling and disposal of all solids generated during ATS operations shall be done in accordance with all local, state, and federal laws and regulations.
- If sediment is determined to be non-toxic, it may be incorporated into the site away from drainages.

References

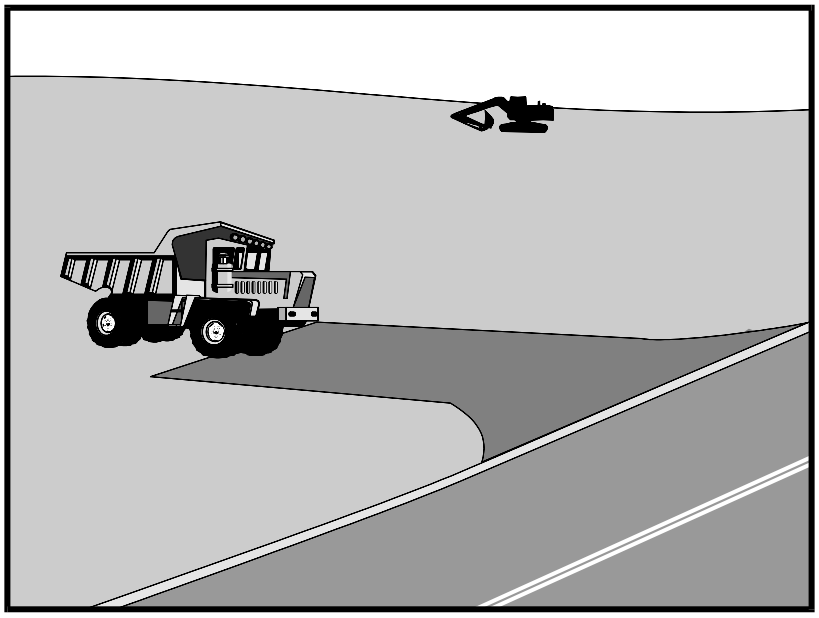
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Stabilized Construction Entrance/Exit TC-1



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Description and Purpose

A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications

Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

Limitations

- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water runoff.

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Stabilized Construction Entrance/Exit TC-1

Implementation

General

A stabilized construction entrance is a pad of aggregate underlain with filter cloth located at any point where traffic will be entering or leaving a construction site to or from a public right of way, street, alley, sidewalk, or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights of way or streets. Reducing tracking of sediments and other pollutants onto paved roads helps prevent deposition of sediments into local storm drains and production of airborne dust.

Where traffic will be entering or leaving the construction site, a stabilized construction entrance should be used. NPDES permits require that appropriate measures be implemented to prevent tracking of sediments onto paved roadways, where a significant source of sediments is derived from mud and dirt carried out from unpaved roads and construction sites.

Stabilized construction entrances are moderately effective in removing sediment from equipment leaving a construction site. The entrance should be built on level ground. Advantages of the Stabilized Construction Entrance/Exit is that it does remove some sediment from equipment and serves to channel construction traffic in and out of the site at specified locations. Efficiency is greatly increased when a washing rack is included as part of a stabilized construction entrance/exit.

Design and Layout

- Construct on level ground where possible.
- Select 3 to 6 in. diameter stones.
- Use minimum depth of stones of 12 in. or as recommended by soils engineer.
- Construct length of 50 ft or maximum site will allow, and 10 ft minimum width or to accommodate traffic.
- Rumble racks constructed of steel panels with ridges and installed in the stabilized entrance/exit will help remove additional sediment and to keep adjacent streets clean.
- Provide ample turning radii as part of the entrance.
- Limit the points of entrance/exit to the construction site.
- Limit speed of vehicles to control dust.
- Properly grade each construction entrance/exit to prevent runoff from leaving the construction site.
- Route runoff from stabilized entrances/exits through a sediment trapping device before discharge.
- Design stabilized entrance/exit to support heaviest vehicles and equipment that will use it.

Stabilized Construction Entrance/Exit TC-1

- Select construction access stabilization (aggregate, asphaltic concrete, concrete) based on longevity, required performance, and site conditions. Do not use asphalt concrete (AC) grindings for stabilized construction access/roadway.
- If aggregate is selected, place crushed aggregate over geotextile fabric to at least 12 in. depth, or place aggregate to a depth recommended by a geotechnical engineer. A crushed aggregate greater than 3 in. but smaller than 6 in. should be used.
- Designate combination or single purpose entrances and exits to the construction site.
- Require that all employees, subcontractors, and suppliers utilize the stabilized construction access.
- Implement SE-7, Street Sweeping and Vacuuming, as needed.
- All exit locations intended to be used for more than a two-week period should have stabilized construction entrance/exit BMPs.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMPs are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect local roads adjacent to the site daily. Sweep or vacuum to remove visible accumulated sediment.
- Remove aggregate, separate and dispose of sediment if construction entrance/exit is clogged with sediment.
- Keep all temporary roadway ditches clear.
- Check for damage and repair as needed.
- Replace gravel material when surface voids are visible.
- Remove all sediment deposited on paved roadways within 24 hours.
- Remove gravel and filter fabric at completion of construction

Costs

Average annual cost for installation and maintenance may vary from $1,500 to $6,100 each, averaging $3,100 per entrance. Costs will increase with addition of washing rack and sediment trap. With wash rack, costs range from $1,500 - $7,700 each, averaging $4,600 per entrance (All costs adjusted for inflation, 2016 dollars, by Tetra Tech Inc.

References

Manual of Standards of Erosion and Sediment Control Measures, Association of Bay Area Governments, May 1995.

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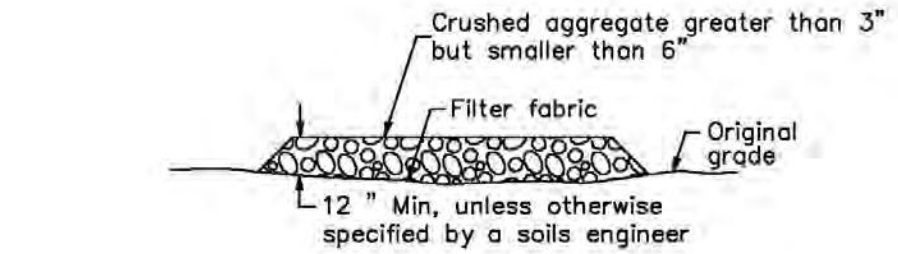
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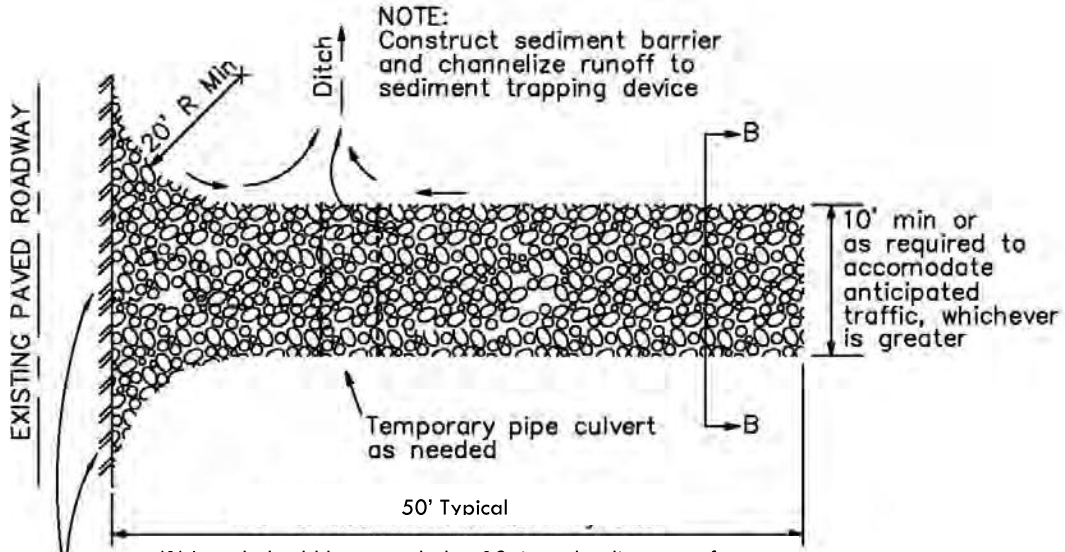
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Stabilized Construction Entrance/Exit TC-1



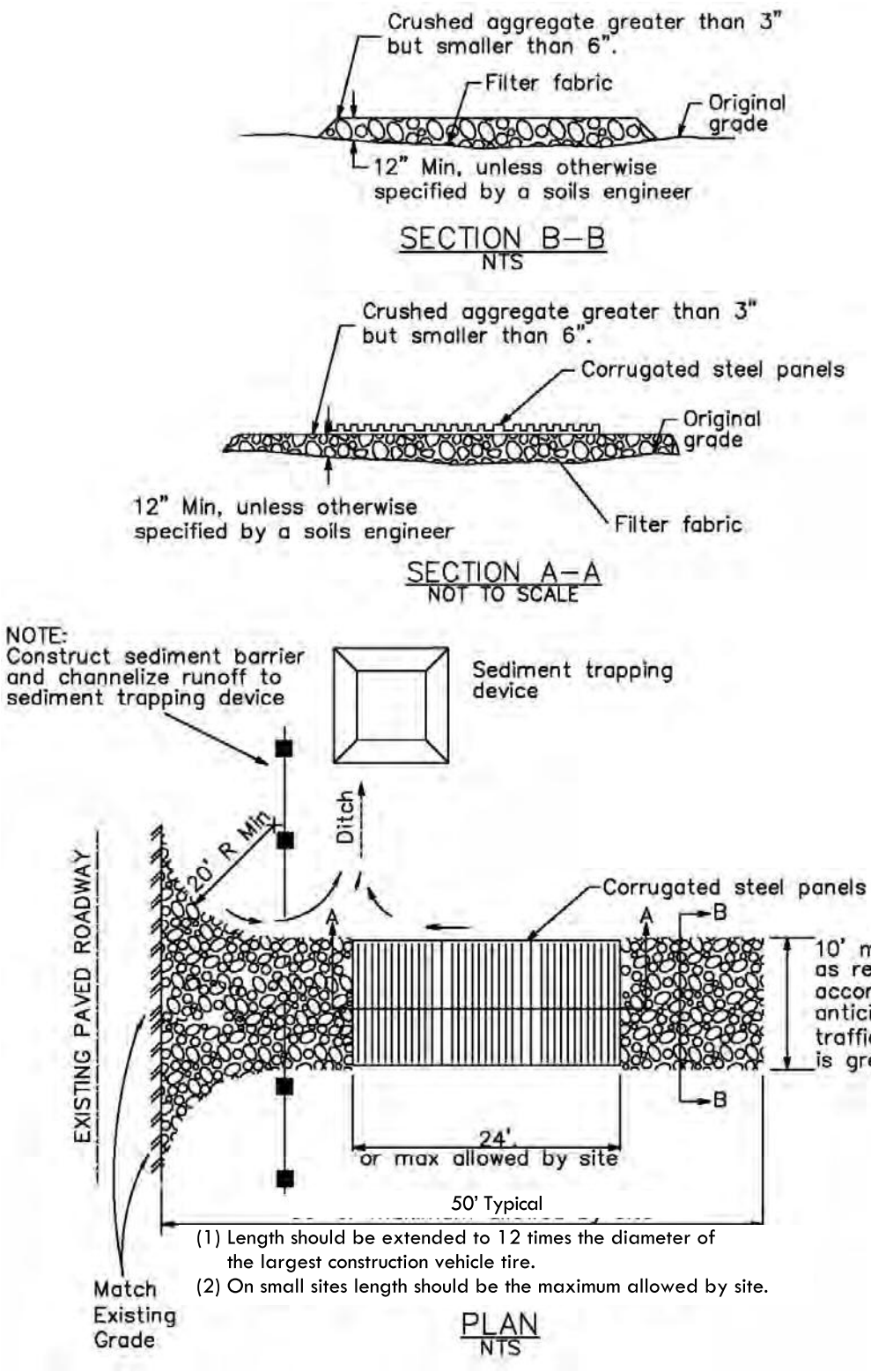
SECTION B–B
NTS



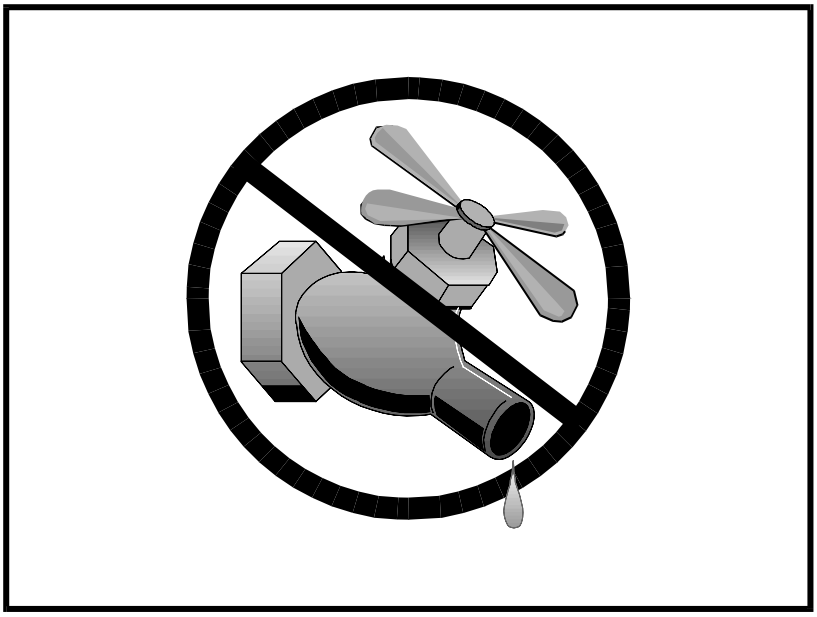
(1) Length should be extended to 12 times the diameter of the largest construction vehicle tire.
(2) On small sites length should be the maximum allowed by site.

PLAN
NTS

Stabilized Construction Entrance/Exit TC-1



Water Conservation Practices NS-1



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Description and Purpose

Water conservation practices are activities that use water during the construction of a project in a manner that avoids causing erosion and the transport of pollutants offsite. These practices can reduce or eliminate non-stormwater discharges.

Suitable Applications

Water conservation practices are suitable for all construction sites where water is used, including piped water, metered water, trucked water, and water from a reservoir.

Limitations

- None identified.

Implementation

- Keep water equipment in good working condition.
- Stabilize water truck filling area.
- Repair water leaks promptly.
- Washing of vehicles and equipment on the construction site is discouraged.
- Avoid using water to clean construction areas. If water must be used for cleaning or surface preparation, surface should be swept and vacuumed first to remove dirt. This will minimize amount of water required.

- Direct construction water runoff to areas where it can soak into the ground or be collected and used.
- Authorized non-stormwater discharges to the storm drain system, channels, or receiving waters are acceptable with the implementation of appropriate BMPs.
- Lock water tank valves to prevent unauthorized use.

Costs

The cost is small to none compared to the benefits of conserving water.

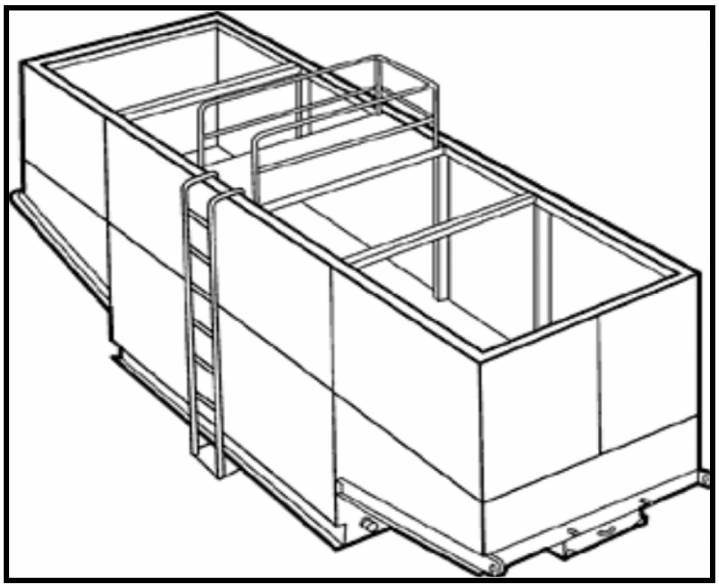
Inspection and Maintenance

- Inspect and verify that activity based BMPs are in place prior to the commencement of authorized non-stormwater discharges.
- Inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges are occuring.
- Repair water equipment as needed to prevent unintended discharges.
  - Water trucks
  - Water reservoirs (water buffalos)
  - Irrigation systems
  - Hydrant connections

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Dewatering Operations NS-2



Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

SE-5: Fiber Roll

SE-6: Gravel Bag Berm

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Description and Purpose

Dewatering operations are practices that manage the discharge of pollutants when non-stormwater and accumulated precipitation (stormwater) must be removed from a work location to proceed with construction work or to provide vector control.

The General Permit incorporates Numeric Action Levels (NAL) for turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Discharges from dewatering operations can contain high levels of fine sediment that, if not properly treated, could lead to exceedances of the General Permit requirements or Basin Plan standards.

The dewatering operations described in this fact sheet are not Active Treatment Systems (ATS) and do not include the use of chemical coagulations, chemical flocculation or electrocoagulation.

Suitable Applications

These practices are implemented for discharges of non-stormwater from construction sites. Non-stormwaters include, but are not limited to, groundwater, water from cofferdams, water diversions, and waters used during construction activities that must be removed from a work area to facilitate construction.

Practices identified in this section are also appropriate for implementation when managing the removal of accumulated

precipitation (stormwater) from depressed areas at a construction site.

Stormwater mixed with non-stormwater should be managed as non-stormwater.

Limitations

- Dewatering operations will require and should comply with applicable local and project-specific permits and regulations. In some areas, all dewatering activities, regardless of the discharge volume, require a dewatering permit.
- Site conditions will dictate design and use of dewatering operations.
- The controls discussed in this fact sheet primarily address sediment. Other secondary pollutant removal benefits are discussed where applicable.
- The controls detailed in this fact sheet only allow for minimal settling time for sediment particles. Use only when site conditions restrict the use of the other control methods.
- Avoid dewatering discharges where possible by using the water for dust control.

Implementation

- A Construction Site Monitoring Plan (CSMP) should be included in the project Stormwater Pollution Prevention Plan (SWPPP).
- Regional Water Quality Control Board (RWQCB) Regions may require notification and approval prior to any discharge of water from construction sites.
- The destination of discharge from dewatering activities will typically determine the type of permit required for the discharge. For example, when discharging to a water of the U.S., a dewatering permit may be required through the site's governing RWQCB. When discharging to a sanitary sewer or Municipal Separate Storm Sewer System (MS4), a permit may need to be obtained from the owner of the sanitary sewer or MS4 in addition to obtaining an RWQCB dewatering permit. Additional permits or permissions from other agencies may be required for dewatering cofferdams or diversions.
- Dewatering discharges should not cause erosion at the discharge point. Appropriate BMPs should be implemented to maintain compliance with all applicable permits.
- Maintain dewatering records in accordance with all local and project-specific permits and regulations.

Sediment Treatment

A variety of methods can be used to treat water during dewatering operations. Several devices are presented below and provide options to achieve sediment removal. The sediment particle size and permit or receiving water limitations on sediment or turbidity are key considerations for selecting sediment treatment option(s); in some cases, the use of multiple devices may be appropriate. Use of other enhanced treatment methods (i.e., introduction of chemicals or electric current to enhance flocculation and removal of sediment) must comply with: 1) for storm drain or surface water discharges, the requirements for Active Treatment Systems (see SE-11); or 2) for sanitary sewer discharges, the requirements of applicable sanitary sewer discharge permits.

Sediment Basin (see also SE-2)

Description:

- A sediment basin is a temporary basin with a controlled release structure that is formed by excavation or construction of an embankment to detain sediment-laden runoff and allow sediment to settle out before discharging. Sediment basins are generally larger than Sediment Traps (SE-3) and have a designed outlet structure.

Appropriate Applications:

- Effective for the removal of trash, gravel, sand, silt, some metals that settle out with the sediment.

Implementation:

- Excavation and construction of related facilities is required.
- Temporary sediment basins should be fenced if safety is a concern.
- Outlet protection is required to prevent erosion at the outfall location.

Maintenance:

- Maintenance is required for safety fencing, vegetation, embankment, inlet and outlet, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.

Sediment Trap (See also SE-3)

Description:

- A sediment trap is a temporary basin formed by excavation and/or construction of an earthen embankment across a waterway or low drainage area to detain sediment-laden runoff and allow sediment to settle out before discharging. Sediment traps are generally smaller than Sediment Basins (SE-2) and do not have a designed outlet (but do have a spillway or overflow).

Appropriate Applications:

Effective for the removal of large and medium sized particles (sand and gravel) and some metals that settle out with the sediment.

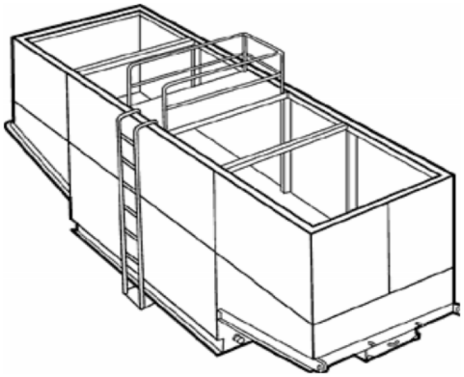
Implementation:

- Excavation and construction of related facilities is required.
- Trap inlets should be located to maximize the travel distance to the trap outlet.
- Use rock or vegetation to protect the trap outlets against erosion.

Maintenance:

- Maintenance is required for vegetation, embankment, inlet and outfall structures, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.

Weir Tanks



Description:

- A weir tank separates water and waste by using weirs. The configuration of the weirs (over and under weirs) maximizes the residence time in the tank and determines the waste to be removed from the water, such as oil, grease, and sediments.

Appropriate Applications:

- The tank removes trash, some settleable solids (gravel, sand, and silt), some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

Implementation:

- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors should be consulted to appropriately size tank.
- Treatment capacity (i.e., volume and number of tanks) should provide at a minimum the required volume for discrete particle settling for treatment design flows.

Maintenance:

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal should be conducted by a licensed waste disposal company.

Dewatering Tanks



Description:

- A dewatering tank removes debris and sediment. Flow enters the tank through the top, passes through a fabric filter, and is discharged through the bottom of the tank. The filter separates the solids from the liquids.

Appropriate Applications:

- The tank removes trash, gravel, sand, and silt, some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

Implementation:

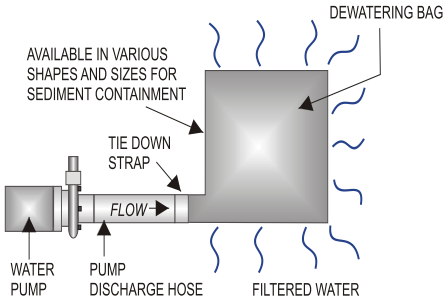
- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors should be consulted to appropriately size tank.

Maintenance:

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal should be conducted by licensed waste disposal company.

Gravity Bag Filter





Description:

- A gravity bag filter, also referred to as a dewatering bag, is a square or rectangular bag made of non-woven geotextile fabric that collects gravel, sand, silt, and fines.

Appropriate Applications:

- Effective for the removal of sediments (gravel, sand, silt, and fines). Some metals are removed with the sediment.

Implementation:

- Water is pumped into one side of the bag and seeps through the top, bottom, and sides of the bag.
- Place filter bag on pavement or a gravel bed or paved surface. Avoid placing a dewatering bag on unprotected bare soil. If placing the bag on bare soil is unavoidable, a secondary barrier should be used, such as a rock filter bed placed beneath and beyond the edges of the bag to, prevent erosion and capture sediments that escape the bag.
- Perimeter control around the downstream end of the bag should be implemented. Secondary sediment controls are important especially in the initial stages of discharge, which tend to allow fines to pass through the bag.

Maintenance:

- Inspection of the flow conditions, bag condition, bag capacity, and the secondary barrier (as applicable) is required.
- Replace the bag when it no longer filters sediment or passes water at a reasonable rate.
- Caution should be taken when removing and disposing of the bag, to prevent the release of captured sediment
- Properly dispose of the bag offsite. If sediment is removed from the bag prior to disposal (bags can potentially be reused depending upon their condition), dispose of sediment in accordance with the general maintenance procedures described at the end of this BMP Fact Sheet.

Sand Media Particulate Filter





Description:

- Water is treated by passing it through canisters filled with sand media. Generally, sand filters provide a final level of treatment. They are often used as a secondary or higher level of treatment after a significant amount of sediment and other pollutants have been removed using other methods.

Appropriate Applications:

- Effective for the removal of trash, gravel, sand, and silt and some metals, as well as the reduction of biochemical oxygen demand (BOD) and turbidity.
- Sand filters can be used for stand-alone treatment or in conjunction with bag and cartridge filtration if further treatment is required.
- Sand filters can also be used to provide additional treatment to water treated via settling or basic filtration.

Implementation:

- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

Maintenance:

- The filters require regular service to monitor and maintain the level of the sand media. If subjected to high loading rates, filters can plug quickly.
- Venders generally provide data on maximum head loss through the filter. The filter should be monitored daily while in use and cleaned when head loss reaches target levels.
- If cleaned by backwashing, the backwash water may need to be hauled away for disposal or returned to the upper end of the treatment train for another pass through the series of dewatering BMPs.

Pressurized Bag Filter





Description:

- A pressurized bag filter is a unit composed of single filter bags made from polyester felt material. The water filters through the unit and is discharged through a header. Vendors provide bag filters in a variety of configurations. Some units include a combination of bag filters and cartridge filters for enhanced contaminant removal.

Appropriate Applications:

- Effective for the removal of sediment (sand and silt) and some metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Oil absorbent bags are available for hydrocarbon removal.

- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

Implementation:

- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

Maintenance:

- The filter bags require replacement when the pressure differential equals or exceeds the manufacturer's recommendation.

Cartridge Filter



Description:

- Cartridge filters provide a high degree of pollutant removal by utilizing a number of individual cartridges as part of a larger filtering unit. They are often used as a secondary or higher (polishing) level of treatment after a significant amount of sediment and other pollutants are removed. Units come with various cartridge configurations (for use in series with bag filters) or with a larger single cartridge filtration unit (with multiple filters within).

Appropriate Applications:

- Effective for the removal of sediment (sand, silt, and some clays) and metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Hydrocarbons can effectively be removed with special resin cartridges.

- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

Implementation:

- The filters require delivery to the site and initial set up. The vendor can provide assistance.

Maintenance:

- The cartridges require replacement when the pressure differential equals or exceeds the manufacturer's recommendation.

Costs

- Sediment control costs vary considerably depending on the dewatering and sediment treatment system that is selected. Pressurized filters tend to be more expensive than gravity settling but are often more effective. Simple tanks are generally rented on a long-term basis (one or more months) and can range from $460 per month for a 1,000-gallon tank to $3,400 per month for a 10,000-gallon tank (adjusted for inflation, 2016 dollars, by Tetra Tech Inc.). Mobilization and demobilization costs vary considerably.

Inspection and Maintenance

- Inspect and verify that dewatering BMPs are in place and functioning prior to the commencement of activities requiring dewatering.

- Inspect dewatering BMPs daily while dewatering activities are being conducted.

- Inspect all equipment before use. Monitor dewatering operations to ensure they do not cause offsite discharge or erosion.
- Sample dewatering discharges as required by the General Permit.
- Unit-specific maintenance requirements are included with the description of each unit.
- Sediment removed during the maintenance of a dewatering device may be either spread onsite and stabilized or disposed of at a disposal site as approved by the owner.
- Sediment that is commingled with other pollutants should be disposed of in accordance with all applicable laws and regulations and as approved by the owner.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

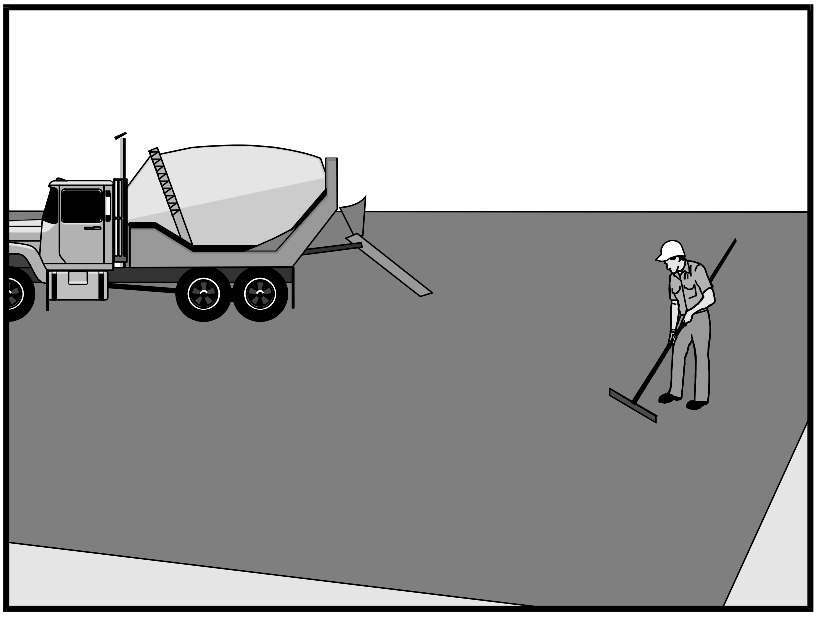
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Labor Surcharge & Equipment Rental Rates, April 1, 2002 through March 31, 2003, California Department of Transportation (Caltrans).

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Paving and Grinding Operations NS-3



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☒

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runon and runoff pollution, properly disposing of wastes, and training employees and subcontractors.

The General Permit incorporates Numeric Action Levels (NAL) for pH and turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials associated with paving and grinding operations, including mortar, concrete, and cement and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

These procedures are implemented where paving, surfacing, resurfacing, or sawcutting, may pollute stormwater runoff or discharge to the storm drain system or watercourses.

Limitations

- Paving opportunities may be limited during wet weather.

  Discharges of freshly paved surfaces may raise pH to environmentally harmful levels and trigger permit violations.

Implementation

General

- Avoid paving during the wet season when feasible.
- Reschedule paving and grinding activities if rain is forecasted.
- Train employees and sub-contractors in pollution prevention and reduction.
- Store materials away from drainage courses to prevent stormwater runon (see WM-1, Material Delivery and Storage).
- Protect drainage courses, particularly in areas with a grade, by employing BMPs to divert runoff or to trap and filter sediment.
- Stockpile material removed from roadways away from drain inlets, drainage ditches, and watercourses. These materials should be stored consistent with WM-3, Stockpile Management.
- Disposal of PCC (Portland cement concrete) and AC (asphalt concrete) waste should be in conformance with WM-8, Concrete Waste Management.

Saw Cutting, Grinding, and Pavement Removal

- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade storm drains during saw cutting to contain slurry.
- When paving involves AC, the following steps should be implemented to prevent the discharge of grinding residue, uncompacted or loose AC, tack coats, equipment cleaners, or unrelated paving materials:
  - AC grindings, pieces, or chunks used in embankments or shoulder backing should not be allowed to enter any storm drains or watercourses. Install inlet protection and perimeter controls until area is stabilized (i.e. cutting, grinding or other removal activities are complete and loose material has been properly removed and disposed of)or permanent controls are in place. Examples of temporary perimeter controls can be found in EC-9, Earth Dikes and Drainage Swales; SE-1, Silt Fence; SE-5, Fiber Rolls, or SE-13 Compost Socks and Berms
  - Collect and remove all broken asphalt and recycle when practical. Old or spilled asphalt should be recycled or disposed of properly.
- Do not allow saw-cut slurry to enter storm drains or watercourses. Residue from grinding operations should be picked up by a vacuum attachment to the grinding machine, or by sweeping, should not be allowed to flow across the pavement, and should not be left on the surface of the pavement. See also WM-8, Concrete Waste Management, and WM-10, Liquid Waste Management.
- Pavement removal activities should not be conducted in the rain.
- Collect removed pavement material by mechanical or manual methods. This material may be recycled for use as shoulder backing or base material.

- If removed pavement material cannot be recycled, transport the material back to an approved storage site.

Asphaltic Concrete Paving

- If paving involves asphaltic cement concrete, follow these steps:

  - Do not allow sand or gravel placed over new asphalt to wash into storm drains, streets, or creeks. Vacuum or sweep loose sand and gravel and properly dispose of this waste by referring to WM-5, Solid Waste Management.

  - Old asphalt should be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.

Portland Cement Concrete Paving

- Do not wash sweepings from exposed aggregate concrete into a storm drain system. Collect waste materials by dry methods, such as sweeping or shoveling, and return to aggregate base stockpile or dispose of properly. Allow aggregate rinse to settle. Then, either allow rinse water to dry in a temporary pit as described in WM-8, Concrete Waste Management, or pump the water to the sanitary sewer if authorized by the local wastewater authority.

Sealing Operations

- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate should not be allowed to enter any storm drain or water courses. Apply temporary perimeter controls until structure is stabilized (i.e. all sealing operations are complete and cured and loose materials have been properly removed and disposed).

- Inlet protection (SE-10, Storm Drain Inlet Protection) should be used during application of seal coat, tack coat, slurry seal, and fog seal.

- Seal coat, tack coat, slurry seal, or fog seal should not be applied if rainfall is predicted to occur during the application or curing period.

Paving Equipment

- Leaks and spills from paving equipment can contain toxic levels of heavy metals and oil and grease. Place drip pans or absorbent materials under paving equipment when not in use. Clean up spills with absorbent materials and dispose of in accordance with the applicable regulations. See NS-10, Vehicle and Equipment Maintenance, WM-4, Spill Prevention and Control, and WM-10, Liquid Waste Management.

- Substances used to coat asphalt transport trucks and asphalt spreading equipment should not contain soap and should be non-foaming and non-toxic.

- Paving equipment parked onsite should be parked over plastic to prevent soil contamination.

- Clean asphalt coated equipment offsite whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris as described in WM-5, Solid Waste Management. Any cleaning onsite should follow NS-8, Vehicle and Equipment Cleaning.

Thermoplastic Striping

- Thermoplastic striper and pre-heater equipment shutoff valves should be inspected to ensure that they are working properly to prevent leaking thermoplastic from entering drain inlets, the stormwater drainage system, or watercourses.
- Pre-heaters should be filled carefully to prevent splashing or spilling of hot thermoplastic. Leave six inches of space at the top of the pre-heater container when filling thermoplastic to allow room for material to move.
- Do not pre-heat, transfer, or load thermoplastic near drain inlets or watercourses.
- Clean truck beds daily of loose debris and melted thermoplastic. When possible, recycle thermoplastic material.

Raised/Recessed Pavement Marker Application and Removal

- Do not transfer or load bituminous material near drain inlets, the stormwater drainage system, or watercourses.
- Melting tanks should be loaded with care and not filled to beyond six inches from the top to leave room for splashing.
- When servicing or filling melting tanks, ensure all pressure is released before removing lids to avoid spills.
- On large-scale projects, use mechanical or manual methods to collect excess bituminous material from the roadway after removal of markers.

Costs

- All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of paving and grinding operations.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Sample stormwater runoff required by the General Permit.
- Keep ample supplies of drip pans or absorbent materials onsite.
- Inspect and maintain machinery regularly to minimize leaks and drips.

References

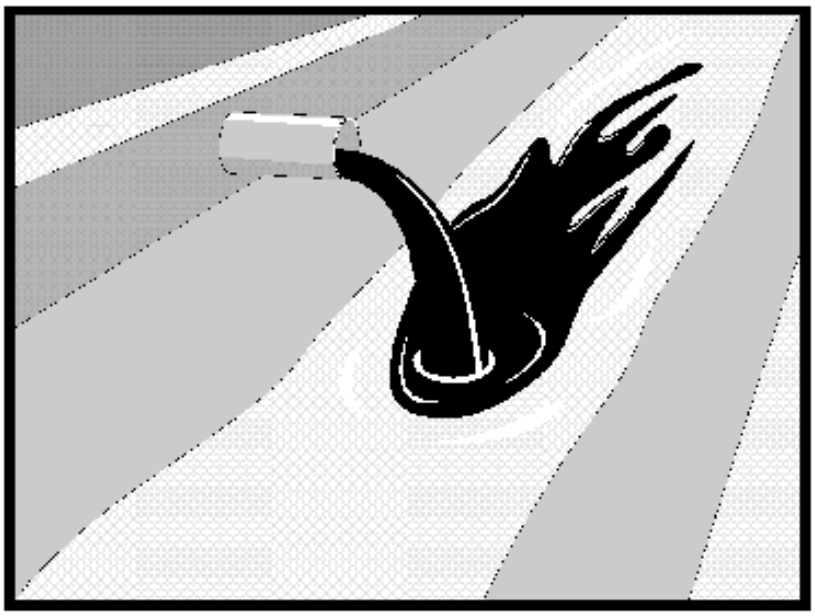
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Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Illicit Connection/Discharge NS-6



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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Description and Purpose

Procedures and practices designed for construction contractors to recognize illicit connections or illegally dumped or discharged materials on a construction site and report incidents.

Suitable Applications

This best management practice (BMP) applies to all construction projects. Illicit connection/discharge and reporting is applicable anytime an illicit connection or discharge is discovered, or illegally dumped material is found on the construction site.

Limitations

Illicit connections and illegal discharges or dumping, for the purposes of this BMP, refer to discharges and dumping caused by parties other than the contractor. If pre-existing hazardous materials or wastes are known to exist onsite, they should be identified in the SWPPP and handled as set forth in the SWPPP.

Implementation

Planning

- Review the SWPPP. Pre-existing areas of contamination should be identified and documented in the SWPPP.
- Inspect site before beginning the job for evidence of illicit connections, illegal dumping or discharges. Document any pre-existing conditions and notify the owner.

- Inspect site regularly during project execution for evidence of illicit connections, illegal dumping or discharges.
- Observe site perimeter for evidence for potential of illicitly discharged or illegally dumped material, which may enter the job site.

Identification of Illicit Connections and Illegal Dumping or Discharges

- **General –** unlabeled and unidentifiable material should be treated as hazardous.
- **Solids** - Look for debris, or rubbish piles. Solid waste dumping often occurs on roadways with light traffic loads or in areas not easily visible from the traveled way.
- **Liquids** - signs of illegal liquid dumping or discharge can include:
  - Visible signs of staining or unusual colors to the pavement or surrounding adjacent soils
  - Pungent odors coming from the drainage systems
  - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes
  - Abnormal water flow during the dry weather season
- **Urban Areas** - Evidence of illicit connections or illegal discharges is typically detected at storm drain outfall locations or at manholes. Signs of an illicit connection or illegal discharge can include:
  - Abnormal water flow during the dry weather season
  - Unusual flows in sub drain systems used for dewatering
  - Pungent odors coming from the drainage systems
  - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes
  - Excessive sediment deposits, particularly adjacent to or near active offsite construction projects
- **Rural Areas** - Illicit connections or illegal discharges involving irrigation drainage ditches are detected by visual inspections. Signs of an illicit discharge can include:
  - Abnormal water flow during the non-irrigation season
  - Non-standard junction structures
  - Broken concrete or other disturbances at or near junction structures

Reporting

Notify the owner of any illicit connections and illegal dumping or discharge incidents at the time of discovery. For illicit connections or discharges to the storm drain system, notify the local stormwater management agency. For illegal dumping, notify the local law enforcement agency.

Cleanup and Removal

The responsibility for cleanup and removal of illicit or illegal dumping or discharges will vary by location. Contact the local stormwater management agency for further information.

Costs

Costs to look for and report illicit connections and illegal discharges and dumping are low. The best way to avoid costs associated with illicit connections and illegal discharges and dumping is to keep the project perimeters secure to prevent access to the site, to observe the site for vehicles that should not be there, and to document any waste or hazardous materials that exist onsite before taking possession of the site.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect the site regularly to check for any illegal dumping or discharge.
- Prohibit employees and subcontractors from disposing of non-job-related debris or materials at the construction site.
- Notify the owner of any illicit connections and illegal dumping or discharge incidents at the time of discovery.

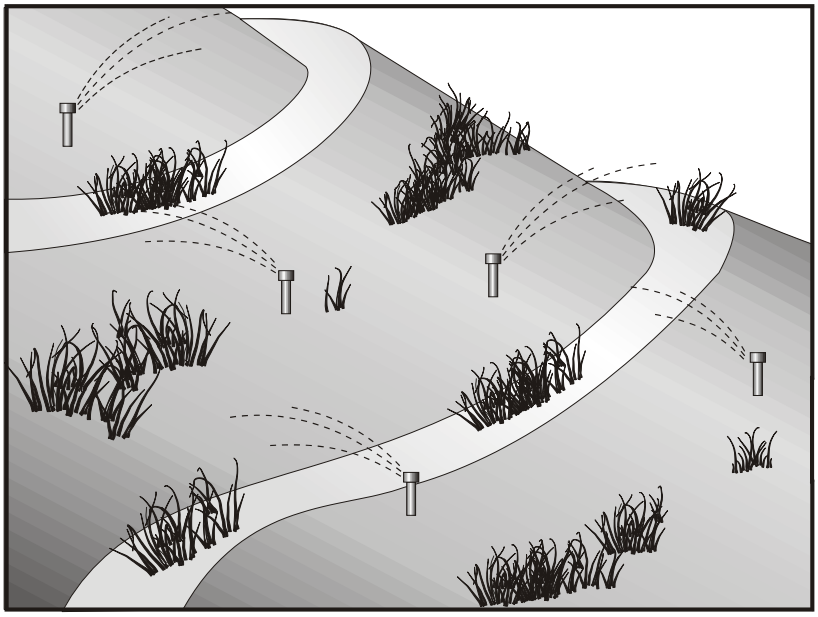
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Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Potable Water/Irrigation NS-7



Description and Purpose

Potable Water/Irrigation consists of practices and procedures to manage the discharge of potential pollutants generated during discharges from irrigation water lines, landscape irrigation, lawn or garden watering, planned and unplanned discharges from potable water sources, water line flushing, and hydrant flushing.

Suitable Applications

Implement this BMP whenever potable water or irrigation water discharges occur at or enter a construction site.

Limitations

None identified.

Implementation

- Direct water from offsite sources around or through a construction site, where feasible, in a way that minimizes contact with the construction site.
- Discharges from water line flushing should be reused for landscaping purposes where feasible.
- Shut off the water source to broken lines, sprinklers, or valves as soon as possible to prevent excess water flow.
- Protect downstream stormwater drainage systems and watercourses from water pumped or bailed from trenches excavated to repair water lines.

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	☑

Potential Alternatives

None

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- Inspect irrigated areas within the construction limits for excess watering. Adjust watering times and schedules to ensure that the appropriate amount of water is being used and to minimize runoff. Consider factors such as soil structure, grade, time of year, and type of plant material in determining the proper amounts of water for a specific area.

Costs

Cost to manage potable water and irrigation are low and generally considered to be a normal part of related activities.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Repair broken water lines as soon as possible.
- Inspect irrigated areas regularly for signs of erosion and/or discharge.

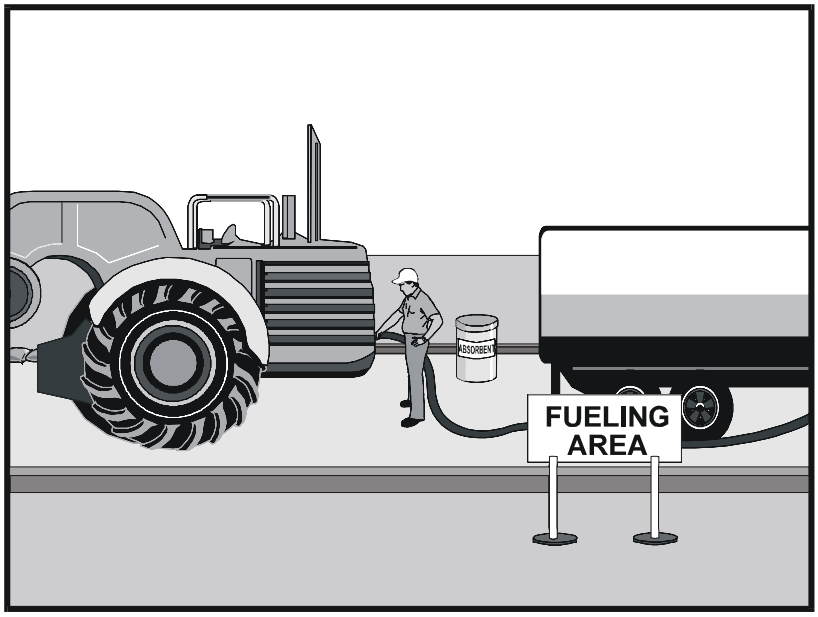
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Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Vehicle and Equipment Fueling NS-9



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

Suitable Applications

These procedures are suitable on all construction sites where vehicle and equipment fueling takes place.

Limitations

Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling. Sending vehicles and equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/ Exit.

Implementation

- Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
- Discourage “topping-off” of fuel tanks.

- Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks and should be disposed of properly after use.
- Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the adsorbent materials promptly and dispose of properly.
- Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and large excavators, most vehicles should be able to travel to a designated area with little lost time.
- Train employees and subcontractors in proper fueling and cleanup procedures.
- When fueling must take place onsite, designate an area away from drainage courses to be used. Fueling areas should be identified in the SWPPP.
- Dedicated fueling areas should be protected from stormwater runon and runoff and should be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Protect fueling areas with berms and dikes to prevent runon, runoff, and to contain spills.
- Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.
- Use vapor recovery nozzles to help control drips as well as air pollution where required by Air Quality Management Districts (AQMD).
- Federal, state, and local requirements should be observed for any stationary above ground storage tanks.

Costs

- All of the above measures are low cost except for the capital costs of above ground tanks that meet all local environmental, zoning, and fire codes.

Inspection and Maintenance

- Inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately, or problem vehicles or equipment should be removed from the project site.
- Keep ample supplies of spill cleanup materials onsite.

- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

References

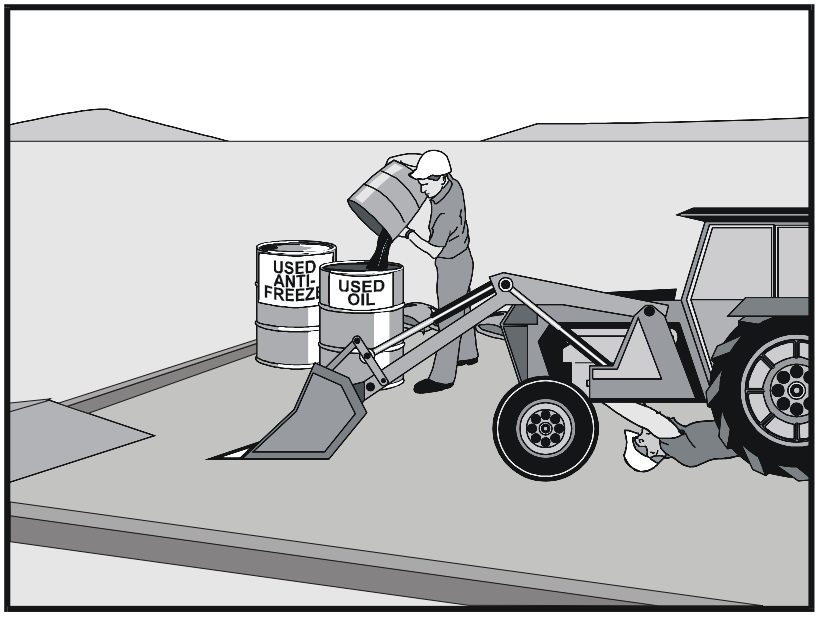
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Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Vehicle & Equipment Maintenance NS-10



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	
Nutrients	☑
Trash	☑
Metals	
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

Description and Purpose

Prevent or reduce the contamination of stormwater resulting from vehicle and equipment maintenance by running a "dry and clean site". The best option would be to perform maintenance activities at an offsite facility. If this option is not available then work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately. Employees and subcontractors must be trained in proper procedures.

Suitable Applications

These procedures are suitable on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles.

Limitations

Onsite vehicle and equipment maintenance should only be used where it is impractical to send vehicles and equipment offsite for maintenance and repair. Sending vehicles/equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/Exit.

Outdoor vehicle or equipment maintenance is a potentially significant source of stormwater pollution. Activities that can contaminate stormwater include engine repair and service, changing or replacement of fluids, and outdoor equipment storage and parking (engine fluid leaks). For further information on vehicle or equipment servicing, see NS-8,

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Vehicle and Equipment Cleaning, and NS-9, Vehicle and Equipment Fueling.

Implementation

- Use offsite repair shops as much as possible. These businesses are better equipped to handle vehicle fluids and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate maintenance area.
- If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas should be protected from stormwater runon and runoff and should be located at least 50 ft from downstream drainage facilities and watercourses.
- Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.
- Use adsorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
- Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately.
- Keep vehicles and equipment clean; do not allow excessive build-up of oil and grease.
- Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.
- Train employees and subcontractors in proper maintenance and spill cleanup procedures.
- Drip pans or plastic sheeting should be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.
- For long-term projects, consider using portable tents or covers over maintenance areas if maintenance cannot be performed offsite.
- Consider use of new, alternative greases and lubricants, such as adhesive greases, for chassis lubrication and fifth-wheel lubrication.
- Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Properly dispose of or recycle used batteries.
- Do not bury used tires.

- Repair leaks of fluids and oil immediately.

Listed below is further information if you must perform vehicle or equipment maintenance onsite.

Safer Alternative Products

- Consider products that are less toxic or hazardous than regular products. These products are often sold under an "environmentally friendly" label.
- Consider use of grease substitutes for lubrication of truck fifth-wheels. Follow manufacturers label for details on specific uses.
- Consider use of plastic friction plates on truck fifth-wheels in lieu of grease. Follow manufacturers label for details on specific uses.

Waste Reduction

Parts are often cleaned using solvents such as trichloroethylene, trichloroethane, or methylene chloride. Many of these cleaners are listed in California Toxic Rule as priority pollutants. These materials are harmful and must not contaminate stormwater. They must be disposed of as a hazardous waste. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents. Also, if possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials. For example, replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check the list of active ingredients to see whether it contains chlorinated solvents. The "chlor" term indicates that the solvent is chlorinated. Also, try substituting a wire brush for solvents to clean parts.

Recycling and Disposal

Separating wastes allows for easier recycling and may reduce disposal costs. Keep hazardous wastes separate, do not mix used oil solvents, and keep chlorinated solvents (like,-trichloroethane) separate from non-chlorinated solvents (like kerosene and mineral spirits). Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around. Provide cover and secondary containment until these materials can be removed from the site.

Oil filters can be recycled. Ask your oil supplier or recycler about recycling oil filters.

Do not dispose of extra paints and coatings by dumping liquid onto the ground or throwing it into dumpsters. Allow coatings to dry or harden before disposal into covered dumpsters.

Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Costs

All of the above are low cost measures. Higher costs are incurred to setup and maintain onsite maintenance areas.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Keep ample supplies of spill cleanup materials onsite.
- Maintain waste fluid containers in leak proof condition.
- Vehicles and equipment should be inspected on each day of use. Leaks should be repaired immediately, or the problem vehicle(s) or equipment should be removed from the project site.
- Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.

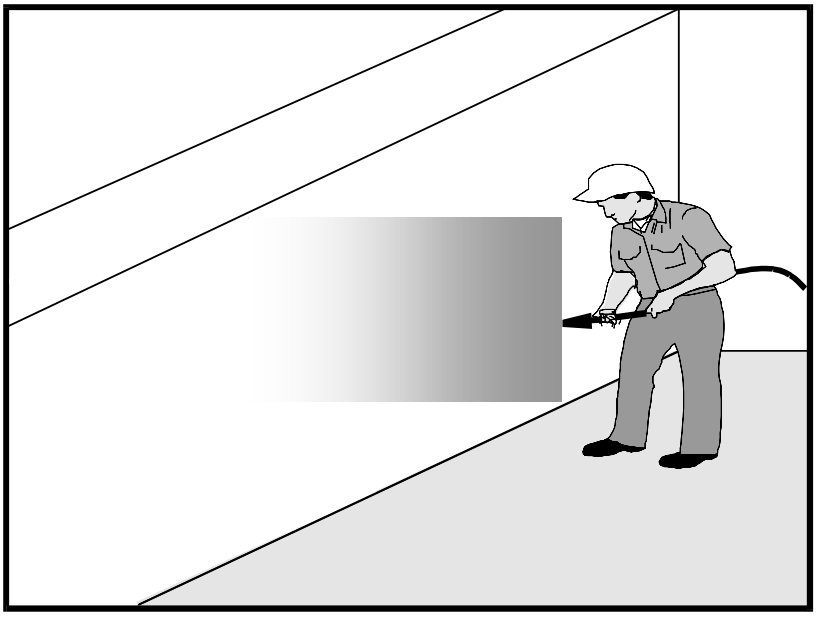
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Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Concrete Curing NS-12



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

Concrete curing is used in the construction of structures such as bridges, retaining walls, pump houses, large slabs, and structured foundations. Concrete curing includes the use of both chemical and water methods.

Concrete and its associated curing materials have basic chemical properties that can raise the pH of water to levels outside of the permitted range. Discharges of stormwater and non-stormwater exposed to concrete during curing may have a high pH and may contain chemicals, metals, and fines. The General Permit incorporates Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Proper procedures and care should be taken when managing concrete curing materials to prevent them from coming into contact with stormwater flows, which could result in a high pH discharge.

Suitable Applications

Suitable applications include all projects where Portland Cement Concrete (PCC) and concrete curing chemicals are placed where they can be exposed to rainfall, runoff from other areas, or where runoff from the PCC will leave the site.

Limitations

- Runoff contact with concrete waste can raise pH levels in the water to environmentally harmful levels and trigger permit violations.

Implementation

Chemical Curing

- Avoid over spray of curing compounds.
- Minimize the drift by applying the curing compound close to the concrete surface. Apply an amount of compound that covers the surface but does not allow any runoff of the compound.
- Use proper storage and handling techniques for concrete curing compounds. Refer to WM-1, Material Delivery and Storage.
- Protect drain inlets prior to the application of curing compounds.
- Refer to WM-4, Spill Prevention and Control.

Water Curing for Bridge Decks, Retaining Walls, and other Structures

- Direct cure water away from inlets and watercourses to collection areas for evaporation or other means of removal in accordance with all applicable permits. See WM-8 Concrete Waste Management.
- Collect cure water at the top of slopes and transport to a concrete waste management area in a non-erosive manner. See EC-9 Earth Dikes and Drainage Swales, EC-10, Velocity Dissipation Devices, and EC-11, Slope Drains.
- Utilize wet blankets or a similar method that maintains moisture while minimizing the use and possible discharge of water.

Education

- Educate employees, subcontractors, and suppliers on proper concrete curing techniques to prevent contact with discharge as described herein.
- Arrange for the QSP or the appropriately trained contractor's superintendent or representative to oversee and enforce concrete curing procedures.

Costs

All of the above measures are generally low cost.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharges daily while non-stormwater discharges occur.
- Sample non-stormwater discharges and stormwater runoff that contacts uncured and partially cured concrete as required by the General Permit.

- Ensure that employees and subcontractors implement appropriate measures for storage, handling, and use of curing compounds.
- Inspect cure containers and spraying equipment for leaks.

References

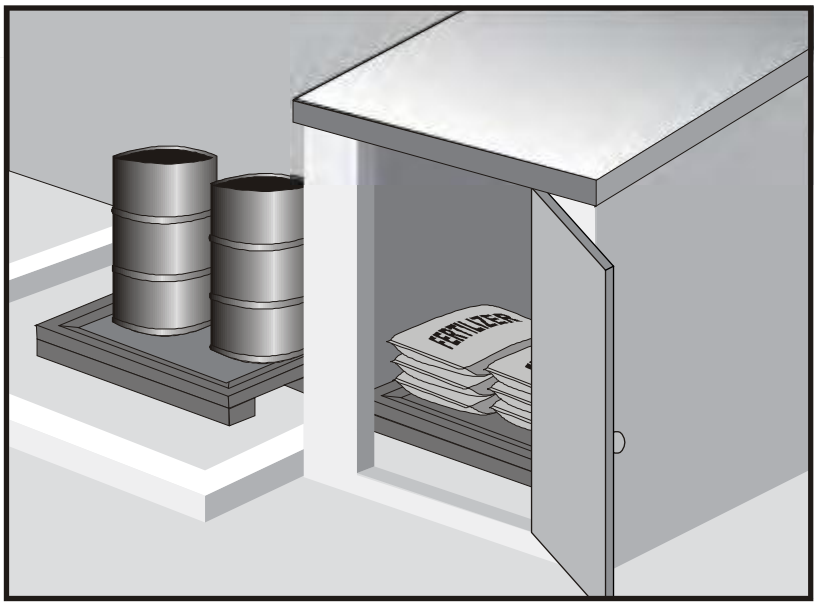
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Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Material Delivery and Storage WM-1



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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Description and Purpose

Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

This best management practice covers only material delivery and storage. For other information on materials, see WM-2, Material Use, or WM-4, Spill Prevention and Control. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

These procedures are suitable for use at all construction sites with delivery and storage of the following materials:

- Soil stabilizers and binders
- Pesticides and herbicides
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease

- Asphalt and concrete components
- Hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Concrete compounds
- Other materials that may be detrimental if released to the environment

Limitations

- Space limitation may preclude indoor storage.
- Storage sheds often must meet building and fire code requirements.

Implementation

The following steps should be taken to minimize risk:

- Chemicals must be stored in water tight containers with appropriate secondary containment or in a storage shed.
- When a material storage area is located on bare soil, the area should be lined and bermed.
- Use containment pallets or other practical and available solutions, such as storing materials within newly constructed buildings or garages, to meet material storage requirements.
- Stack erodible landscape material on pallets and cover when not in use.
- Contain all fertilizers and other landscape materials when not in use.
- Temporary storage areas should be located away from vehicular traffic.
- Material Safety Data Sheets (MSDS) should be available on-site for all materials stored that have the potential to effect water quality.
- Construction site areas should be designated for material delivery and storage.
- Material delivery and storage areas should be located away from waterways, if possible.
    - Avoid transport near drainage paths or waterways.
    - Surround with earth berms or other appropriate containment BMP. See EC-9, Earth Dikes and Drainage Swales.
    - Place in an area that will be paved.
- Storage of reactive, ignitable, or flammable liquids must comply with the fire codes of your area. Contact the local Fire Marshal to review site materials, quantities, and proposed storage area to determine specific requirements. See the Flammable and Combustible Liquid Code, NFPA30.
- An up to date inventory of materials delivered and stored onsite should be kept.

- Hazardous materials storage onsite should be minimized.
- Hazardous materials should be handled as infrequently as possible.
- Keep ample spill cleanup supplies appropriate for the materials being stored. Ensure that cleanup supplies are in a conspicuous, labeled area.
- Employees and subcontractors should be trained on the proper material delivery and storage practices.
- Employees trained in emergency spill cleanup procedures must be present when dangerous materials or liquid chemicals are unloaded.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose of materials and any contaminated soil. See WM-7, Contaminated Soil Management. If the area is to be paved, pave as soon as materials are removed to stabilize the soil.

Material Storage Areas and Practices

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 should be stored in approved containers and drums and should not be overfilled. Containers and drums should be placed in temporary containment facilities for storage.
- A temporary containment facility should provide for a spill containment volume able to contain precipitation from a 25-year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest container within its boundary, whichever is greater.
- A temporary containment facility should be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility should be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills should be collected and placed into drums. These liquids should be handled as a hazardous waste unless testing determines them to be non-hazardous. All collected liquids or non-hazardous liquids should be sent to an approved disposal site.
- Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, should not be stored in the same temporary containment facility.
- Materials should be covered prior to, and during rain events.
- Materials should be stored in their original containers and the original product labels should be maintained in place in a legible condition. Damaged or otherwise illegible labels should be replaced immediately.

- Bagged and boxed materials should be stored on pallets and should not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials should be covered during non-working days and prior to and during rain events.
- Stockpiles should be protected in accordance with WM-3, Stockpile Management.
- Materials should be stored indoors within existing structures or completely enclosed storage sheds when available.
- Proper storage instructions should be posted at all times in an open and conspicuous location.
- An ample supply of appropriate spill clean up material should be kept near storage areas.
- Also see WM-6, Hazardous Waste Management, for storing of hazardous wastes.

Material Delivery Practices

- Keep an accurate, up-to-date inventory of material delivered and stored onsite.
- Arrange for employees trained in emergency spill cleanup procedures to be present when dangerous materials or liquid chemicals are unloaded.

Spill Cleanup

- Contain and clean up any spill immediately.
- Properly remove and dispose of any hazardous materials or contaminated soil if significant residual materials remain on the ground after construction is complete. See WM-7, Contaminated Soil Management.
- See WM-4, Spill Prevention and Control, for spills of chemicals and/or hazardous materials.
- If spills or leaks of materials occur that are not contained and could discharge to surface waters, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

Cost

- The largest cost of implementation may be in the construction of a materials storage area that is covered and provides secondary containment.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Keep storage areas clean and well organized, including a current list of all materials onsite.
- Inspect labels on containers for legibility and accuracy.

- Repair or replace perimeter controls, containment structures, covers, and liners as needed to maintain proper function.

References

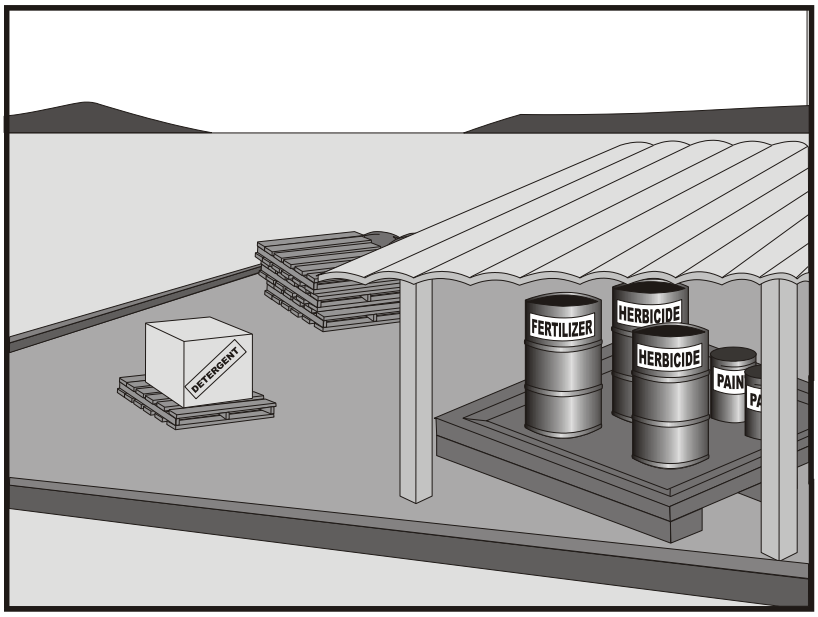
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Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Material Use WM-2



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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Description and Purpose

Prevent or reduce the discharge of pollutants to the storm drain system or watercourses from material use by using alternative products, minimizing hazardous material use onsite, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for use at all construction projects. These procedures apply when the following materials are used or prepared onsite:

- Pesticides and herbicides
- Fertilizers
- Detergents
- Petroleum products such as fuel, oil, and grease
- Asphalt and other concrete components
- Other hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Other materials that may be detrimental if released to the environment

Limitations

Safer alternative building and construction products may not be available or suitable in every instance.

Implementation

The following steps should be taken to minimize risk:

- Minimize use of hazardous materials onsite.
- Follow manufacturer instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
- Train personnel who use pesticides. The California Department of Pesticide Regulation and county agricultural commissioners license pesticide dealers, certify pesticide applicators, and conduct onsite inspections.
- The preferred method of termiticide application is soil injection near the existing or proposed structure foundation/slab; however, if not feasible, soil drench application of termiticides should follow EPA label guidelines and the following recommendations (most of which are applicable to most pesticide applications):
  - Do not treat soil that is water-saturated or frozen.
  - Application shall not commence within 24-hours of a predicted precipitation event with a 40% or greater probability. Weather tracking must be performed on a daily basis prior to termiticide application and during the period of termiticide application.
  - Do not allow treatment chemicals to runoff from the target area. Apply proper quantity to prevent excess runoff. Provide containment for and divert stormwater from application areas using berms or diversion ditches during application.
  - Dry season: Do not apply within 10 feet of storm drains. Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or ponds; estuaries; and commercial fish farm ponds).
  - Wet season: Do not apply within 50 feet of storm drains or aquatic habitats (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or ponds; estuaries; and commercial fish farm ponds) unless a vegetative buffer is present (if so, refer to dry season requirements).
  - Do not make on-grade applications when sustained wind speeds are above 10 mph (at application site) at nozzle end height.
  - Cover treatment site prior to a rain event in order to prevent run-off of the pesticide into non-target areas. The treated area should be limited to a size that can be backfilled and/or covered by the end of the work shift. Backfilling or covering of the treated area shall be done by the end of the same work shift in which the application is made.
  - The applicator must either cover the soil him/herself or provide written notification of the above requirement to the contractor on site and to the person commissioning the

application (if different than the contractor). If notice is provided to the contractor or the person commissioning the application, then they are responsible under the Federal Insecticide Fungicide, and Rodenticide Act (FIFRA) to ensure that: 1) if the concrete slab cannot be poured over the treated soil within 24 hours of application, the treated soil is covered with a waterproof covering (such as polyethylene sheeting), and 2) the treated soil is covered if precipitation is predicted to occur before the concrete slab is scheduled to be poured.

- Do not over-apply fertilizers, herbicides, and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Unless on steep slopes, till fertilizers into the soil rather than hydraulic application. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried offsite by runoff. Do not apply these chemicals before predicted rainfall.
- Train employees and subcontractors in proper material use.
- Supply Material Safety Data Sheets (MSDS) for all materials.
- Dispose of latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, with other construction debris.
- Do not remove the original product label; it contains important safety and disposal information. Use the entire product before disposing of the container.
- Mix paint indoors or in a containment area. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain, or watercourse. Dispose of any paint thinners, residue, and sludge(s) that cannot be recycled, as hazardous waste.
- For water-based paint, clean brushes to the extent practicable, and rinse to a drain leading to a sanitary sewer where permitted or contain for proper disposal off site. For oil-based paints, clean brushes to the extent practicable, and filter and reuse thinners and solvents.
- Use recycled and less hazardous products when practical. Recycle residual paints, solvents, non-treated lumber, and other materials.
- Use materials only where and when needed to complete the construction activity. Use safer alternative materials as much as possible. Reduce or eliminate use of hazardous materials onsite when practical.
- Document the location, time, chemicals applied, and applicator's name and qualifications.
- Keep an ample supply of spill clean up material near use areas. Train employees in spill clean up procedures.
- Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.
- Discontinue use of erodible landscape material within 2 days prior to a forecasted rain event and materials should be covered and/or bermed.

- Provide containment for material use areas such as masons' areas or paint mixing/preparation areas to prevent materials/pollutants from entering stormwater.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Ensure employees and subcontractors throughout the job are using appropriate practices.

References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

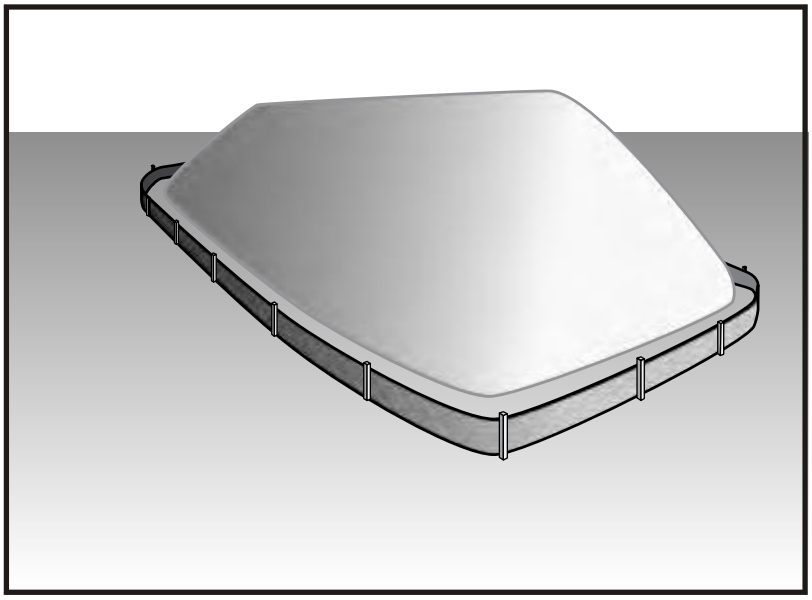
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Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Stockpile Management WM-3



Treat Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Description and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, soil amendments, sand, paving materials such as Portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called "cold mix" asphalt), and pressure treated wood.

Suitable Applications

Implement in all projects that stockpile soil and other loose materials.

Limitations

- Plastic sheeting as a stockpile protection is temporary and hard to manage in windy conditions. Where plastic is used, consider use of plastic tarps with nylon reinforcement which may be more durable than standard sheeting.
- Plastic sheeting can increase runoff volume due to lack of infiltration and potentially cause perimeter control failure.
- Plastic sheeting breaks down faster in sunlight.
- The use of Plastic materials and photodegradable plastics should be avoided.

Implementation

Protection of stockpiles is a year-round requirement. To properly manage stockpiles:

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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- On larger sites, a minimum of 50 ft separation from concentrated flows of stormwater, drainage courses, and inlets is recommended.
- After 14 days of inactivity, a stockpile is non-active and requires further protection described below. All stockpiles are required to be protected as non-active stockpiles immediately if they are not scheduled to be used within 14 days.
- Protect all stockpiles from stormwater run-on using temporary perimeter sediment barriers such as compost berms (SE-13), temporary silt dikes (SE-12), fiber rolls (SE-5), silt fences (SE-1), sandbags (SE-8), gravel bags (SE-6), or biofilter bags (SE-14). Refer to the individual fact sheet for each of these controls for installation information.
- Implement wind erosion control practices as appropriate on all stockpiled material. For specific information, see WE-1, Wind Erosion Control.
- Manage stockpiles of contaminated soil in accordance with WM-7, Contaminated Soil Management.
- Place bagged materials on pallets and under cover.
- Ensure that stockpile coverings are installed securely to protect from wind and rain.
- Some plastic covers withstand weather and sunlight better than others. Select cover materials or methods based on anticipated duration of use.

Protection of Non-Active Stockpiles

A stockpile is considered non-active if it either is not used for 14 days or if it is scheduled not to be used for 14 days or more. Stockpiles need to be protected immediately if they are not scheduled to be used within 14 days. Non-active stockpiles of the identified materials should be protected as follows:

Soil stockpiles

- Soil stockpiles should be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.
- Temporary vegetation should be considered for topsoil piles that will be stockpiled for extended periods.

Stockpiles of Portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate sub base

- Stockpiles should be covered and protected with a temporary perimeter sediment barrier at all times.

Stockpiles of "cold mix"

- Cold mix stockpiles should be placed on and covered with plastic sheeting or comparable material at all times and surrounded by a berm.

Stockpiles of fly ash, stucco, hydrated lime

- Stockpiles of materials that may raise the pH of runoff (i.e., basic materials) should be covered with plastic and surrounded by a berm.

Stockpiles/Storage of treated wood

- Treated wood should be covered with plastic sheeting or comparable material at all times and surrounded by a berm.

Protection of Active Stockpiles

A stockpile is active when it is being used or is scheduled to be used within 14 days of the previous use. Active stockpiles of the identified materials should be protected as follows:

- All stockpiles should be covered and protected with a temporary linear sediment barrier prior to the onset of precipitation.
- Stockpiles of "cold mix" and treated wood, and basic materials should be placed on and covered with plastic sheeting or comparable material and surrounded by a berm prior to the onset of precipitation.
- The downstream perimeter of an active stockpile should be protected with a linear sediment barrier or berm and runoff should be diverted around or away from the stockpile on the upstream perimeter.

Costs

For cost information associated with stockpile protection refer to the individual erosion or sediment control BMP fact sheet considered for implementation (For example, refer to SE-1 Silt Fence for installation of silt fence around the perimeter of a stockpile.)

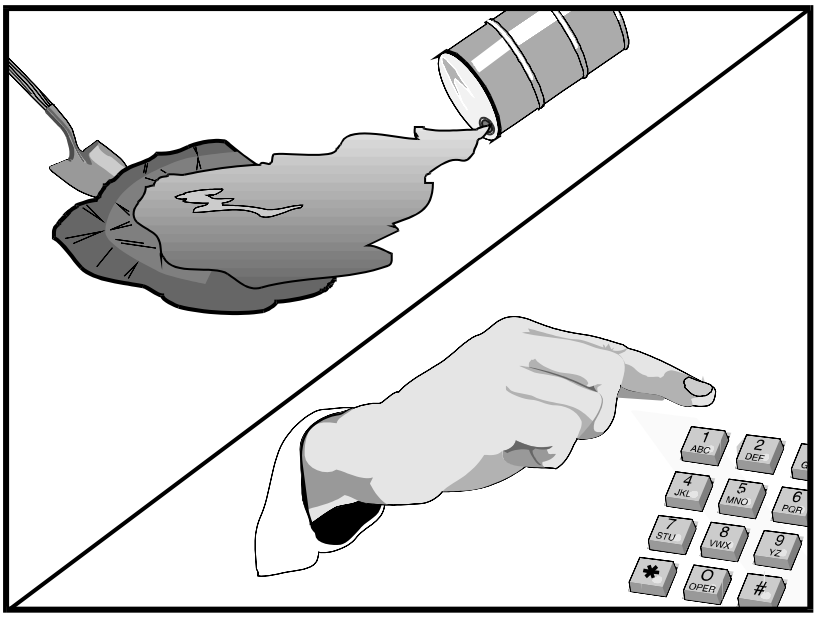
Inspection and Maintenance

- Stockpiles must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- It may be necessary to inspect stockpiles covered with plastic sheeting more frequently during certain conditions (for example, high winds or extreme heat).
- Repair and/or replace perimeter controls and covers as needed to keep them functioning properly.
- Sediment shall be removed when it reaches one-third of the barrier height.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Spill Prevention and Control WM-4



Description and Purpose

Prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

This best management practice covers only spill prevention and control. However, WM-1, Materials Delivery and Storage, and WM-2, Material Use, also contain useful information, particularly on spill prevention. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

This BMP is suitable for all construction projects. Spill control procedures are implemented anytime chemicals or hazardous substances are stored on the construction site, including the following materials:

- Soil stabilizers/binders
- Dust palliatives
- Herbicides
- Growth inhibitors
- Fertilizers
- Deicing/anti-icing chemicals

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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- Fuels
- Lubricants
- Other petroleum distillates

Limitations

- In some cases, it may be necessary to use a private spill cleanup company.
- This BMP applies to spills caused by the contractor and subcontractors.
- Procedures and practices presented in this BMP are general. Contractor should identify appropriate practices for the specific materials used or stored onsite

Implementation

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

- Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.
- Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110,117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- Store hazardous materials and wastes in covered containers and protect from vandalism.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- Train employees in spill prevention and cleanup.
- Designate responsible individuals to oversee and enforce control measures.
- Spills should be covered and protected from stormwater runon during rainfall to the extent that it doesn't compromise clean up activities.
- Do not bury or wash spills with water.

- Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMPs.
- Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with WM-10, Liquid Waste Management.
- Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.
- Place proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.
- Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

- Clean up leaks and spills immediately.
- Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to either a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMPs in this section for specific information.

Minor Spills

- Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.
- Use absorbent materials on small spills rather than hosing down or burying the spill.
- Absorbent materials should be promptly removed and disposed of properly.
- Follow the practice below for a minor spill:
  - Contain the spread of the spill.
  - Recover spilled materials.
  - Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

- Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

- Spills should be cleaned up immediately:
  - Contain spread of the spill.
  - Notify the project foreman immediately.
  - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
  - If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
  - If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

- For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, the following steps should be taken:
  - Notify the local emergency response by dialing 911. In addition to 911, the contractor will notify the proper county officials. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
  - Notify the Governor's Office of Emergency Services Warning Center, (916) 845-8911.
  - For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
  - Notification should first be made by telephone and followed up with a written report.
  - The services of a spill's contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.
  - Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Coast Guard, the Highway Patrol, the City/County Police Department, Department of Toxic Substances, California Division of Oil and Gas, Cal/OSHA, etc.

Reporting

- Report significant spills to local agencies, such as the Fire Department; they can assist in cleanup.
- Federal regulations require that any significant oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hours).

Use the following measures related to specific activities:

Vehicle and Equipment Maintenance

- If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
- Regularly inspect onsite vehicles and equipment for leaks and repair immediately
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent materials under paving equipment when not in use.
- Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around
- Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- If fueling must occur onsite, use designate areas, located away from drainage courses, to prevent the runon of stormwater and the runoff of spills.
- Discourage "topping off" of fuel tanks.
- Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

Costs

Prevention of leaks and spills is inexpensive. Treatment and/ or disposal of contaminated soil or water can be quite expensive.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.

- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur.
- Keep ample supplies of spill control and cleanup materials onsite, near storage, unloading, and maintenance areas.
- Update your spill prevention and control plan and stock cleanup materials as changes occur in the types of chemicals onsite.

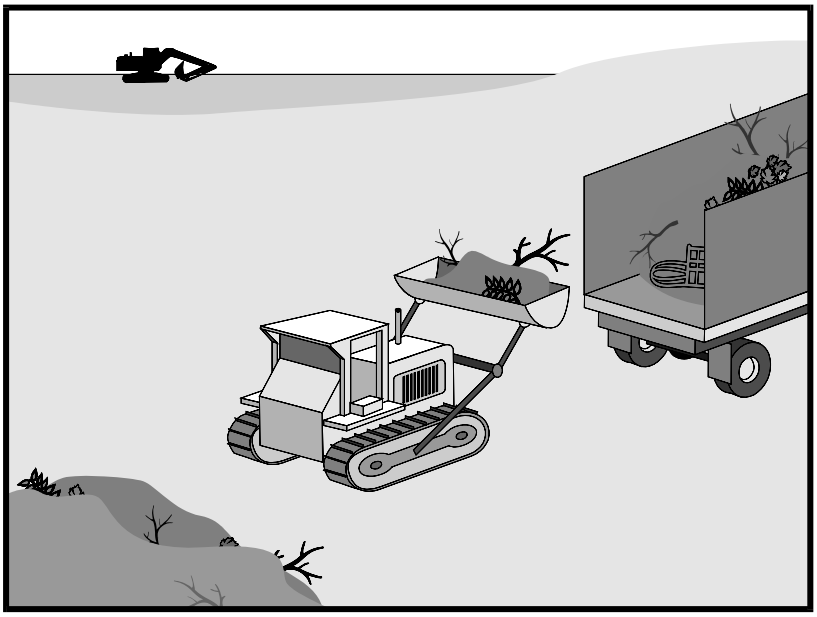
References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Solid Waste Management WM-5



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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Description and Purpose

Solid waste management procedures and practices are designed to prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for construction sites where the following wastes are generated or stored:

- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction
- Packaging materials including wood, paper, and plastic
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces, and masonry products
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes
- Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts, styrofoam and other materials used to transport and package construction materials

- Highway planting wastes, including vegetative material, plant containers, and packaging materials

Limitations

Temporary stockpiling of certain construction wastes may not necessitate stringent drainage related controls during the non-rainy season or in desert areas with low rainfall.

Implementation

The following steps will help keep a clean site and reduce stormwater pollution:

- Select designated waste collection areas onsite.
- Inform trash-hauling contractors that you will accept only watertight dumpsters for onsite use. Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Locate containers in a covered area or in a secondary containment.
- Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Cover waste containers at the end of each work day and when it is raining.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Remove this solid waste promptly since erosion and sediment control devices tend to collect litter.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

Education

- Have the contractor's superintendent or representative oversee and enforce proper solid waste management procedures and practices.
- Instruct employees and subcontractors on identification of solid waste and hazardous waste.
- Educate employees and subcontractors on solid waste storage and disposal procedures.

- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).
- Require that employees and subcontractors follow solid waste handling and storage procedures.
- Prohibit littering by employees, subcontractors, and visitors.
- Minimize production of solid waste materials wherever possible.

Collection, Storage, and Disposal

- Littering on the project site should be prohibited.
- To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines should be a priority.
- Trash receptacles should be provided in the contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Litter from work areas within the construction limits of the project site should be collected and placed in watertight dumpsters at least weekly, regardless of whether the litter was generated by the contractor, the public, or others. Collected litter and debris should not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.
- Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project.
- Full dumpsters should be removed from the project site and the contents should be disposed of by the trash hauling contractor.
- Construction debris and waste should be removed from the site biweekly or more frequently as needed.
- Construction material visible to the public should be stored or stacked in an orderly manner.
- Stormwater runon should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
- Solid waste storage areas should be located at least 50 ft from drainage facilities and watercourses and should not be located in areas prone to flooding or ponding.
- Except during fair weather, construction and highway planting waste not stored in watertight dumpsters should be securely covered from wind and rain by covering the waste with tarps or plastic.
- Segregate potentially hazardous waste from non-hazardous construction site waste.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.

- For disposal of hazardous waste, see WM-6, Hazardous Waste Management. Have hazardous waste hauled to an appropriate disposal and/or recycling facility.
- Salvage or recycle useful vegetation debris, packaging and surplus building materials when practical. For example, trees and shrubs from land clearing can be used as a brush barrier, or converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur
- Inspect construction waste area regularly.
- Arrange for regular waste collection.

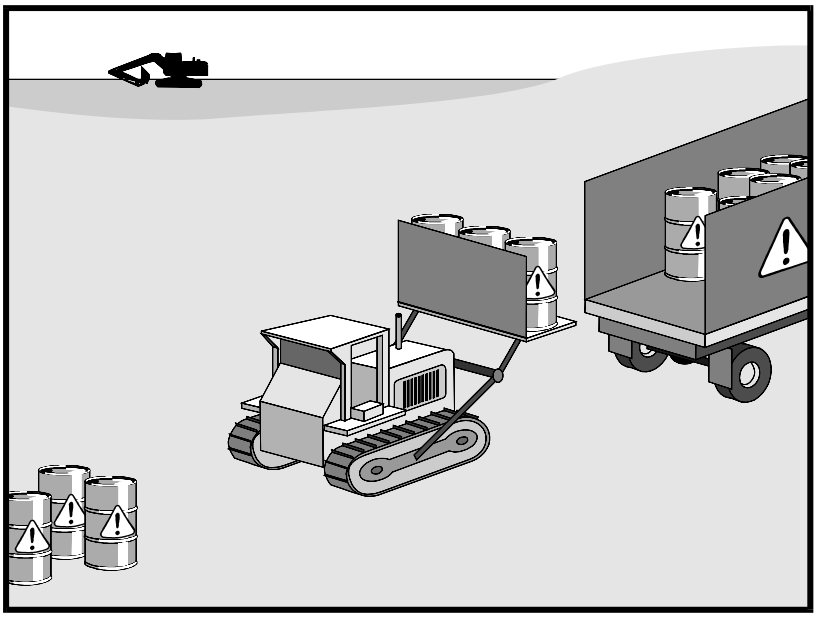
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Hazardous Waste Management WM-6



Description and Purpose

Prevent or reduce the discharge of pollutants to stormwater from hazardous waste through proper material use, waste disposal, and training of employees and subcontractors.

Suitable Applications

This best management practice (BMP) applies to all construction projects. Hazardous waste management practices are implemented on construction projects that generate waste from the use of:

- Petroleum Products
- Asphalt Products
- Concrete Curing Compounds
- Pesticides
- Palliatives
- Acids
- Septic Wastes
- Paints
- Stains
- Solvents
- Wood Preservatives
- Roofing Tar
- Any materials deemed a hazardous waste in California, Title 22 Division 4.5, or listed in 40 CFR Parts 110, 117, 261, or 302

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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In addition, sites with existing structures may contain wastes, which must be disposed of in accordance with federal, state, and local regulations. These wastes include:

- Sandblasting grit mixed with lead-, cadmium-, or chromium-based paints
- Asbestos
- PCBs (particularly in older transformers)

Limitations

- Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.
- Nothing in this BMP relieves the contractor from responsibility for compliance with federal, state, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.
- This BMP does not cover aerially deposited lead (ADL) soils. For ADL soils refer to WM-7, Contaminated Soil Management.

Implementation

The following steps will help reduce stormwater pollution from hazardous wastes:

Material Use

- Wastes should be stored in sealed containers constructed of a suitable material and should be labeled as required by Title 22 CCR, Division 4.5 and 49 CFR Parts 172, 173, 178, and 179.
- All hazardous waste should be stored, transported, and disposed as required in Title 22 CCR, Division 4.5 and 49 CFR 261-263.
- Waste containers should be stored in temporary containment facilities that should comply with the following requirements:
  - Temporary containment facility should provide for a spill containment volume equal to 1.5 times the volume of all containers able to contain precipitation from a 25-year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest tank within its boundary, whichever is greater.
  - Temporary containment facility should be impervious to the materials stored there for a minimum contact time of 72 hours.
  - Temporary containment facilities should be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills should be placed into drums after each rainfall. These liquids should be handled as a hazardous waste unless testing determines them to be non-hazardous. Non-hazardous liquids should be sent to an approved disposal site.
  - Sufficient separation should be provided between stored containers to allow for spill cleanup and emergency response access.

  - Incompatible materials, such as chlorine and ammonia, should not be stored in the same temporary containment facility.

  - Throughout the rainy season, temporary containment facilities should be covered during non-working days, and prior to rain events. Covered facilities may include use of plastic tarps for small facilities or constructed roofs with overhangs.

- Drums should not be overfilled, and wastes should not be mixed.

- Unless watertight, containers of dry waste should be stored on pallets.

- Do not over-apply herbicides and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over application is expensive and environmentally harmful. Apply surface dressings in several smaller applications, as opposed to one large application. Allow time for infiltration and avoid excess material being carried offsite by runoff. Do not apply these chemicals just before it rains. People applying pesticides must be certified in accordance with federal and state regulations.

- Paint brushes and equipment for water and oil-based paints should be cleaned within a contained area and should not be allowed to contaminate site soils, watercourses, or drainage systems. Waste paints, thinners, solvents, residues, and sludges that cannot be recycled or reused should be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths should be disposed of as solid waste.

- Do not clean out brushes or rinse paint containers into the dirt, street, gutter, storm drain, or stream. “Paint out” brushes as much as possible. Rinse water-based paints to the sanitary sewer. Filter and reuse thinners and solvents. Dispose of excess oil-based paints and sludge as hazardous waste.

- The following actions should be taken with respect to temporary contaminant:

  - Ensure that adequate hazardous waste storage volume is available.

  - Ensure that hazardous waste collection containers are conveniently located.

  - Designate hazardous waste storage areas onsite away from storm drains or watercourses and away from moving vehicles and equipment to prevent accidental spills.

  - Minimize production or generation of hazardous materials and hazardous waste on the job site.

  - Use containment berms in fueling and maintenance areas and where the potential for spills is high.

  - Segregate potentially hazardous waste from non-hazardous construction site debris.

  - Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.

- Clearly label all hazardous waste containers with the waste being stored and the date of accumulation.
- Place hazardous waste containers in secondary containment.
- Do not allow potentially hazardous waste materials to accumulate on the ground.
- Do not mix wastes.
- Use all of the product before disposing of the container.
- Do not remove the original product label; it contains important safety and disposal information.

Waste Recycling Disposal

- Select designated hazardous waste collection areas onsite.
- Hazardous materials and wastes should be stored in covered containers and protected from vandalism.
- Place hazardous waste containers in secondary containment.
- Do not mix wastes, this can cause chemical reactions, making recycling impossible and complicating disposal.
- Recycle any useful materials such as used oil or water-based paint.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Arrange for regular waste collection before containers overflow.
- Make sure that hazardous waste (e.g., excess oil-based paint and sludge) is collected, removed, and disposed of only at authorized disposal areas.

Disposal Procedures

- Waste should be disposed of by a licensed hazardous waste transporter at an authorized and licensed disposal facility or recycling facility utilizing properly completed Uniform Hazardous Waste Manifest forms.
- A Department of Health Services certified laboratory should sample waste to determine the appropriate disposal facility.
- Properly dispose of rainwater in secondary containment that may have mixed with hazardous waste.
- Attention is directed to "Hazardous Material", "Contaminated Material", and "Aerially Deposited Lead" of the contract documents regarding the handling and disposal of hazardous materials.

Education

- Educate employees and subcontractors on hazardous waste storage and disposal procedures.
- Educate employees and subcontractors on potential dangers to humans and the environment from hazardous wastes.
- Instruct employees and subcontractors on safety procedures for common construction site hazardous wastes.
- Instruct employees and subcontractors in identification of hazardous and solid waste.
- Hold regular meetings to discuss and reinforce hazardous waste management procedures (incorporate into regular safety meetings).
- The contractor's superintendent or representative should oversee and enforce proper hazardous waste management procedures and practices.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- Warning signs should be placed in areas recently treated with chemicals.
- Place a stockpile of spill cleanup materials where it will be readily accessible.
- If a container does spill, clean up immediately.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur
- Hazardous waste should be regularly collected.
- A foreman or construction supervisor should monitor onsite hazardous waste storage and disposal procedures.
- Waste storage areas should be kept clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored.
- Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

- Hazardous spills should be cleaned up and reported in conformance with the applicable Material Safety Data Sheet (MSDS) and the instructions posted at the project site.
- The National Response Center, at (800) 424-8802, should be notified of spills of federal reportable quantities in conformance with the requirements in 40 CFR parts 110, 117, and 302. Also notify the Governors Office of Emergency Services Warning Center at (916) 845-8911.
- A copy of the hazardous waste manifests should be provided.

References

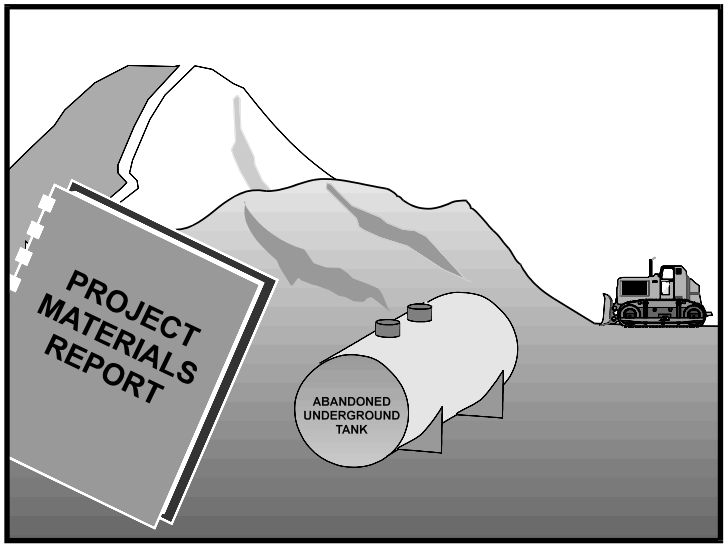
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Contaminated Soil Management WM-7



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Description and Purpose

Prevent or reduce the discharge of pollutants to stormwater from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly.

Suitable Applications

Contaminated soil management is implemented on construction projects in highly urbanized or industrial areas where soil contamination may have occurred due to spills, illicit discharges, aerial deposition, past use and leaks from underground storage tanks.

Limitations

Contaminated soils that cannot be treated onsite must be disposed of offsite by a licensed hazardous waste hauler. The presence of contaminated soil may indicate contaminated water as well. See NS-2, Dewatering Operations, for more information.

The procedures and practices presented in this BMP are general. The contractor should identify appropriate practices and procedures for the specific contaminants known to exist or discovered onsite.

Implementation

Most owners and developers conduct pre-construction environmental assessments as a matter of routine. Contaminated soils are often identified during project planning and development with known locations identified in the plans, specifications and in the SWPPP. The contractor should review applicable reports and investigate appropriate call-outs in the

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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plans, specifications, and SWPPP. Recent court rulings holding contractors liable for cleanup costs when they unknowingly move contaminated soil highlight the need for contractors to confirm a site assessment is completed before earth moving begins.

The following steps will help reduce stormwater pollution from contaminated soil:

- Conduct thorough, pre-construction inspections of the site and review documents related to the site. If inspection or reviews indicated presence of contaminated soils, develop a plan before starting work.
- Look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris.
- Prevent leaks and spills. Contaminated soil can be expensive to treat and dispose of properly. However, addressing the problem before construction is much less expensive than after the structures are in place.
- The contractor may further identify contaminated soils by investigating:
  - Past site uses and activities
  - Detected or undetected spills and leaks
  - Acid or alkaline solutions from exposed soil or rock formations high in acid or alkaline forming elements
  - Contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris.
  - Suspected soils should be tested at a certified laboratory.

Education

- Have employees and subcontractors complete a safety training program which meets 29 CFR 1910.120 and 8 CCR 5192 covering the potential hazards as identified, prior to performing any excavation work at the locations containing material classified as hazardous.
- Educate employees and subcontractors in identification of contaminated soil and on contaminated soil handling and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).

Handling Procedures for Material with Aerially Deposited Lead (ADL)

- Materials from areas designated as containing (ADL) may, if allowed by the contract special provisions, be excavated, transported, and used in the construction of embankments and/or backfill.
- Excavation, transportation, and placement operations should result in no visible dust.
- Caution should be exercised to prevent spillage of lead containing material during transport.

- Quality should be monitored during excavation of soils contaminated with lead.

Handling Procedures for Contaminated Soils

- Minimize onsite storage. Contaminated soil should be disposed of properly in accordance with all applicable regulations. All hazardous waste storage will comply with the requirements in Title 22, CCR, Sections 66265.250 to 66265.260.
- Test suspected soils at an approved certified laboratory.
- Work with the local regulatory agencies to develop options for treatment or disposal if the soil is contaminated.
- Avoid temporary stockpiling of contaminated soils or hazardous material.
- Take the following precautions if temporary stockpiling is necessary:
  - Cover the stockpile with plastic sheeting or tarps.
  - Install a berm around the stockpile to prevent runoff from leaving the area.
  - Do not stockpile in or near storm drains or watercourses.
- Remove contaminated material and hazardous material on exteriors of transport vehicles and place either into the current transport vehicle or into the excavation prior to the vehicle leaving the exclusion zone.
- Monitor the air quality continuously during excavation operations at all locations containing hazardous material.
- Procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work, including registration for transporting vehicles carrying the contaminated material and the hazardous material.
- Collect water from decontamination procedures and treat or dispose of it at an appropriate disposal site.
- Collect non-reusable protective equipment, once used by any personnel, and dispose of at an appropriate disposal site.
- Install temporary security fence to surround and secure the exclusion zone. Remove fencing when no longer needed.
- Excavate, transport, and dispose of contaminated material and hazardous material in accordance with the rules and regulations of the following agencies (the specifications of these agencies supersede the procedures outlined in this BMP):
  - United States Department of Transportation (USDOT)
  - United States Environmental Protection Agency (USEPA)
  - California Environmental Protection Agency (CAL-EPA)

- California Division of Occupation Safety and Health Administration (CAL-OSHA)
- Local regulatory agencies

Procedures for Underground Storage Tank Removals

- Prior to commencing tank removal operations, obtain the required underground storage tank removal permits and approval from the federal, state, and local agencies that have jurisdiction over such work.
- To determine if it contains hazardous substances, arrange to have tested, any liquid or sludge found in the underground tank prior to its removal.
- Following the tank removal, take soil samples beneath the excavated tank and perform analysis as required by the local agency representative(s).
- The underground storage tank, any liquid or sludge found within the tank, and all contaminated substances and hazardous substances removed during the tank removal and transported to disposal facilities permitted to accept such waste.

Water Control

- All necessary precautions and preventive measures should be taken to prevent the flow of water, including ground water, from mixing with hazardous substances or underground storage tank excavations. Such preventative measures may consist of, but are not limited to, berms, cofferdams, grout curtains, freeze walls, and seal course concrete or any combination thereof.
- If water does enter an excavation and becomes contaminated, such water, when necessary to proceed with the work, should be discharged to clean, closed top, watertight transportable holding tanks, treated, and disposed of in accordance with federal, state, and local laws.

Costs

Prevention of leaks and spills is inexpensive. Treatment or disposal of contaminated soil can be quite expensive.

Inspection and Maintenance

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect BMPs in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Arrange for contractor's Water Pollution Control Manager, foreman, and/or construction supervisor to monitor onsite contaminated soil storage and disposal procedures.
- Monitor air quality continuously during excavation operations at all locations containing hazardous material.
- Coordinate contaminated soils and hazardous substances/waste management with the appropriate federal, state, and local agencies.

- Implement WM-4, Spill Prevention and Control, to prevent leaks and spills as much as possible.

References

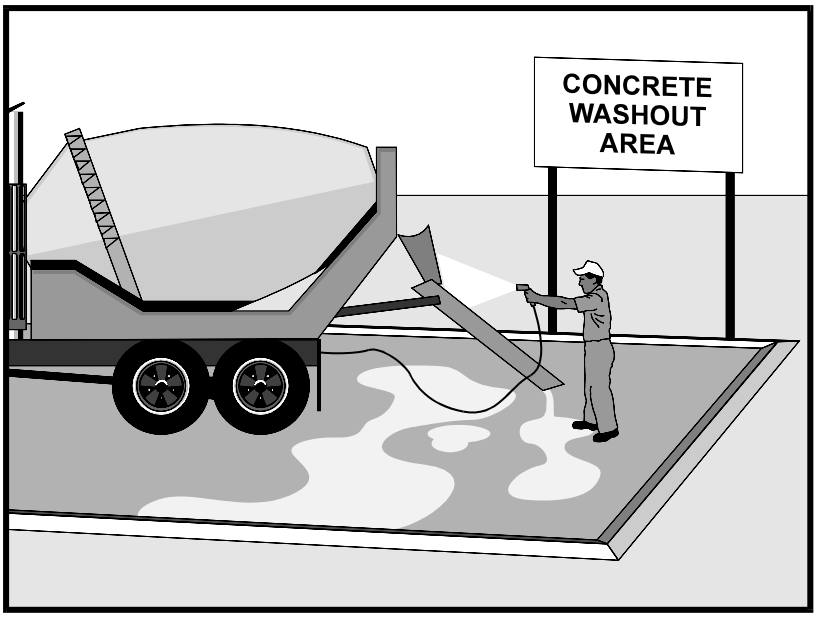
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Concrete Waste Management WM-8



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Description and Purpose

Prevent the discharge of pollutants to stormwater from concrete waste by conducting washout onsite or offsite in a designated area, and by employee and subcontractor training.

The General Permit incorporates Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials, including mortar, concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows and raising pH to levels outside the accepted range.

Suitable Applications

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Slurries containing Portland cement concrete (PCC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.
- Concrete trucks and other concrete-coated equipment are washed onsite.

- Mortar-mixing stations exist.
- Stucco mixing and spraying.
- See also NS-8, Vehicle and Equipment Cleaning.

Limitations

- Offsite washout of concrete wastes may not always be possible.
- Multiple washouts may be needed to assure adequate capacity and to allow for evaporation.

Implementation

The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Store dry and wet materials under cover, away from drainage areas. Refer to WM-1, Material Delivery and Storage for more information.
- Avoid mixing excess amounts of concrete.
- Perform washout of concrete trucks in designated areas only, where washout will not reach stormwater.
- Do not wash out concrete trucks into storm drains, open ditches, streets, streams or onto the ground. Trucks should always be washed out into designated facilities.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
  - On larger sites, it is recommended to locate washout areas at least 50 feet from storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
  - Washout wastes into the temporary washout where the concrete can set, be broken up, and then disposed properly.
  - Washouts shall be implemented in a manner that prevents leaching to underlying soils. Washout containers must be water tight and washouts on or in the ground must be lined with a suitable impervious liner, typically a plastic type material.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.
- See typical concrete washout installation details at the end of this fact sheet.

Education

- Educate employees, subcontractors, and suppliers on the concrete waste management techniques described herein.

- Arrange for contractor's superintendent or representative to oversee and enforce concrete waste management procedures.
- Discuss the concrete management techniques described in this BMP (such as handling of concrete waste and washout) with the ready-mix concrete supplier before any deliveries are made.

Concrete Demolition Wastes

- Stockpile concrete demolition waste in accordance with BMP WM-3, Stockpile Management.
- Dispose of or recycle hardened concrete waste in accordance with applicable federal, state or local regulations.

Concrete Slurry Wastes

- PCC and AC waste should not be allowed to enter storm drains or watercourses.
- PCC and AC waste should be collected and disposed of or placed in a temporary concrete washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below).
- A foreman or construction supervisor should monitor onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Saw-cut concrete slurry should not be allowed to enter storm drains or watercourses. Residue from grinding operations should be picked up by means of a vacuum attachment to the grinding machine or by sweeping. Saw cutting residue should not be allowed to flow across the pavement and should not be left on the surface of the pavement. See also NS-3, Paving and Grinding Operations; and WM-10, Liquid Waste Management.
- Concrete slurry residue should be disposed in a temporary washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures, below) and allowed to dry. Dispose of dry slurry residue in accordance with WM-5, Solid Waste Management.

Onsite Temporary Concrete Washout Facility, Transit Truck Washout Procedures

- Temporary concrete washout facilities should be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- Temporary concrete washout facilities should be constructed above grade or below grade at the option of the contractor. Temporary concrete washout facilities should be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.

- Temporary washout facilities should have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.
- Temporary washout facilities should be lined to prevent discharge to the underlying ground or surrounding area.
- Washout of concrete trucks should be performed in designated areas only.
- Only concrete from mixer truck chutes should be washed into concrete wash out.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of or recycled offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per WM-5, Solid Waste Management. Dispose of or recycle hardened concrete on a regular basis.
- Temporary Concrete Washout Facility (Type Above Grade)
    - Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft; however, smaller sites or jobs may only need a smaller washout facility. With any washout, always maintain a sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
    - Materials used to construct the washout area should conform to the provisions detailed in their respective BMPs (e.g., SE-8 Sandbag Barrier).
    - Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.
    - Alternatively, portable removable containers can be used as above grade concrete washouts. Also called a “roll-off”; this concrete washout facility should be properly sealed to prevent leakage and should be removed from the site and replaced when the container reaches 75% capacity.
- Temporary Concrete Washout Facility (Type Below Grade)
    - Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
    - Lath and flagging should be commercial type.
    - Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

- The base of a washout facility should be free of rock or debris that may damage a plastic liner.

Removal of Temporary Concrete Washout Facilities

- When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and properly disposed or recycled in accordance with federal, state or local regulations. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and properly disposed or recycled in accordance with federal, state or local regulations.

- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

Costs

All of the above are low cost measures. Roll-off concrete washout facilities can be more costly than other measures due to removal and replacement; however, provide a cleaner alternative to traditional washouts. The type of washout facility, size, and availability of materials will determine the cost of the washout.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.

- Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials should be removed and properly disposed or recycled in accordance with federal, state or local regulations.

- Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.

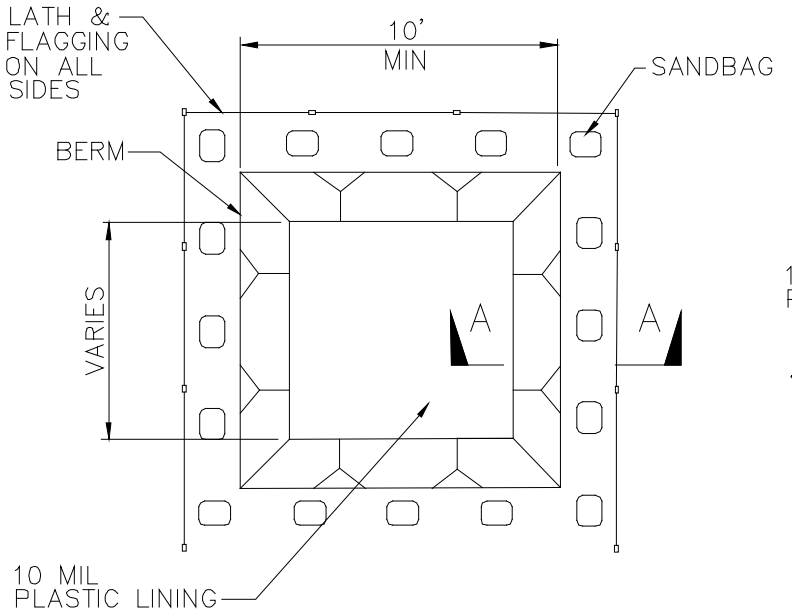
- Inspect washout facilities for damage (e.g. torn liner, evidence of leaks, signage, etc.). Repair all identified damage.

References

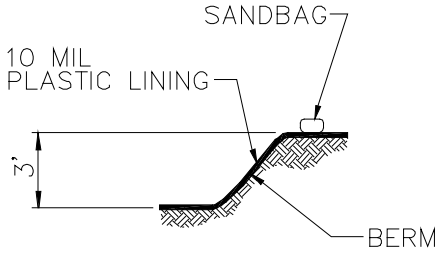
Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000, Updated March 2003.

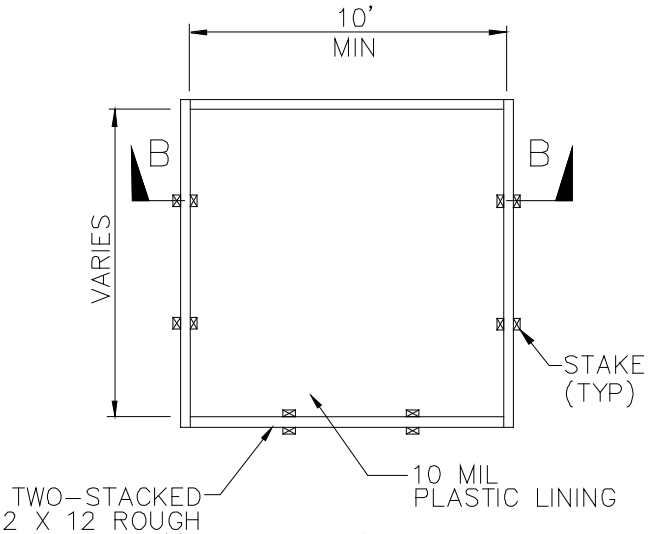
Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.



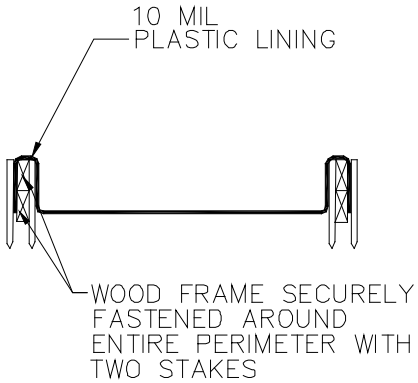
PLAN
NOT TO SCALE
TYPE "BELOW GRADE"



SECTION A–A
NOT TO SCALE



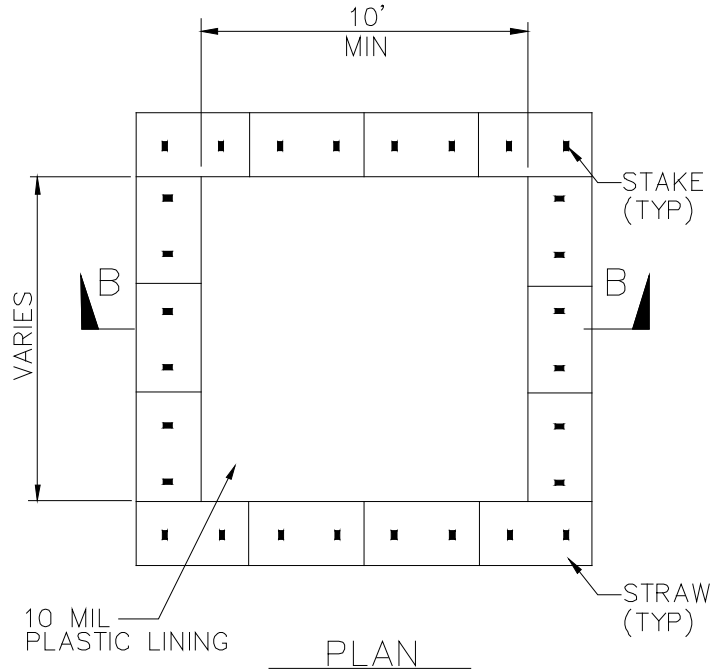
PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"



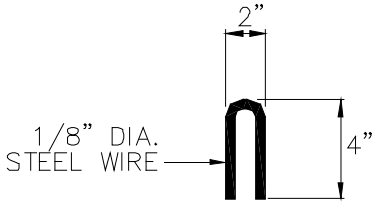
SECTION B–B
NOT TO SCALE

NOTES

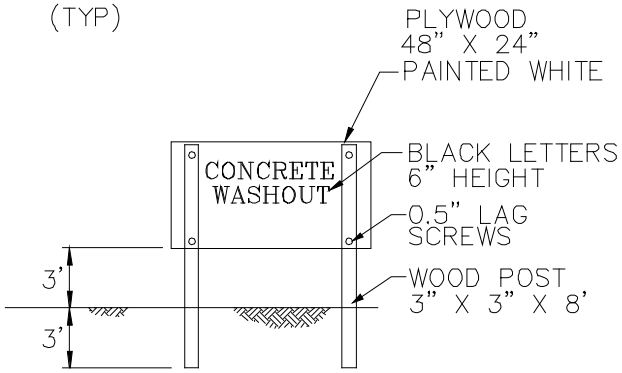
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.



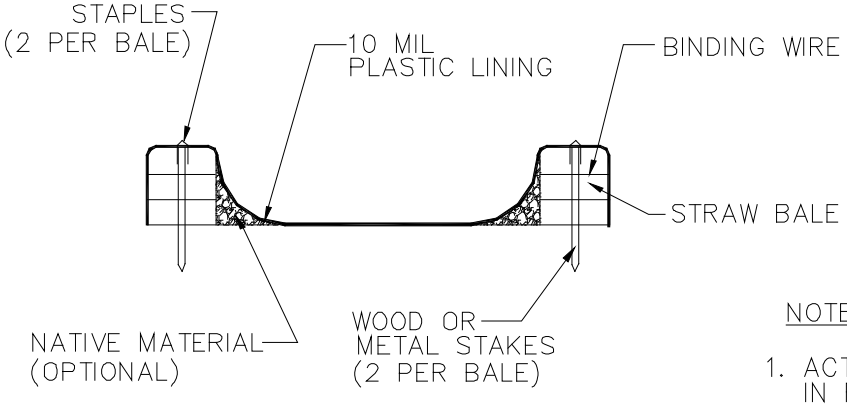
PLAN
NOT TO SCALE
TYPE "ABOVE GRADE"
WITH STRAW BALES



STAPLE DETAIL



CONCRETE WASHOUT
SIGN DETAIL
(OR EQUIVALENT)

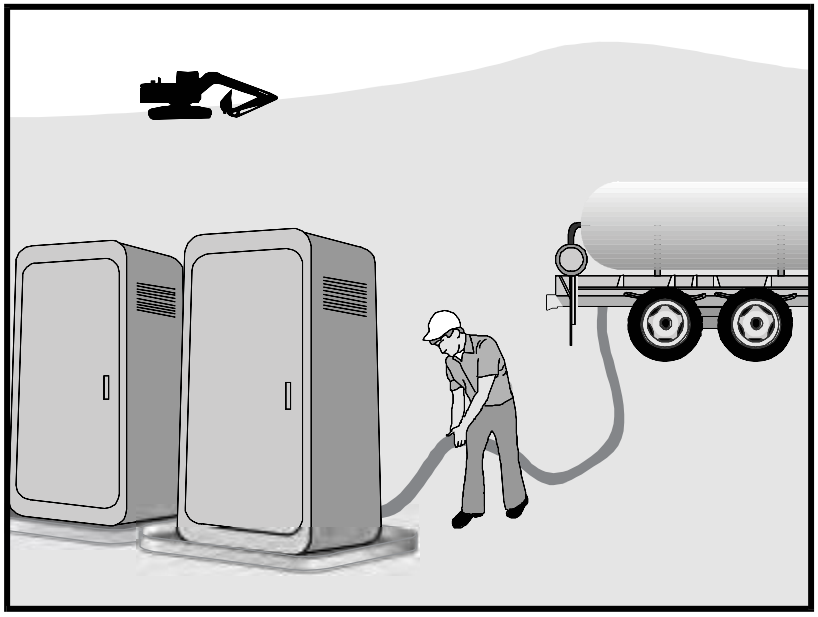


SECTION B–B
NOT TO SCALE

NOTES

1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

Sanitary/Septic Waste Management WM-9



Description and Purpose

Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

Suitable Applications

Sanitary septic waste management practices are suitable for use at all construction sites that use temporary or portable sanitary and septic waste systems.

Limitations

None identified.

Implementation

Sanitary or septic wastes should be treated or disposed of in accordance with state and local requirements. In many cases, one contract with a local facility supplier will be all that it takes to make sure sanitary wastes are properly disposed.

Storage and Disposal Procedures

- Temporary sanitary facilities should be located away from drainage facilities, watercourses, and from traffic circulation. If site conditions allow, place portable facilities a minimum of 50 feet from drainage conveyances and traffic areas. When subjected to high winds or risk of high winds, temporary sanitary facilities should be secured to prevent overturning.

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	
Nutrients	☑
Trash	☑
Metals	
Bacteria	☑
Oil and Grease	
Organics	☑

Potential Alternatives

None

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- Temporary sanitary facilities must be equipped with containment to prevent discharge of pollutants to the stormwater drainage system of the receiving water.
- Consider safety as well as environmental implications before placing temporary sanitary facilities.
- Wastewater should not be discharged or buried within the project site.
- Sanitary and septic systems that discharge directly into sanitary sewer systems, where permissible, should comply with the local health agency, city, county, and sewer district requirements.
- Only reputable, licensed sanitary and septic waste haulers should be used.
- Sanitary facilities should be located in a convenient location.
- Temporary septic systems should treat wastes to appropriate levels before discharging.
- If using an onsite disposal system (OSDS), such as a septic system, local health agency requirements must be followed.
- Temporary sanitary facilities that discharge to the sanitary sewer system should be properly connected to avoid illicit discharges.
- Sanitary and septic facilities should be maintained in good working order by a licensed service.
- Regular waste collection by a licensed hauler should be arranged before facilities overflow.
- If a spill does occur from a temporary sanitary facility, follow federal, state and local regulations for containment and clean-up.

Education

- Educate employees, subcontractors, and suppliers on sanitary and septic waste storage and disposal procedures.
- Educate employees, subcontractors, and suppliers of potential dangers to humans and the environment from sanitary and septic wastes.
- Instruct employees, subcontractors, and suppliers in identification of sanitary and septic waste.
- Hold regular meetings to discuss and reinforce the use of sanitary facilities (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.

Costs

All of the above are low cost measures.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Arrange for regular waste collection.
- If high winds are expected, portable sanitary facilities must be secured with spikes or weighed down to prevent over turning.
- If spills or leaks from sanitary or septic facilities occur that are not contained and discharge from the site, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

Appendix H: BMP Inspection Form

BMP INSPECTION REPORT

Date and Time of Inspection:	Date Report Written:

Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name:	
Construction stage and completed activities:	Approximate area of site that is exposed:

Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time)	Estimate storm duration: (hours)
Estimate time since last storm: (days or hours)	Rain gauge reading and location: (in)

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N)
If yes, summarize forecast:

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name:	Inspector Title:

Inspector Certification:	Date:

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)			
Stockpiled construction materials not actively in use are covered and bermed			
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective			
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system			
Portable toilets are contained to prevent discharges of waste			
Sanitation facilities are clean and with no apparent for leaks and spills			
Equipment is in place to cover waste disposal containers at the end of business day and during rain events			
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water			
Stockpiled waste material is securely protected from wind and rain if not actively in use			
Procedures are in place for addressing hazardous and non-hazardous spills			
Appropriate spill response personnel are assigned and trained			
Equipment and materials for cleanup of spills is available onsite			
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil			
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters			
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs			
Vehicle and equipment leaks are cleaned immediately and disposed of properly			

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations			
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled			
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems			
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.			
Erosion Controls			
Wind erosion controls are effectively implemented			
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots			
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.			
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site			
Entrances and exits are stabilized to control erosion and sediment discharges from the site			
Sediment basins are properly maintained			
Inspect immediate access roads prior to forecasted precipitation			
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)			
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)			
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits			

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)			
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.			
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?			
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?			

Part III. Descriptions of BMP Deficiencies		
Deficiency	**Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.**	
	Start Date	**Action**
1.		
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).	
	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**

Appendix I: Training Forms

Contractor Personnel Training Log

Stormwater Management Training Log and Documentation

Project Name: Alameda High School Swim Center Modernization

WDID #: 2 01C404228

Stormwater Management Topic: (check as appropriate)

☒ Good Housekeeping BMPs ☒ Erosion Control BMPs

☒ Sediment Control BMPs ☒ Tracking Control

☒ Non-Stormwater Management BMPs ☒ Waste Management & Pollution Control BMPs

☐ BMP Implementation Activities ☒ Advanced BMPs

☒ Identification of QSPs and QSP Delegates

Training Objective: Walk the site and familiarize Delegates with SWPPP and their duties

Date: 10/31/24 Instructor: Sam Leow

Training Length (hours): 4

Attendee Roster (Attach additional forms if necessary)

Name	Company	Phone
Harry Torrano	Alten	415-559-6063
Richard Semon	Alten	415-310-5597
Javier Canseco	Alten	415-652-3755

QSP Delegate Training Log

Stormwater Management Training Log and Documentation

Project Name: Alameda High School Swim Center Modernization

WDID #: 2 01C404228

QSP Delegate Name: Harry Torano

Delegated Responsibilities:

☒ Stormwater Visual Inspections

☒ Sampling

☒ BMP Inspections

☒ BMP Maintenance and Repair

Foundational Training

Topic	Date Completed	QSP Trainer
☒ Roles and Responsibilities	10/31/24	Sam Leow
☒ Forecast Information	10/31/24	Sam Leow
☒ Documentation and Reporting Procedures	10/31/24	Sam Leow

Site-Specific Training

Topic	Date Completed	QSP Trainer
☒ Visual Inspections	10/31/24	Sam Leow
☒ Sample Collection Procedures	10/31/24	Sam Leow
☒ Sample Reporting Procedures	10/31/24	Sam Leow
☒ BMP Implementation	10/31/24	Sam Leow

As needed, attach proof of external training (e.g., course completion certificates, credentials for the QSP Delegate).

QSP Delegate Training Log

Stormwater Management Training Log and Documentation

Project Name: Alameda High School Swim Center Modernization

WDID #: 2 01C404228

QSP Delegate Name: Javier Canseco

Delegated Responsibilities:

☒ Stormwater Visual Inspections

☒ Sampling

☒ BMP Inspections

☒ BMP Maintenance and Repair

Foundational Training

Topic	Date Completed	QSP Trainer
☒ Roles and Responsibilities	10/31/24	Sam Leow
☒ Forecast Information	10/31/24	Sam Leow
☒ Documentation and Reporting Procedures	10/31/24	Sam Leow

Site-Specific Training

Topic	Date Completed	QSP Trainer
☒ Visual Inspections	10/31/24	Sam Leow
☒ Sample Collection Procedures	10/31/24	Sam Leow
☒ Sample Reporting Procedures	10/31/24	Sam Leow
☒ BMP Implementation	10/31/24	Sam Leow

As needed, attach proof of external training (e.g., course completion certificates, credentials for the QSP Delegate).

QSP Delegate Training Log

Stormwater Management Training Log and Documentation

Project Name: Alameda High School Swim Center Modernization

WDID #: 2 01C404228

QSP Delegate Name: Richard Semon

Delegated Responsibilities:

☒ Stormwater Visual Inspections

☒ Sampling

☒ BMP Inspections

☒ BMP Maintenance and Repair

Foundational Training

Topic	Date Completed	QSP Trainer
☒ Roles and Responsibilities	10/31/24	Sam Leow
☒ Forecast Information	10/31/24	Sam Leow
☒ Documentation and Reporting Procedures	10/31/24	Sam Leow

Site-Specific Training

Topic	Date Completed	QSP Trainer
☒ Visual Inspections	10/31/24	Sam Leow
☒ Sample Collection Procedures	10/31/24	Sam Leow
☒ Sample Reporting Procedures	10/31/24	Sam Leow
☒ BMP Implementation	10/31/24	Sam Leow

As needed, attach proof of external training (e.g., course completion certificates, credentials for the QSP Delegate).

QSP Delegate Training Log

Stormwater Management Training Log and Documentation

Project Name: _____

WDID #: _____

QSP Delegate Name: _____

Delegated Responsibilities:

☐ Stormwater Visual Inspections

☐ Sampling

☐ BMP Inspections

☐ BMP Maintenance and Repair

Foundational Training

Topic	Date Completed	QSP Trainer
☐ Roles and Responsibilities		
☐ Forecast Information		
☐ Documentation and Reporting Procedures		

Site-Specific Training

Topic	Date Completed	QSP Trainer
☐ Visual Inspections		
☐ Sample Collection Procedures		
☐ Sample Reporting Procedures		
☐ BMP Implementation		

As needed, attach proof of external training (e.g., course completion certificates, credentials for the QSP Delegate).

Appendix J: Responsible Parties

Identification of QSP and QSP Delegates

Project Name: Alameda High School Swim Center Modernization

WDID #: 2 01C404228

The following are QSPs and QSP Delegates associated with this project

Name of Personnel(1)	QSP Number, or state "Delegate"	Company	Date
Sam Leow	#23232	Alten	10/30/24
Harry Torrano	Delegate	Alten	10/30/24
Javier Canseco	Delegate	Alten	10/30/24
Richard Semon	Delegate	Alten	10/30/24

(1) If additional QSPs or QSP Delegates are required on the job site add additional lines

Appendix K: Contractors and Subcontractors

Contractor Name:	Harry Torrano
Title:	Superintendent
Contractor Company:	Alten Construction LLC
Address	1141 Marina Way S. Richmond CA 94804
Phone Number:	510-234-4200
Phone Number (24/7)	415-559-6063
Email	htorrano@altenconstruction.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Dave Sokotowski
Title:	Foreman.
Contractor Company:	Con J Franke Electric. Inc
Address	317 N. Grant St Stockton Ca 95209
Phone Number:	209 462 0717
Phone Number (24/7)	209 649 6661
Email	dave.sokotowski@cjfranke.com

Appendix K: Contractors and Subcontractors

Contractor Name:	David Cheng
Title:	Project Manager
Contractor Company:	Cal Pacific
Address	50 Cypress La Brisbane CA 94005
Phone Number:	415.252 8600 x150
Phone Number (24/7)	650 733 8158
Email	david.cheng@calpacificsystems.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Kooper Parks
Title:	PM
Contractor Company:	Western Water Features
Address	5088 Hillsdale circle Eldorado Hills CA 95762
Phone Number:	916 939 1600
Phone Number (24/7)	916 416 2291
Email	Kooper@westernwaterfeatures.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Jeff Whitman
Title:	Sales
Contractor Company:	NorCal Outdoor Supply
Address	
Phone Number:	
Phone Number (24/7)	925 984 5486
Email	sales@norcaloutdoorsupply.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Dan Scott
Title:	Project Manager
Contractor Company:	Mr Sign
Address	29884 Secret Town rd Colfax CA 95713
Phone Number:	
Phone Number (24/7)	530 389 2643
Email	mrsignContracting@Hotmail.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Nickie Benjamson
Title:	Project Manager
Contractor Company:	KBI Painting Contractors
Address	PO Box 750397 Petaluma CA 94975
Phone Number:	
Phone Number (24/7)	707 766 4655
Email	nickie@kbipaint.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Eunice Fang
Title:	Owner
Contractor Company:	KZ Tile
Address	415 Browning Way So SF Ca 94080
Phone Number:	415 812 3031
Phone Number (24/7)	707 766 4655
Email	eunice@KZtile.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Jeff Harrison
Title:	Owner
Contractor Company:	Harrison Drywall Inc
Address	447 10th ST SF CA 94103
Phone Number:	415 864 3258
Phone Number (24/7)	415 722 1660
Email	Erik@harrisondrywalling.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Suzy Korhummel
Title:	Project Manager
Contractor Company:	BK Mill
Address	37523 Sycamore ST Newark CA 94560
Phone Number:	
Phone Number (24/7)	
Email	skorhummel@bkmill.com

Appendix K: Contractors and Subcontractors

Contractor Name:	David Miller
Title:	Project Manager
Contractor Company:	Solano County Roofing Inc
Address	4349 Cordelia rd Fairfield CA 94534
Phone Number:	
Phone Number (24/7)	510 432 1481
Email	~~dmiller@~~ dmiller.scr@gmail.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Randy Reeser
Title:	Owner
Contractor Company:	Master Craft
Address	673 E. Vineyard ave Livermore CA 94550
Phone Number:	408 640 5829
Phone Number (24/7)	510 682 7422
Email	randy.reeser@gmail.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Sum Shing
Title:	Project Manager
Contractor Company:	IBS USA
Address	418 Ramsell St SF CA 94132
Phone Number:	415 793 3889
Phone Number (24/7)	510 756 8233
Email	ibsusa.chen@gmail.com

Appendix K: Contractors and Subcontractors

Contractor Name:	JR Bartlebaugh
Title:	Project Manager
Contractor Company:	Associated Rebar
Address	1095 Madison Ln Salinas CA 93912
Phone Number:	831 758 1820
Phone Number (24/7)	707 803 6629
Email	JP@associatedrebar.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Juan Garcia
Title:	President
Contractor Company:	De Haro Rameres
Address	1550 Bancroft Ave SF ca 94124
Phone Number:	415 926 9993
Phone Number (24/7)	415 710 6433
Email	Jose.j@dhrsconcrete.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Matt Finley
Title:	Project Manager
Contractor Company:	McGuire and Hester
Address	2810 Harbor Bay Pkwy Alameda CA 94502
Phone Number:	510 221 7297
Phone Number (24/7)	510 462 8043
Email	mfinley@mcguireandhester.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Rex Yates
Title:	Project Manager
Contractor Company:	AAA Fence
Address	2746 Scott Blvd Santa Clara CA 95050
Phone Number:	408 210 0888
Phone Number (24/7)	408 426 6539
Email	rex@aaafenceco.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Mike Moore
Title:	President
Contractor Company:	Compass Engineering
Address	
Phone Number:	510 264 0225
Phone Number (24/7)	
Email	mmoore@compassec.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Stephan OKea
Title:	Project Manager
Contractor Company:	Vintage Contractors
Address	2369 Ocean Ave ST200 SF CA 94127
Phone Number:	415 282 1602
Phone Number (24/7)	415 430 7041
Email	stephen@vintagecontractors.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Tony Perez
Title:	Project Manager
Contractor Company:	WR Forde
Address	984 Hensley ST Richmond Ca. 94801
Phone Number:	415 716 2200
Phone Number (24/7)	510 215 5721
Email	Tony@wrforde.Net

Appendix K: Contractors and Subcontractors

Contractor Name:	Charlie Bower
Title:	VP
Contractor Company:	Case Pacific
Address	6850 National dr Livermore Ca 94550
Phone Number:	650 392 4927
Phone Number (24/7)	510 693 1202
Email	charliebower@casepacific.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Mike Garza
Title:	Project manager
Contractor Company:	Duran and Venables
Address	748 So Hillview Dr Milpitas CA 95035
Phone Number:	408 590 2924
Phone Number (24/7)	408 649 4539
Email	Mike@dvpave.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Larry Weber
Title:	VP
Contractor Company:	Nichols Concrete Cutting
Address	2625 Fair Oaks Ave Redwood City Ca 94063
Phone Number:	650 364 6088
Phone Number (24/7)	408 934 7300
Email	lweber@nicholsconcretecutting.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Steve Whittington
Title:	Super
Contractor Company:	P.A.L.S.
Address	
Phone Number:	510 750 7543
Phone Number (24/7)	
Email	stevew@palscorp.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Chris Chicarino
Title:	Superintendant
Contractor Company:	DS+GI
Address	7841 Sutter Ln Vacaville CA 95688
Phone Number:	707 720 9476
Phone Number (24/7)	707 989 8988
Email	cchicarino@dsgi.com

Appendix K: Contractors and Subcontractors

Contractor Name:	Jesse Fullen
Title:	Owner
Contractor Company:	Fullen Surveying
Address	
Phone Number:	925 679 7176
Phone Number (24/7)	925 570 9198
Email	JIF208@sbcglobal.net

Appendix L: Calculations

Appendix L.1

Computation Sheet for Determining Runoff Coefficients

Total Site Area	=	1.27+/- Acres	(A)

Existing Site Conditions

Impervious Site Area [1]	=	0.83+/- Acres	(B)
Impervious Site Area Runoff Coefficient [2, 4]	=	0.90	(C)
Pervious Site Area [3]	=	0.44+/- Acres	(D)
Pervious Site Area Runoff Coefficient [4]	=	0.10	(E)
Existing Site Area Runoff Coefficient $\frac{(B \times C) + (D \times E)}{(A)}$	=	0.62	(F)

Proposed Site Conditions (after construction)

Impervious Site Area [1]	=	1.06+/-Acres	(G)
Impervious Site Area Runoff Coefficient [2, 4]	=	0.90	(H)
Pervious Site Area [3]	=	0.21+/-Acres	(I)
Pervious Site Area Runoff Coefficient [4]	=	0.10	(J)
Proposed Site Area Runoff Coefficient $\frac{(G \times H) + (I \times J)}{(A)}$	=	0.77	(K)

1. Includes paved areas, areas covered by buildings, and other impervious surfaces.
2. Use 0.90 unless lower or higher runoff coefficient can be verified.
3. Includes areas of vegetation, most unpaved or uncovered soil surfaces, and other pervious areas.
4. Refer to local Hydrology Manual for typical C values.

Appendix L.2

Computation Sheet for Determining Run-on Discharges

(There are no Run-On Locations on the 1.50 acre project site for the Alameda High School Swim Center Modernization Project)

Existing Site Conditions

Area Runoff Coefficient		=	_____	(A)
Area Rainfall Intensity		=	_____ in/hr	(B)
Drainage Area		=	_____ Acres	(C)
Site Area Run-on Discharge	(A) x (B) x (C)	=	_____ ft^3/sec	(D)

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		53.02
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.15
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0.26
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		2.06778
16	**Site Sediment Risk Factor**		**Low**
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?:	**Yes**	**High**
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml		
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)		
http://www.waterboards.ca.gov/waterboards_map.shtml		
Region 1 Basin Plan		
Region 2 Basin Plan		
Region 3 Basin Plan		
Region 4 Basin Plan		
Region 5 Basin Plan		
Region 6 Basin Plan		
Region 7 Basin Plan		
Region 8 Basin Plan		
Region 9 Basin Plan		

Combined Risk Level Matrix

Receiving Water Risk	Sediment Risk: Low	Sediment Risk: Medium	Sediment Risk: High
Low	Level 1	Level 2	
High	Level 2		Level 3

Project Sediment Risk:	**Low**
Project RW Risk:	**High**
Project Combined Risk:	**Level 2**

SWPPP Post Construction Calculator

Project:	Alameda High School Swim Center
B&R Project #:	4202.05

Input for Drainage Area

Name:	Alameda High School Swim Center
County:	Alameda
Closest Rain Gauge Location:	Unknown
Size fo Drainage Area (acres):	1.27

Pre-Construction

Dominant Soil Type:	Group A Soils - High infiltration. Sand, loamy sand, or sandy loan. Infiltration rate> 0.3 inch/hr when wet.
Existing Dominant Non-Built Land Use Type:	Open Space: grass cover >75%
Existing Rooftop Impervious Area (acres):	0.00
Existing Non-rooftop Impervious Area (acres):	0.83
Existing Imperviousness (%):	0.65

Post-Construction

Proposed Dominant Non-built Land Use Type:	Open Space: grass cover >75%
Proposed Rooftop Impervious Area (acres):	0.03
Proposed Non-rooftop Impervious Area (acres):	1.03
Proposed Imperviousness (%):	0.834645669

Post-project Runoff Volume minus Volume Credits <= Pre project Runoff Volume. No further calculation is necessary

Volume Credits

I. Soil Quality

Soil Type:	slit loams, slity clay loams <1.1
Average depth of landscaped soil media (inches):	12
Total area of the landscaped areas meeting criteria (acres):	0.21
Soil Quality Equivalent Volume (cubic feet):	5351.35
Total Credit Volume (cubic feet):	563.49

Pre-project Runoff Volume (cubic feet):	39.29
Post-project Runoff Volume (cubic feet):	572.14
Net Credit of Voume Credits (cubic feet):	563.49
Post-project Runoff Volume minus Volume Credits (cubic feet):	8.65



IMPERVIOUS SURFACES

EXISTING HARDSCAPE AREA	29,479 SF	0.68 AC	54.66%
EXISTING BUILDING AREA	1,183 SF	0.03 AC	2.19%
EXISTING POOL AREA	5,680 SF	0.13 AC	10.53%
TOTAL IMPERVIOUS	36,342 SF	0.84 AC	67.39%

PERVIOUS SURFACES

EXISTING PERVIOUS AREA	17,589 SF	0.40 AC	32.61%
TOTAL SITE AREA	53,931 SF	1.24 AC	100%

LEGEND

LIMIT OF DISTURBED AREA

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

Brelje & Race CONSULTING ENGINEERS
475 Aviation Boulevard, Suite 120
Santa Rosa, CA 95403
v: 707-576-1322
f: 707-576-0469
www.brce.com

REGISTERED PROFESSIONAL ENGINEER — TODD V. BARTHOLOW — No. 40512 — Exp. 3-31-25 — CIVIL — STATE OF CALIFORNIA

ALAMEDA HIGH SCHOOL

SWIM CENTER MODERNIZATION

2200 CENTRAL AVE,
ALAMEDA, CA 94501

ALAMEDA UNIFIED SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-121390

ARCH PROJECT NO: 2112.00/4202.05
DRAWN BY: PIT
DRAWING SCALE: AS SHOWN
PTN: 61119-160 FILE NO: 1-H1

CD

MAY 24, 2024

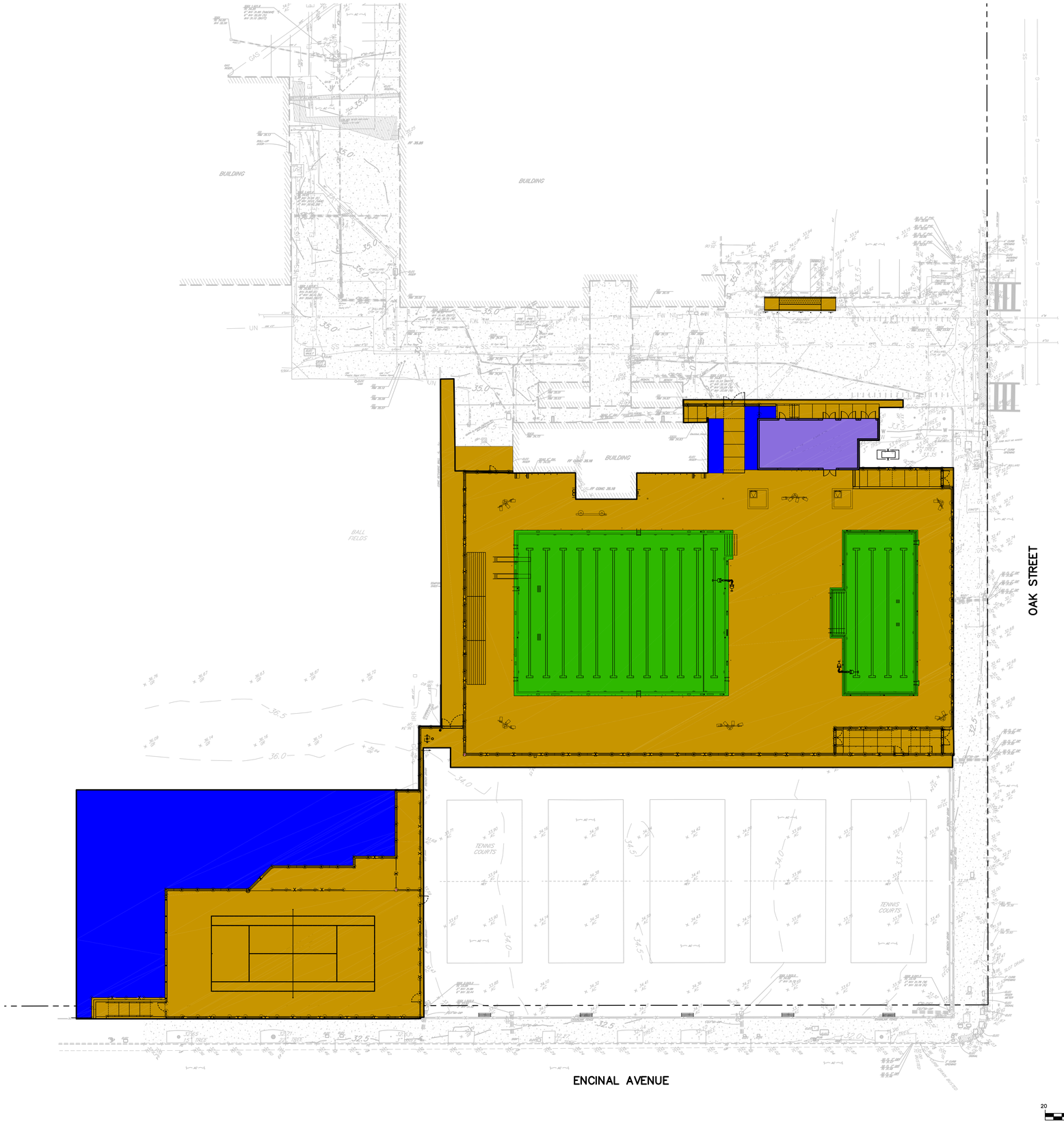
SHEET TITLE

EXISTING IMPERVIOUS SURFACE EXHIBIT

SHEET NUMBER

1 OF 2

03-31-25 s:\cad_\4202_dwg\4202 05\EXHIBIT\4202.05 SWPPP EXHIBITS.dwg TAB: EXISTING



IMPERVIOUS SURFACES

NEW AND REPLACED HARDSCAPE AREA	32,498 SF	0.75 AC	60.26%
NEW BUILDING AREA	1,284 SF	0.03 AC	2.38%
NEW POOL AREA	11,085 SF	0.25 AC	20.55%
TOTAL IMPERVIOUS	44,867 SF	1.03 AC	83.19%

PERVIOUS SURFACES

NEW AMENDED SOILS AREA	9,064 SF	0.21 AC	16.81%
TOTAL SITE AREA	53,931 SF	1.24 AC	100%

LEGEND

LIMIT OF DISTURBED AREA

QUATTROCCHI KWOK ARCHITECTS

Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

Brelje & Race
CONSULTING ENGINEERS
475 Aviation Boulevard, Suite 120
Santa Rosa, CA 95403
v: 707-576-1322
f: 707-576-0469
www.brce.com

REGISTERED PROFESSIONAL ENGINEER — PAUL V. BARTKOW — No. 40512 — Exp. 3-31-25 — CIVIL — STATE OF CALIFORNIA

ALAMEDA HIGH SCHOOL

SWIM CENTER MODERNIZATION

2200 CENTRAL AVE,
ALAMEDA, CA 94501

ALAMEDA UNIFIED SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-121390

ARCH PROJECT NO: 2112.00/4202.05
DRAWN BY: PIT
DRAWING SCALE: AS SHOWN
PTN: 61119-160 FILE NO: 1-H1

CD

MAY 24, 2024

SHEET TITLE

PROPOSED IMPERVIOUS SURFACE EXHIBIT

SHEET NUMBER

2 OF 2

03-31-25 sicoud \4202\dwg\4202 05\EXHIBITS\4202.05 SWPPP EXHIBITS.dwg TAB: PROPOSED

Appendix M: Weather Reports

The discharger must obtain the precipitation forecast information from the National Weather Service Forecast Office (http://forecast.weather.gov). A printed copy with the date and time of printing should be retained in this Appendix.

Appendix N: Monitoring Records

Place completed BMP Inspection Forms, photographic documentation, Effluent Sampling, Receiving Water, and Dewatering Field Logs, Monitoring Exceptions, NAL Exceedance Reports, and Receiving Water Monitoring Trigger Exceptions in this appendix.

Rain Gauge Log Sheet				
Construction Site Name: Alameda HS Pool				
WDID #: 2 01C404228				
Date (mm/dd/yy)	Time (24-hr)	Initials	Rainfall Depth (Inches)	Notes:
10/31/24	1108	~~SJL~~	1/10"	
11/11/24	1200	SJL	1/4"	
11/12/24	0900	~~SJL~~	T	
11/20/24	0600	HT	T	
11/21/24	0600	HT	1/8"	Rain Fall Less Than Forecast No Runoff Available for Testing
12/12/24	0712	JC	1/4"	
12/13/24	1005	JC	1/8"	
12/16/24	1324	JC	1/2"	Unable To Test No Runoff
12/24/24	1100	HT	3/4"	No Runoff All Stormwater Retained on Site
12/26/24	1000	HT	T	
12/27/24	1130	HT	3/4"	All Runoff Contained Onsite
1/31/2	1300	JC	1/8"	Less Than Forecast
2/3	1000	HT	Trace	
2/4/25	0800	JC	3/4"	Runoff From Tennis Cts Tested Then diverted via Pump Back into Site
2/5/25	1000	HJ	3/8	No Available Runoff To Test

Rain Gauge Log Sheet				
Construction Site Name: Alameda High School				
WDID #: 2 01C404228				
Date (mm/dd/yy)	Time (24-hr)	Initials	Rainfall Depth (Inches)	Notes:
2/6/25	0900	HT	1/10"	No Runoff
2/13/25	0700	HT	~~3/4"~~ 1 5/8"	Runoff contained on site
2/14/25	0800	HT	~~3/4"~~ 1/2"	Runoff 0

Reference error occurred.

BMP INSPECTION REPORT

Date and Time of Inspection:			Date Report Written:		
12/16/24 10am			12/16		
Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name: Alameda Pool	
Construction stage and completed activities: Earthwork	Approximate area of site that is exposed: 80%
Photos Taken: (Circle one) Yes / No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time) N/A	Estimate storm duration: (hours) N/A
Estimate time since last storm: (days or hours) 2	Rain gauge reading and location: (in) —

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N)
If yes, summarize forecast: No

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name: Sam Leon	Inspector Title: QSP
Inspector Certification:	Date: 12/16/24

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level II Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	yes		
Stockpiled construction materials not actively in use are covered and bermed	Yes		
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed	yes		
Construction materials are minimally exposed to precipitation	yes		
BMPs preventing the off-site tracking of materials are implemented and properly effective	yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	yes		offsite
Portable toilets are contained to prevent discharges of waste	yes		
Sanitation facilities are clean and with no apparent for leaks and spills	Yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	yes		
Procedures are in place for addressing hazardous and non-hazardous spills	yes		
Appropriate spill response personnel are assigned and trained	yes		
Equipment and materials for cleanup of spills is available onsite	yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	NA		None
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	yes		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	yes		offsite
Vehicle and equipment leaks are cleaned immediately and disposed of properly	Yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level II Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use	NA		NA
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	yes		None
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	yes		offsite
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	NA		None
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	NA		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	yes		None
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?			

Part III. Descriptions of BMP Deficiencies

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1. Maintained daily		
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**

BMP INSPECTION REPORT

Date and Time of Inspection:	Date Report Written:
12/23/24 11AM	12/23

Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name: Alameda Pool	
Construction stage and completed activities: Soil Removal	Approximate area of site that is exposed: 95%
Photos Taken: (Circle one) Yes (No)	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time) 12/24 2AM	Estimate storm duration: (hours) 36 hrs
Estimate time since last storm: (days or hours) 5 days	Rain gauge reading and location: (in) 0

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N) Yes 80% 1/2"
If yes, summarize forecast:

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

All Runoff Contained on site

Inspector Information

Inspector Name: Sam Leon	Inspector Title: QSP
Inspector Certification:	Date: 12/23

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	N/A	N/A	
Stockpiled construction materials not actively in use are covered and bermed			
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective	Yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	N/A		
Portable toilets are contained to prevent discharges of waste	yes		
Sanitation facilities are clean and with no apparent for leaks and spills	yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	yes		
Procedures are in place for addressing hazardous and non-hazardous spills	yes		
Appropriate spill response personnel are assigned and trained	yes		
Equipment and materials for cleanup of spills is available onsite	yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	N/A		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	N/A		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	N/A		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	N/A		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	yes		None onsite
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	NA		
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	yes		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	NA		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	yes		

Part III. Descriptions of BMP Deficiencies

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1.		No Deficiencies BMPs Maintained Daily
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	yes
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	yes
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	yes
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description BMPS MAINTAINED DAILY
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 12/24/24 12noon				Report Date: 12/24	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda HS	
Construction stage and completed activities: Soil Remediation	Approximate area of exposed site: 95%

Weather and Observations

Date Rain Predicted to Occur: Today		Predicted % chance of precipitation (PoP): 80% Predicted quantity of precipitation (QPF): 1/4" ~~Dec~~	
Estimate storm beginning: 12/24 2AM (date and time)	Estimate storm duration: 16 (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading: 3/4" (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
	BMPs in good Shape

Photos Taken:	Yes ☐	No ☑	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

All Runoff Contained on site
No Runoff Available For Testing

Inspector Information

Inspector Name: Sage Leon	Inspector Title: QSP
Signature:	Date: 12/24/24

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 12/26/24 10 AM				Report Date:	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda Pool	
Construction stage and completed activities: Soil Remediation	Approximate area of exposed site: 1/8

Weather and Observations

Date Rain Predicted to Occur: 12/26/24 After 7pm		Predicted % chance of precipitation (PoP): 90% Predicted quantity of precipitation (QPF): 3/4	
Estimate storm beginning: 12/26/24 After 7pm (date and time)	Estimate storm duration: ~~Hours~~ (hours)	Estimate time since last storm: — (days or hours)	Rain gauge reading: Time (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
	All good

Photos Taken:	Yes ☐	No ☒	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

No Runoff

Inspector Information

Inspector Name: Sam Leon	Inspector Title: QSP
Signature:	Date: 12/26/24

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 12-27-24 - 7:00 AM				Report Date: 12-27-2024	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☑ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: AHS Swim Center	
Construction stage and completed activities: Site exposed / NO Activity	Approximate area of exposed site:

Weather and Observations

Date Rain Predicted to Occur:		Predicted % chance of precipitation (PoP): Predicted quantity of precipitation (QPF):	
Estimate storm beginning: 12-26-24 (date and time)	Estimate storm duration: 96 (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading: 3/4" (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☑
Floating material	Yes ☐	No ☑
Suspended Material	Yes ☐	No ☑
Sheen	Yes ☐	No ☑
Discolorations	Yes ☐	No ☑
Turbidity	Yes ☐	No ☑

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
All BMP's checked	Same drain at street is plugged along the street I have let the School District Know about this several Times, we removed to let Drain and Clean.

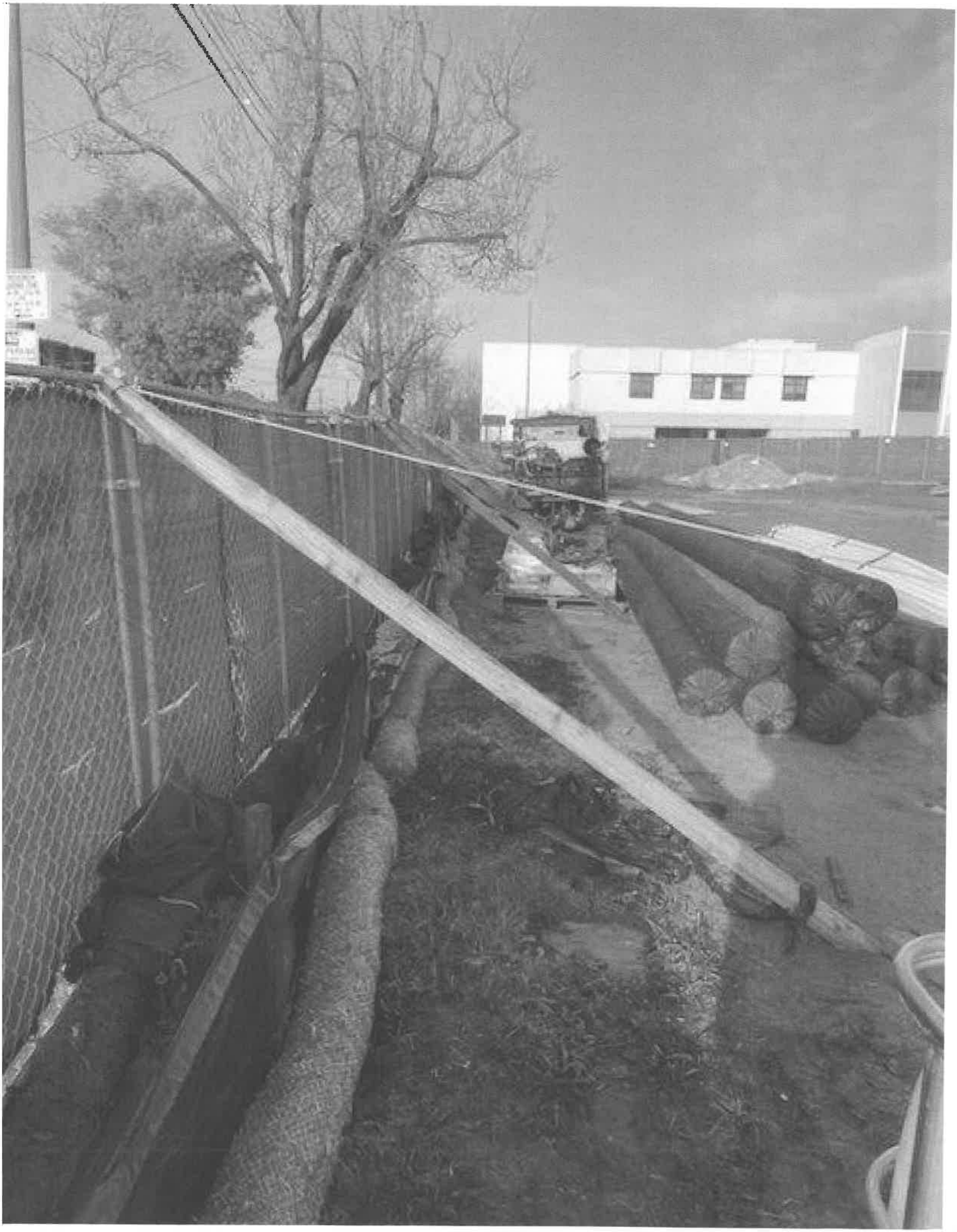
Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

Inspector Information

Inspector Name: Harry Torrano	Inspector Title: Superintendent
Signature:	Date: 12-27-2024









Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 8:30 AM 12-26-24				Report Date: 12-26-24	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☑ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: AHS Swim Center	
Construction stage and completed activities: Site exposed / NO Activity	Approximate area of exposed site:

Weather and Observations

Date Rain Predicted to Occur:		Predicted % chance of precipitation (PoP): Predicted quantity of precipitation (QPF):	
Estimate storm beginning: _____ (date and time)	Estimate storm duration: 1 (hours)	Estimate time since last storm: 0 (days or hours)	Rain gauge reading: 1/4" (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☑
Floating material	Yes ☐	No ☑
Suspended Material	Yes ☐	No ☑
Sheen	Yes ☐	No ☑
Discolorations	Yes ☐	No ☑
Turbidity	Yes ☐	No ☑

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
All BMP's checked	
No visible Run-off	

Photos Taken:	Yes ☑	No ☐	Photo Reference IDs: 12-26-24

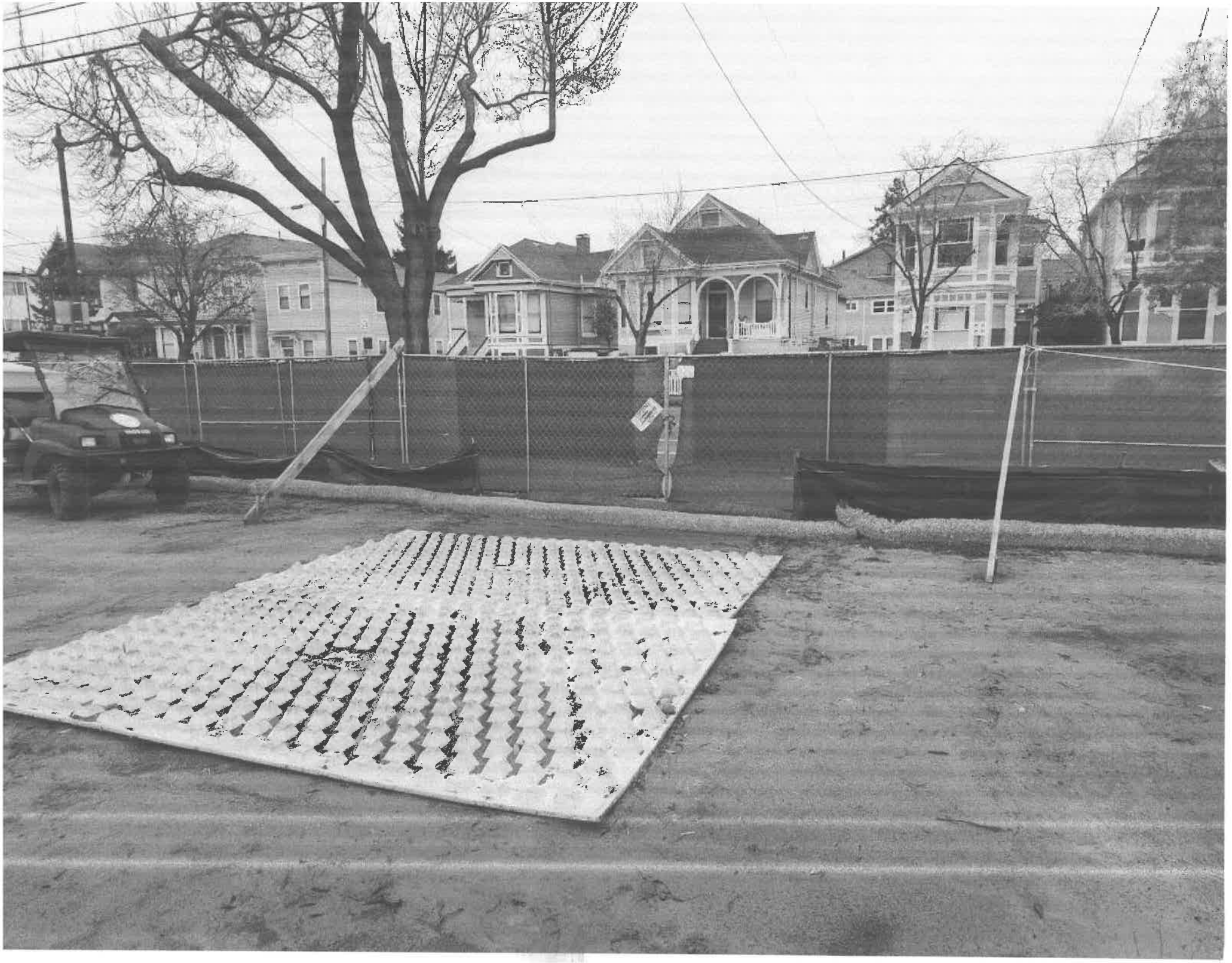
Corrective Actions Identified (note if SWPPP/REAP change is needed)

Inspector Information

Inspector Name: Harry Torres	Inspector Title: Superintendent
Signature:	Date: 12-26-24








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Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 12-27-24 - 7:00 AM				Report Date: 12-27-2024	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☑ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: AHS Swim Center	
Construction stage and completed activities: Site exposed / NO Activity	Approximate area of exposed site:

Weather and Observations

Date Rain Predicted to Occur:		Predicted % chance of precipitation (PoP): Predicted quantity of precipitation (QPF):	
Estimate storm beginning: 12-26-24 (date and time)	Estimate storm duration: 9h (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading: 3/4" (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☑
Floating material	Yes ☐	No ☑
Suspended Material	Yes ☐	No ☑
Sheen	Yes ☐	No ☑
Discolorations	Yes ☐	No ☑
Turbidity	Yes ☐	No ☑

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
All BMP's checked	Same drain at street is plugged along the street I have let the School District Know about this several Times, we remove to let Drain and Clean.

Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

Inspector Information

Inspector Name: Harry Torrano	Inspector Title: Superintendent
Signature:	Date: 12-27-2024









BMP INSPECTION REPORT

Date and Time of Inspection:	Date Report Written:
1/2/25 4pm	1/2/25

Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name: Alameda H.S. Pool	
Construction stage and completed activities: Soil Remediation	Approximate area of site that is exposed: 95%
Photos Taken: (Circle one) Yes / (No)	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time) N/A	Estimate storm duration: (hours) N/A
Estimate time since last storm: (days or hours) 4 days	Rain gauge reading and location: (in) 0

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N) No
If yes, summarize forecast:

Exception Documentation (explanation required if inspection could not be conducted): Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name: Sam Leow	Inspector Title: QSP
Inspector Certification: QSP	Date: 1/2/25

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	yes		
Stockpiled construction materials not actively in use are covered and bermed	N/A		
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation	NA		
BMPs preventing the off-site tracking of materials are implemented and properly effective	yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	NA		
Portable toilets are contained to prevent discharges of waste	yes		
Sanitation facilities are clean and with no apparent for leaks and spills	yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	yes		
Procedures are in place for addressing hazardous and non-hazardous spills	yes		
Appropriate spill response personnel are assigned and trained	yes		
Equipment and materials for cleanup of spills is available onsite	yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	NA		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	NA		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	yes		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use	N/A	N/A	
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	yes		
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	N/A		
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	N/A		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	N/A		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	yes		

Part III. Descriptions of BMP Deficiencies

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1.		Daily maintenance on BMPs
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	yes
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	yes
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	yes
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description All Runoff contained onsite
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**
No Discharge	

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**
None	

BMP INSPECTION REPORT

Date and Time of Inspection:				Date Report Written:	
1/6/25 11AM				1/6/24	
Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name: Alameda Bol			
Construction stage and completed activities: Soil Remediation			Approximate area of site that is exposed: 95%
Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time) -0-	Estimate storm duration: (hours) -0-
Estimate time since last storm: (days or hours) 8 day	Rain gauge reading and location: (in) -0-

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N)
If yes, summarize forecast: No

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour

Inspector Information

Inspector Name: Sam Leow	Inspector Title: QSP
Inspector Certification:	Date: 1/6/25

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	Yes		
Stockpiled construction materials not actively in use are covered and bermed	NA	NA	
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective	Yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	NA		None Onsite
Portable toilets are contained to prevent discharges of waste	Yes		
Sanitation facilities are clean and with no apparent for leaks and spills	Yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	Yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	Yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	Yes		
Procedures are in place for addressing hazardous and non-hazardous spills	Yes		
Appropriate spill response personnel are assigned and trained	Yes		
Equipment and materials for cleanup of spills is available onsite	Yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	NA		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	Yes		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	Yes		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	Yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	NA		None
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	NA		None
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	No		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	yes		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	Yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	Yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	Yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	Yes		

Part III. Descriptions of BMP Deficiencies		
Deficiency	**Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.**	
	Start Date	**Action**
1. None		Maintained Daily
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).	
	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**

BMP INSPECTION REPORT

Date and Time of Inspection:	Date Report Written:
1/14/25 9AM	1/14/25

Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name:	
Alameda High School	
Construction stage and completed activities: Soil Remediation	Approximate area of site that is exposed: 95%
Photos Taken: (Circle one) Yes / No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time)	Estimate storm duration: (hours)
Estimate time since last storm: (days or hours) 16day	Rain gauge reading and location: (in) 0

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N)
If yes, summarize forecast: No

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name:	Inspector Title:
Sam Leon	QSP
Inspector Certification:	Date: 1/14/25

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	Yes		
Stockpiled construction materials not actively in use are covered and bermed	NA		
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation	NA		
BMPs preventing the off-site tracking of materials are implemented and properly effective	Yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	NA		
Portable toilets are contained to prevent discharges of waste	Yes		
Sanitation facilities are clean and with no apparent for leaks and spills	Yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	Yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	Yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	NA		
Procedures are in place for addressing hazardous and non-hazardous spills	Yes		
Appropriate spill response personnel are assigned and trained	Yes		
Equipment and materials for cleanup of spills is available onsite	Yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	NA		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	Yes		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	Yes		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	Yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level _____ Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	NA		NOT ONSITE
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	NA		NOT ONSITE
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	NA		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	yes		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	yes		

Part III. Descriptions of BMP Deficiencies

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1. None		
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**

BMP INSPECTION REPORT

Date and Time of Inspection:	Date Report Written:
1/20/25 1pm	1/20/25

Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*
	(Weekly)				

Part I. General Information

Site Information

Construction Site Name: Alameda Pool	
Construction stage and completed activities: Soil Removal	Approximate area of site that is exposed: 95%
Photos Taken: (Circle one) Yes / (No)	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time) —	Estimate storm duration: (hours) —
Estimate time since last storm: (days or hours) 22 days	Rain gauge reading and location: (in) 0

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N)
If yes, summarize forecast: No

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name: Sam Leon	Inspector Title: QSP
Inspector Certification:	Date: 1/20/25

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	yes		
Stockpiled construction materials not actively in use are covered and bermed	N/A	N/A	
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed			
Construction materials are minimally exposed to precipitation			
BMPs preventing the off-site tracking of materials are implemented and properly effective	yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	N/A		
Portable toilets are contained to prevent discharges of waste	yes		
Sanitation facilities are clean and with no apparent for leaks and spills	yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	yes		
Procedures are in place for addressing hazardous and non-hazardous spills	yes		
Appropriate spill response personnel are assigned and trained	yes		
Equipment and materials for cleanup of spills is available onsite	yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	N/A		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	yes		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	yes		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use	NA	NA	
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	NA		NONE OCCURRING
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	NA		
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	NA		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	yes		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	Yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	Yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	Yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	Yes		

Part III. Descriptions of BMP Deficiencies		
Deficiency	**Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.**	
	Start Date	**Action**
1. Maintained Daily		
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).	
	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 1/31/25 1 PM				Report Date: 1/31/25	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name:	Alameda Pool
Construction stage and completed activities:	Soils Removal
Approximate area of exposed site:	95-99%

Weather and Observations

Date Rain Predicted to Occur: 1/30 PM		Predicted % chance of precipitation (PoP): 100% Predicted quantity of precipitation (QPF): ½"	
Estimate storm beginning: 1/31 After 10 (date and time)	Estimate storm duration: 72 (hours)	Estimate time since last storm: 0 (days or hours)	Rain gauge reading: ⅛" (inches)

Observations: If yes identify location

Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
BMPs good	

Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

No Runoff Available To Test Less Than ½" Rainfall At This Time

Inspector Information

Inspector Name: Sarah Leon	Inspector Title: QSP
Signature:	Date: 1/31/24

BMP INSPECTION REPORT

Date and Time of Inspection:				Date Report Written:	
1/30/25 9AM				1/30/25	
Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name: Alameda HS. Pool			
Construction stage and completed activities:	Soils Removal	Approximate area of site that is exposed:	95%
Photos Taken: (Circle one)	Yes / No	Photo Reference IDs:	

Weather

Estimate storm beginning: (date and time)	1/31 AFTER 10	Estimate storm duration: (hours)	72+
Estimate time since last storm: (days or hours)	3	Rain gauge reading and location: (in)	0

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N) YES 90% ¼" TO ½"

If yes, summarize forecast: ¾" PM

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name: Sam Leon	Inspector Title: QSP
Inspector Certification:	Date: 1/30/25

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	yes		
Stockpiled construction materials not actively in use are covered and bermed	yes		
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed	yes		
Construction materials are minimally exposed to precipitation	yes		
BMPs preventing the off-site tracking of materials are implemented and properly effective	yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	NA		None onsite
Portable toilets are contained to prevent discharges of waste	yes		
Sanitation facilities are clean and with no apparent for leaks and spills	yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	yes		
Procedures are in place for addressing hazardous and non-hazardous spills	yes		
Appropriate spill response personnel are assigned and trained	yes		
Equipment and materials for cleanup of spills is available onsite	yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	NA		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	yes		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	yes		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	NA		
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	NA		
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	NA		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	yes		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	yes		

Part III. Descriptions of BMP Deficiencies

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1. None		
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 2/3/25 11pm				Report Date: 2/3	
Inspection Type:	☒ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name:	Alameda High School
Construction stage and completed activities:	Soils Removal
Approximate area of exposed site:	95%

Weather and Observations

Date Rain Predicted to Occur: onsoin		Predicted % chance of precipitation (PoP): 80% Predicted quantity of precipitation (QPF): 1/10" 1/4pm	
Estimate storm beginning: onsoing (date and time)	Estimate storm duration: 72+ (hours)	Estimate time since last storm: ~ (days or hours)	Rain gauge reading: Trace (inches)

Observations: If yes identify location

Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
Good	

Photos Taken:	Yes ☐	No ☐ (circled)	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

Storm Water Retained on Site
None Available To Tes

Inspector Information

Inspector Name:		Inspector Title: QSP	
Signature:			Date: 2/3/25

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 2/4/25 9AM				Report Date: 2/4	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda Pool	
Construction stage and completed activities: Soils	Approximate area of exposed site: 95%

Weather and Observations

Date Rain Predicted to Occur: Ongoing		Predicted % chance of precipitation (PoP): 90% Predicted quantity of precipitation (QPF): 1/3/4	
Estimate storm beginning: Ongoing (date and time)	Estimate storm duration: 36 (hours)	Estimate time since last storm: — (days or hours)	Rain gauge reading: 3/4" (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
	Runoff From Tennis CTs Tested Runoff
	Installed Pump To Divert Back onsite

Photos Taken:	Yes ☐	No ☒	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

Install Pump To Divert Tennis Ct Runoff Back onsite

Inspector Information

Inspector Name: Sam Lee	Inspector Title: QSP
Signature:	Date: 2/4/25

Risk Level 1, 2, 3
Effluent Sampling Field Log Sheets

Construction Site Name:	Date:	Time Start:
AHS Swim Center	02/04/25	8 AM

Sampler: Javier C.

Sampling Event Type:	☑ Stormwater	☐ Dewatering Discharge	☐ Non-visible pollutant

Field Meter Calibration

pH Meter ID No./Desc.: MT 00390	Turbidity Meter ID No./Desc.: MT 00392
Calibration Date/Time: 02/04/25 7AM	Calibration Date/Time: 02/04/25 7AM

Field pH and Turbidity Measurements

Discharge Location Description	pH	Turbidity	Time
Corner of existing Tennis courts & New tennis court field	7.04 PH	107 NTU	8:05 AM
↓	7.01 PH	88.3 NTU	11:00 AM
↓	7.03 ph	87.1 NTU	12:45 pm

Grab Samples Collected

Discharge Location Description	Sample Type	Time

Additional Sampling Notes:
Water from the existing tennis courts surface running onto graded new tennis court area.

Time End:

Scanned with CamScanner

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 2/5/25 10AM				Report Date: 2/5	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda Pool	
Construction stage and completed activities: Soil Remediation	Approximate area of exposed site: 95

Weather and Observations

Date Rain Predicted to Occur: ongoing		Predicted % chance of precipitation (PoP): 100% Predicted quantity of precipitation (QPF): 1/10	
Estimate storm beginning: ongoing (date and time)	Estimate storm duration: 36+ (hours)	Estimate time since last storm: — (days or hours)	Rain gauge reading: 3/8" (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
	Good Shape

Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

None

Inspector Information

Inspector Name: Sam Leow	Inspector Title: QSP
Signature:	Date: 2/5/25

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 2/6/25 10AM				Report Date: 2/6	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda H.S.	
Construction stage and completed activities: Soil Removal	Approximate area of exposed site: 95%

Weather and Observations

Date Rain Predicted to Occur: Ongoing		Predicted % chance of precipitation (PoP): 100% Predicted quantity of precipitation (QPF): 1.15"	
Estimate storm beginning: Ongoing (date and time)	Estimate storm duration: 24 (hours)	Estimate time since last storm: — (days or hours)	Rain gauge reading: 1/10" (inches)

Observations: If yes identify location

Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☐ ✓

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
None	No Deficiencies

Photos Taken:	Yes ☐	No ☐ (5)	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

Inspector Information

Inspector Name: [illegible]	Inspector Title: QSP
Signature:	Date: 2/6/25

BMP INSPECTION REPORT

Date and Time of Inspection: 2/7/25 10AM				Date Report Written: 2/7	
Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name: Alameda Pool

Construction stage and completed activities: Soil Remediation		Approximate area of site that is exposed: 95
Photos Taken: (Circle one)	Yes / No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time) over	Estimate storm duration: (hours) over
Estimate time since last storm: (days or hours) 5hrs	Rain gauge reading and location: (in) 0

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N)
If yes, summarize forecast: No

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name: Sam Leow	Inspector Title: QSP
Inspector Certification:	Date: 2/7/25

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	yes		
Stockpiled construction materials not actively in use are covered and bermed	yes		
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed	yes		
Construction materials are minimally exposed to precipitation	yes		
BMPs preventing the off-site tracking of materials are implemented and properly effective	yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	NA		
Portable toilets are contained to prevent discharges of waste	yes		
Sanitation facilities are clean and with no apparent for leaks and spills	yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	yes		
Procedures are in place for addressing hazardous and non-hazardous spills	yes		
Appropriate spill response personnel are assigned and trained	yes		
Equipment and materials for cleanup of spills is available onsite	yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	NA		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	yes		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	yes		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use			
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	NA		
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	NA		
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	NA		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	yes		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	No		Removed?

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	No		Removed?
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	Yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	Yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	Yes		

Part III. Descriptions of BMP Deficiencies

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1. 2 Drains had Protection Removed	2/7 2/7	Replaced inLeT ProTecTion Same dAy
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**
Replace Inlet Protection	2/7


ALTEN



BMP INSPECTION REPORT

Date and Time of Inspection: 2/11/25 1PM				Date Report Written: 2/11	
Inspection Type: (Circle one)	Weekly *Complete Parts I,II,III and VII*	Pre-Qualifying Precipitation Event (QPE) *Complete Parts I,II,III,IV and VII*	During QPE *Complete Parts I, II, III, V, and VII*	Post-QPE *Complete Parts I,II,III,VI and VII*	*Inactive Project Complete Parts I,II,III and VII*

Part I. General Information

Site Information

Construction Site Name: Alameda HS	
Construction stage and completed activities: Soil Removal	Approximate area of site that is exposed: 95%
Photos Taken: (Circle one) Yes / No	Photo Reference IDs:

Weather

Estimate storm beginning: (date and time) 2/12 After 4pm	Estimate storm duration: (hours) 48hr
Estimate time since last storm: (days or hours) 3days	Rain gauge reading and location: (in) 0

Is a "Qualifying Precipitation Event" predicted or did one occur (i.e., any weather pattern with a 50% chance of 0.5" or more within a 24-hr period when 0.5" has been forecast and continues on subsequent 24-hour periods when 0.25" of precipitation or more is forecast)? (Y/N) Yes
If yes, summarize forecast: 2/12 PM 100% 1-2 inches Possible

Exception Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour.

Inspector Information

Inspector Name: Sam	Inspector Title: QSP
Inspector Certification:	Date: 2/11/25

Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Construction Materials			
Inventory of products (excluding materials designed to be outdoors)	Yes		
Stockpiled construction materials not actively in use are covered and bermed	Yes		
All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed	Yes		
Construction materials are minimally exposed to precipitation	Yes		
BMPs preventing the off-site tracking of materials are implemented and properly effective	Yes		
Good Housekeeping for Waste Management			
Wash/rinse water and materials are prevented from being disposed into the storm drain system	NA		
Portable toilets are contained to prevent discharges of waste	Yes		
Sanitation facilities are clean and with no apparent for leaks and spills	Yes		
Equipment is in place to cover waste disposal containers at the end of business day and during rain events	Yes		
Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water	Yes		
Stockpiled waste material is securely protected from wind and rain if not actively in use	Yes		
Procedures are in place for addressing hazardous and non-hazardous spills	Yes		
Appropriate spill response personnel are assigned and trained	Yes		
Equipment and materials for cleanup of spills is available onsite	Yes		
Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil	NA		
Good Housekeeping for Vehicle Storage and Maintenance			
Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters	Yes		
All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs	Yes		
Vehicle and equipment leaks are cleaned immediately and disposed of properly	Yes		

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Minimum BMPs for Risk Level 2 Sites	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
Good Housekeeping for Landscape Materials			
Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use	NA	NA	
Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event			
Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations			
Bagged erodible landscape materials are stored on pallets and covered			
Good Housekeeping for Air Deposition of Site Materials			
Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations	yes		
Non-Stormwater Management			
Non-Stormwater discharges are properly controlled	NA		
Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems	NA		
Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems.	yes		
Erosion Controls			
Wind erosion controls are effectively implemented	yes		
Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots	yes		
The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists.	yes		
Sediment Controls			
Perimeter controls are established and effective at controlling erosion and sediment discharges from the site	yes		
Entrances and exits are stabilized to control erosion and sediment discharges from the site	yes		
Sediment basins are properly maintained	NA		
Inspect immediate access roads prior to forecasted precipitation	yes		
Linear sediment control along toe of slope, face of slope an at grade breaks (Risk Level 2 & 3 Only)	yes		
Limit construction activity to and from site to entrances and exits that employ effective controls to prevent offsite tracking (Risk Level 2 & 3 Only)	yes		
Ensure all storm, drain inlets and perimeter controls, runoff control BMPs and pollutants controls at entrances and exits	yes		

are maintained and protected from activities the reduce their effectiveness (Risk Level 2 & 3 Only)	yes		
Run-On and Run-Off Controls			
Run-on to the site is effectively managed and directed away from all disturbed areas.	yes		
Other			
Are the project SWPPP and BMP plan up to date, available onsite and being properly implemented?	yes		
Is the posting of the project's unique WDID number, waiver identification number, and site and project contact information publicly accessible?	yes		

Part III. Descriptions of BMP Deficiencies

Deficiency	Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible.	
	Start Date	Action
1. None		
2.		
3.		
4.		

Part IV. Additional Pre-QPE Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

	Yes, No, N/A
Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III.	yes
Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below.	yes
Notes:	
Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below.	yes
Notes:	

Part V. Additional During-QPE Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.	
Outfall, Discharge Point, or Other Downstream Location	
Location	Description
Location	Description
Location	Description
Location	Description

Part VI. Additional Post-QPE Observations. Visually observe (inspect) stormwater discharges at all discharge locations within 96 hours after each qualifying precipitation event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying precipitation event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.	
Discharge Location, Storage or Containment Area	**Visual Observation**

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.	
Required Actions	**Implementation Date**
None	

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 2-12-25 8:00 AM				Report Date: 2-12-25	
Inspection Type:	☐ Weekly	☒ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda High	
Construction stage and completed activities: Excavated	Approximate area of exposed site: 14 Acr

Weather and Observations

Date Rain Predicted to Occur: Start 2-12-25 at 7 PM		Predicted % chance of precipitation (PoP): Predicted quantity of precipitation (QPF):	
Estimate storm beginning: 2-12-25 1PM (date and time)	Estimate storm duration: 48 (hours)	Estimate time since last storm: 5 Days (days or hours)	Rain gauge reading: 0 (inches)

Observations: If yes identify location

Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated (add additional sheets or attached detailed BMP Inspection Checklists)	Deficiencies Noted
Wattle all in	Good Shape
	No water Leaving Site

Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

added one 1 new length at South

Inspector Information

Inspector Name:	Inspector Title:	
Signature:		Date:

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 2-13-25 7:00 AM				Report Date: 2-13-25	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda High	
Construction stage and completed activities: Excavated	Approximate area of exposed site: 3/4 Acr

Weather and Observations

Date Rain Predicted to Occur: 2-12-25		Predicted % chance of precipitation (PoP): Predicted quantity of precipitation (QPF):	
Estimate storm beginning: 2-12-25 7PM (date and time)	Estimate storm duration: 48 (hours)	Estimate time since last storm: 0 (days or hours)	Rain gauge reading: 1-5/8 " (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
all Swppp in good Shape	
Someone from the Street Service/ city is	
removing the Curb in-let Protections at 2	

Photos Taken:	Yes ☐	No ☐	Photo Reference IDs: Locations

Corrective Actions Identified (note if SWPPP/REAP change is needed)

Inspector Information

Inspector Name: Harry Torres	Inspector Title: Superintendent
Signature:	Date: 2-13-25

Risk Level 1, 2, 3
Visual Inspection Field Log Sheet

Date and Time of Inspection: 2-14-2025 8:00 AM				Report Date: 2-14-2025	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☒ During QPE	☐ Post QPE	☐ Dewatering Discharge

Site Information

Construction Site Name: Alameda High School	
Construction stage and completed activities: Excavated	Approximate area of exposed site: 3/4" Acre

Weather and Observations

Date Rain Predicted to Occur: 2-12-25		Predicted % chance of precipitation (PoP): Predicted quantity of precipitation (QPF):	
Estimate storm beginning: 2-12-25 7:PM (date and time)	Estimate storm duration: 48 (hours)	Estimate time since last storm: 0 (days or hours)	Rain gauge reading: 0" (inches)

Observations: If yes identify location		
Odors	Yes ☐	No ☒
Floating material	Yes ☐	No ☒
Suspended Material	Yes ☐	No ☒
Sheen	Yes ☐	No ☒
Discolorations	Yes ☐	No ☒
Turbidity	Yes ☐	No ☒

Site Inspections

Outfalls or BMPs Evaluated	Deficiencies Noted
(add additional sheets or attached detailed BMP Inspection Checklists)	
SWPPP in place all look good	

Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:

Corrective Actions Identified (note if SWPPP/REAP change is needed)

N/A

Inspector Information

Inspector Name: Harry Torano	Inspector Title: Superintendent
Signature: Harry Tor	Date: 2-14-25

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Heavy Snow and Strong Winds Across the North-Central U.S.; Heavy Rain and Flash Flooding in American Samoa and Puerto Rico

Areas of moderate to heavy snow and gusty to high winds are expected across the Northern Plains, Upper Midwest and Great Lakes into Friday. Several inches of snow accumulation is expected. Heavy rain will bring an isolated flash flood threat to Puerto Rico and flash flooding along with mudslides to American Samoa today. Read More >

Hazardous Weather Conditions

- Dense Fog Advisory until December 19, 12:00 PM PST

2 Alameda
1 Dublin

Current conditions at
Livermore, Livermore Municipal Airport (KLVK)
Lat: 37.69278°N **Lon:** 121.81444°W **Elev:** 397.0ft.

Mist
45°F
7°C

Humidity	93%
Wind Speed	ENE 12 MPH
Barometer	30.18 in (1022.01 mb)
Dewpoint	43°F (6°C)
Visibility	4.00 mi
Wind Chill	39°F (4°C)
Last update	19 Dec 07:20 AM PST

50% + ½" 48hrs

I need to print this Page + Hourly Page All 3

Extended Forecast for
Dublin CA

NOW until 12:00pm Thu	Today (Click here for hazard details and duration)	Tonight	Friday	Friday Night	Saturday	Saturday Night	Sunday	Sunday Night
Dense Fog Advisory	High: 61 °F	Low: 42 °F	High: 64 °F	Low: 45 °F	High: 61 °F	Low: 50 °F	High: 64 °F	Low: 51 °F
	Patchy Dense Fog then Sunny	Partly Cloudy then Patchy Dense Fog	Patchy Dense Fog then Mostly Sunny	Increasing Clouds	Rain	Chance Rain and Patchy Dense Fog	Chance Rain and Areas Dense Fog	Rain Likely and Patchy Dense Fog
					90%	30%	30%	

Detailed Forecast

Today
Patchy dense fog before 10am. Otherwise, sunny, with a high near 61. Calm wind becoming east around 5 mph in the afternoon.

Tonight
Patchy dense fog after 2am. Otherwise, partly cloudy, with a low around 42. Light east southeast wind.

Friday
Patchy dense fog before 8am. Otherwise, mostly sunny, with a high near 64. Light east wind.

Friday Night
Increasing clouds, with a low around 45. Light and variable wind.

Saturday
Rain, mainly before 4pm. High near 61. South southwest wind 6 to 8 mph, with gusts as high as 21 mph. Chance of precipitation is 90%. New precipitation amounts of less than a tenth of ~~an~~ inch possible.

Saturday Night
A 30 percent chance of rain, mainly before 10pm. Patchy dense fog. Otherwise, mostly cloudy, with a low around 50.

Sunday
A 30 percent chance of rain. Areas of dense fog before 11am. Otherwise, mostly cloudy, with a high near 64.

Sunday Night
Rain likely. Patchy dense fog after midnight. Otherwise, mostly cloudy, with a low around 51.

Monday
Rain likely, mainly after 4pm. Patchy dense fog before 11am. Otherwise, mostly cloudy, with a high near 64.

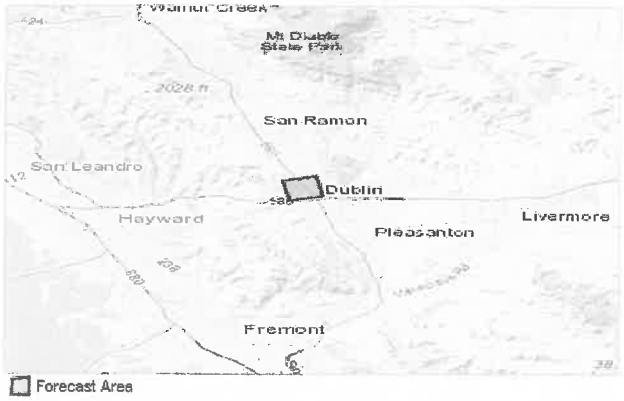
Monday Night
Rain. Mostly cloudy, with a low around 52.

Tuesday
Rain. Mostly cloudy, with a high near 60.

Tuesday Night
A chance of rain. Patchy dense fog. Otherwise, partly cloudy, with a low around 41.

Christmas Day
Patchy dense fog. Otherwise, partly sunny, with a high near 57.

Scott G
Will O
Javier



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Dublin CA
37.71°N 121.93°W (Elev. 384 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image

SL0101

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Active Weather in the West; Showers and Thunderstorms Across the South-Central U.S.

A series of Pacific storm systems will cross the Northwest U.S. this week bringing gusty winds, periods of heavy rain, and mountain snow. A few locally severe storms could occur across parts of central and East Texas on Tuesday. Generally mild conditions and above average temperatures are expected Christmas Day across the majority of the U.S. Read More >

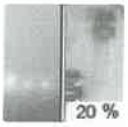
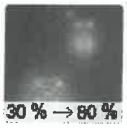
Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
59°F
15°C

Humidity 100%
Wind Speed NA NA MPH
Barometer NA
Dewpoint 59°F (15°C)
Visibility NA
Last update 23 Dec 05:00 AM PST

Alameda Post

Extended Forecast for
Oakland CA

Today	Tonight	Tuesday	Tuesday Night	Christmas Day	Wednesday Night	Thursday	Thursday Night	Friday
								
High: 66 °F	**Low: 52 °F**	**High: 60 °F**	**Low: 44 °F**	**High: 57 °F**	**Low: 47 °F**	**High: 60 °F**	**Low: 51 °F**	**High: 61 °F**
Patchy Fog then Slight Chance Rain	Mostly Cloudy then Showers	Showers then Slight Chance T-storms	Mostly Clear	Mostly Sunny	Chance Rain then Rain	Rain	Rain Likely	Rain Likely

Detailed Forecast

Today
A slight chance of rain between 2pm and 3pm. Patchy fog before 9am. Otherwise, mostly cloudy, with a high near 66. Calm wind becoming south southeast around 5 mph in the afternoon. Chance of precipitation is 20%.

Tonight
Rain, mainly before 4am, then showers and possibly a thunderstorm after 4am. Low around 52. Southeast wind 6 to 11 mph, with gusts as high as 25 mph. Chance of precipitation is 80%. New rainfall amounts between a quarter and half of an inch possible.

Tuesday
Rain and thunderstorms before noon, then a slight chance of showers and thunderstorms between noon and 1pm. High near 60. West northwest wind 9 to 14 mph, with gusts as high as 21 mph. Chance of precipitation is 80%. New rainfall amounts between a tenth and quarter of an inch, except higher amounts possible in thunderstorms.

Tuesday Night
Mostly clear, with a low around 44. Northwest wind 5 to 10 mph, with gusts as high as 22 mph.

Christmas Day
Mostly sunny, with a high near 57. Calm wind becoming west northwest 5 to 7 mph in the afternoon.

Wednesday Night
Rain, mainly after 4am. Low around 47. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Thursday
Rain, mainly before 4pm. High near 60. Chance of precipitation is 80%.

Thursday Night
Rain likely, mainly after 10pm. Mostly cloudy, with a low around 51.

Friday
Rain likely. Mostly cloudy, with a high near 61.

Friday Night
Rain likely, mainly before 4am. Mostly cloudy, with a low around 54.

Saturday
Rain likely. Mostly cloudy, with a high near 63.

Saturday Night
Rain likely. Mostly cloudy, with a low around 53.

Sunday
Rain likely. Mostly cloudy, with a high near 63.



Forecast Area

ABOUT THIS FORECAST

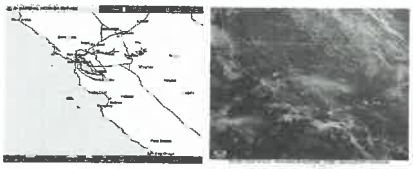
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

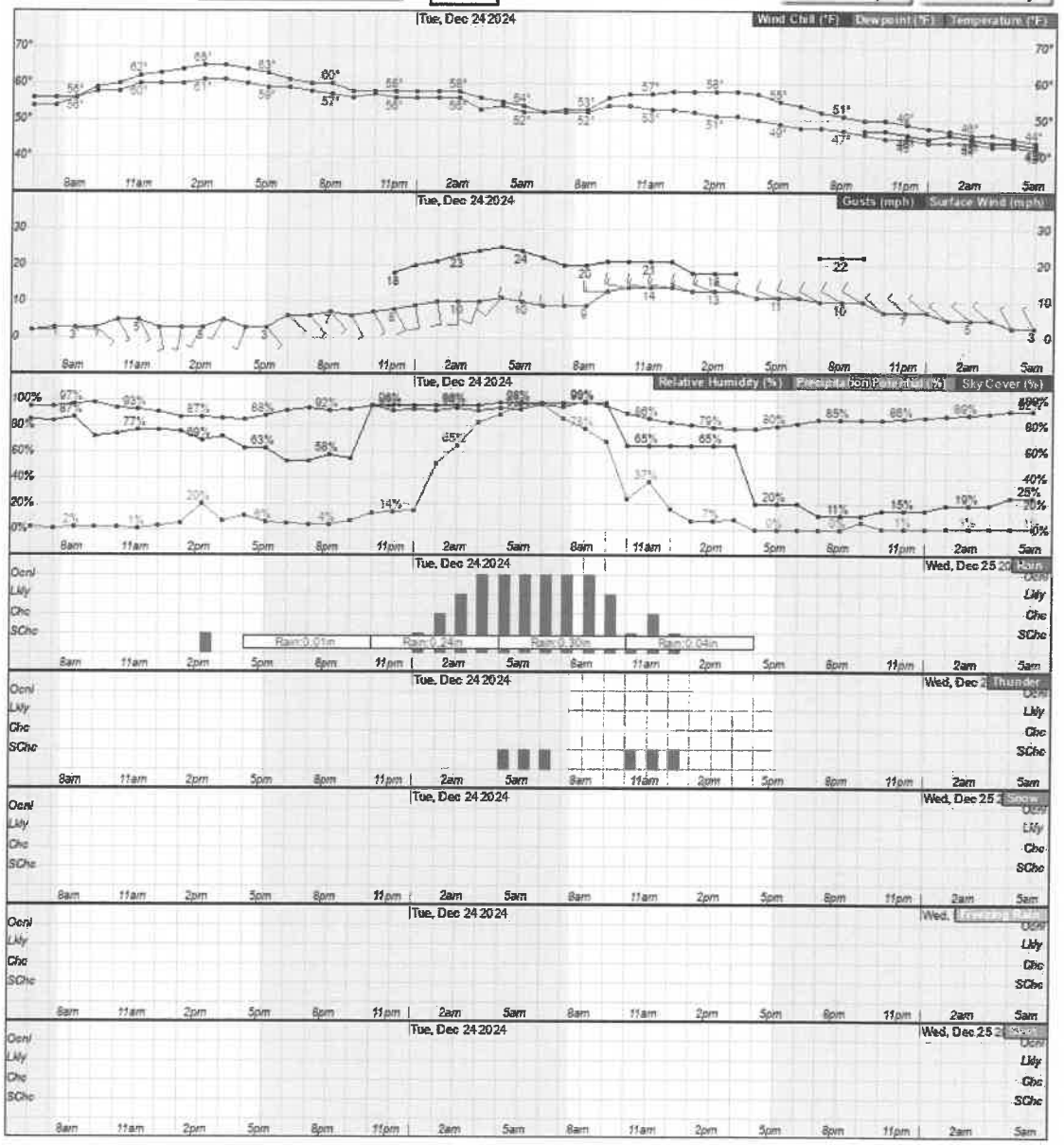
Last Update: 12:27 am PST Dec 23, 2024

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 6am Mon, Dec 23 2024 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Active Pattern in the West; Winter Weather in the Northeast and Mid-Atlantic

A series of Pacific storm systems will cross the Northwest U.S. this week bringing gusty winds, high surf, periods of heavy rain, and mountain snow. A storm system will track through the Northeast and Mid-Atlantic today with a wintry mix of snow, sleet, and freezing rain making for hazardous travel. Read More >

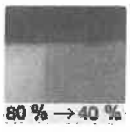
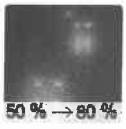
Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
53°F
12°C

Humidity 98%
Wind Speed NA NA MPH
Barometer NA
Dewpoint 52°F (11°C)
Visibility NA
Last update 24 Dec 08:00 AM PST

Alameda Pool 1/2"

Extended Forecast for
Oakland CA

Today	Tonight	Christmas Day	Wednesday Night	Thursday	Thursday Night	Friday	Friday Night	Saturday
								
High: 60 °F	**Low: 43 °F**	**High: 56 °F**	**Low: 48 °F**	**High: 60 °F**	**Low: 53 °F**	**High: 61 °F**	**Low: 55 °F**	**High: 63 °F**
Showers then Chance Showers	Mostly Clear	Mostly Sunny	Chance Rain then Rain	Rain	Rain	Rain and Patchy Fog	Rain	Rain Likely and Patchy Fog

Detailed Forecast

Today
Showers, mainly before 11am. High near 60. West wind 8 to 13 mph, with gusts as high as 22 mph. Chance of precipitation is 80%. New precipitation amounts between a tenth and quarter of an inch possible.

Tonight
Mostly clear, with a low around 43. West northwest wind 5 to 9 mph.

Christmas Day
Mostly sunny, with a high near 56. Calm wind becoming west around 5 mph in the afternoon.

Wednesday Night
Rain, mainly after 4am. Low around 48. Calm wind becoming south southeast around 6 mph after midnight. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Thursday
Rain, mainly before 10am. High near 60. South wind around 7 mph. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Thursday Night
Rain. Low around 53. Chance of precipitation is 90%. New precipitation amounts between a half and three quarters of an inch possible.

Friday
Rain. Patchy fog before noon. High near 61. Chance of precipitation is 80%.

Friday Night
Rain. Cloudy, with a low around 55.

Saturday
Rain likely. Patchy fog before 10am. Otherwise, mostly cloudy, with a high near 63.

Saturday Night
Rain likely. Patchy fog before 10pm. Otherwise, mostly cloudy, with a low around 54.

Sunday
Rain. Patchy fog. Otherwise, mostly cloudy, with a high near 62.

Sunday Night
A chance of rain. Partly cloudy, with a low around 46.

Monday
Sunny, with a high near 58.



Forecast Area

ABOUT THIS FORECAST

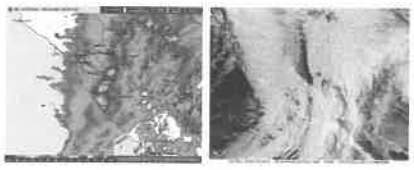
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

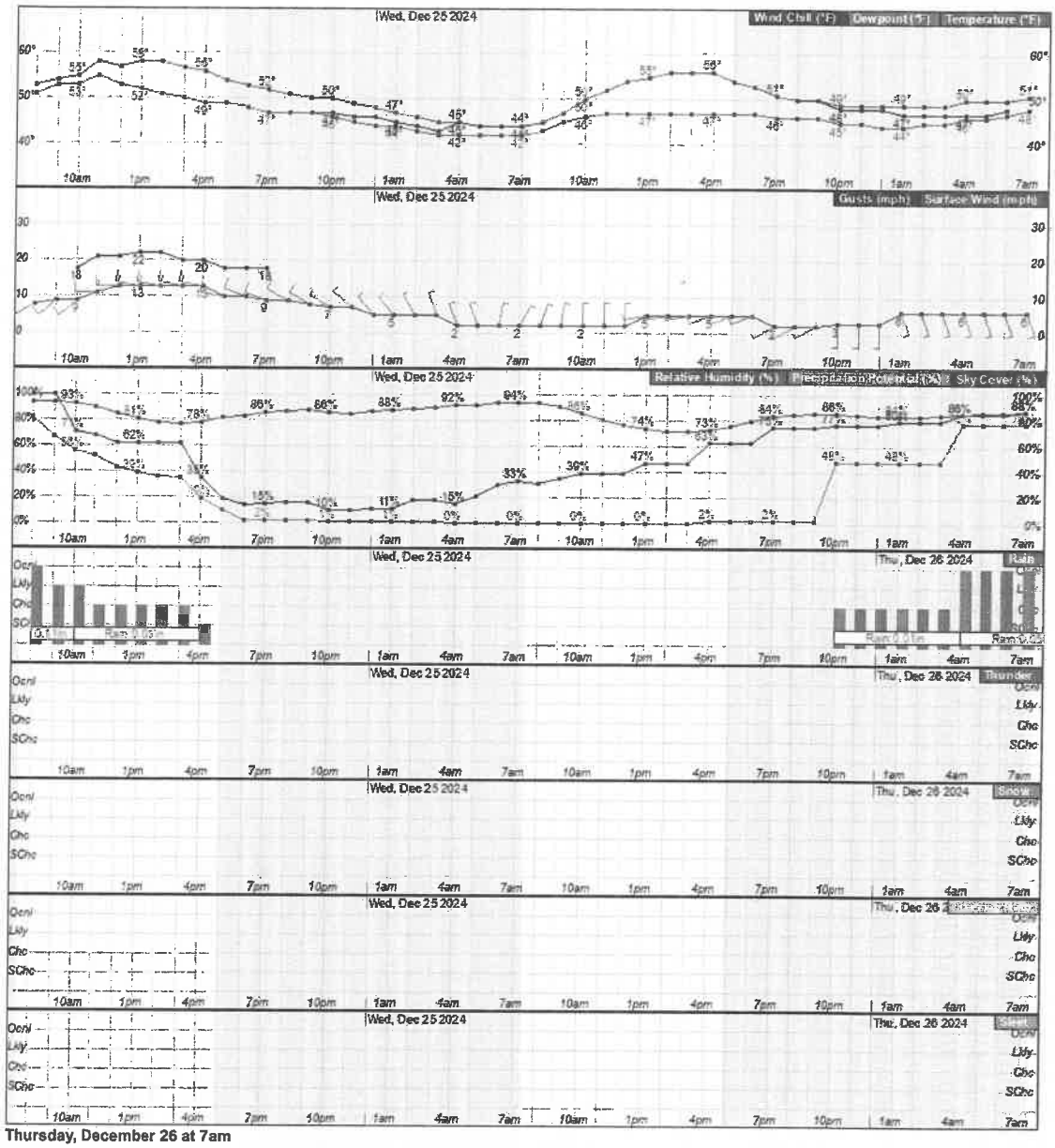
KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast



Thursday, December 26 at 7am

Temperature: 51 °F Dewpoint: 48 °F Wind Chill: N/A Surface Wind: SSE 6mph
Sky Cover (%): 88% Precipitation Potential (%): 78% Relative Humidity (%): 88%
Rain: Occasional (80%-100%) Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Severe Thunderstorms Across Southeast Texas; Very Active Pattern in the West

Severe thunderstorms with the potential for several tornadoes, including a strong tornado or two, will be possible this afternoon and evening across southeast Texas. Damaging winds and isolated large hail will also be possible. A series of Pacific storm systems will continue to impact the Northwest U.S. into this weekend with periods of strong winds, low elevation rain and heavy mountain snow. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
49°F
9°C

Humidity	99%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	48°F (9°C)
Visibility	NA
Last update	26 Dec 07:00 AM PST

Alameda Pool

Extended Forecast for
Oakland CA

Today	Tonight	Friday	Friday Night	Saturday	Saturday Night	Sunday	Sunday Night	Monday
20%	100%	60 %	70%	60%	80%	100%		
High: 61 °F	**Low: 54 °F**	**High: 62 °F**	**Low: 54 °F**	**High: 63 °F**	**Low: 54 °F**	**High: 61 °F**	**Low: 44 °F**	**High: 58 °F**
Slight Chance Rain	Rain and Patchy Fog	Rain Likely then Mostly Cloudy	Rain Likely and Patchy Fog	Rain Likely and Patchy Fog	Rain and Patchy Fog	Rain	Slight Chance Rain then Mostly Clear	Sunny

Detailed Forecast

Today
A slight chance of rain before 1pm, then a slight chance of rain after 5pm. Mostly cloudy, with a high near 61. Southeast wind around 6 mph becoming light and variable in the afternoon. Chance of precipitation is 20%. New precipitation amounts of less than a tenth of an inch possible.

Tonight
Rain. Patchy fog before 9pm. Low around 54. Southeast wind 5 to 13 mph becoming south southwest after midnight. Winds could gust as high as 28 mph. Chance of precipitation is 100%. New precipitation amounts between a half and three quarters of an inch possible.

Friday
Rain likely, mainly before 8am. Mostly cloudy, with a high near 62. West wind 7 to 9 mph. Chance of precipitation is 60%. New precipitation amounts of less than a tenth of an inch possible.

Friday Night
Rain likely after 10pm. Patchy fog before 11pm, then patchy fog after 5am. Otherwise, mostly cloudy, with a low around 54. Calm wind. Chance of precipitation is 70%. New precipitation amounts of less than a tenth of an inch possible.

Saturday
Rain likely, mainly before 10am. Patchy fog before 11am. Otherwise, mostly cloudy, with a high near 63. Light and variable wind. Chance of precipitation is 60%. New precipitation amounts of less than a tenth of an inch possible.

Saturday Night
Rain, mainly after 10pm. Patchy fog before 11pm, then patchy fog after 3am. Low around 54. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Sunday
Rain, mainly before 4pm. High near 61. Chance of precipitation is 100%.

Sunday Night
A slight chance of rain before 10pm. Mostly clear, with a low around 44.

Monday
Sunny, with a high near 58.

Monday Night
Mostly clear, with a low around 41.

Tuesday
Mostly sunny, with a high near 57.

Tuesday Night
Mostly cloudy, with a low around 43.

New Year's Day
Partly sunny, with a high near 58.



Forecast Area

ABOUT THIS FORECAST

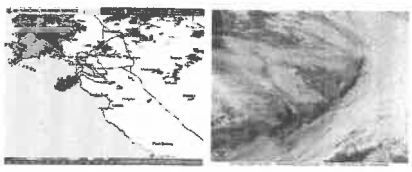
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

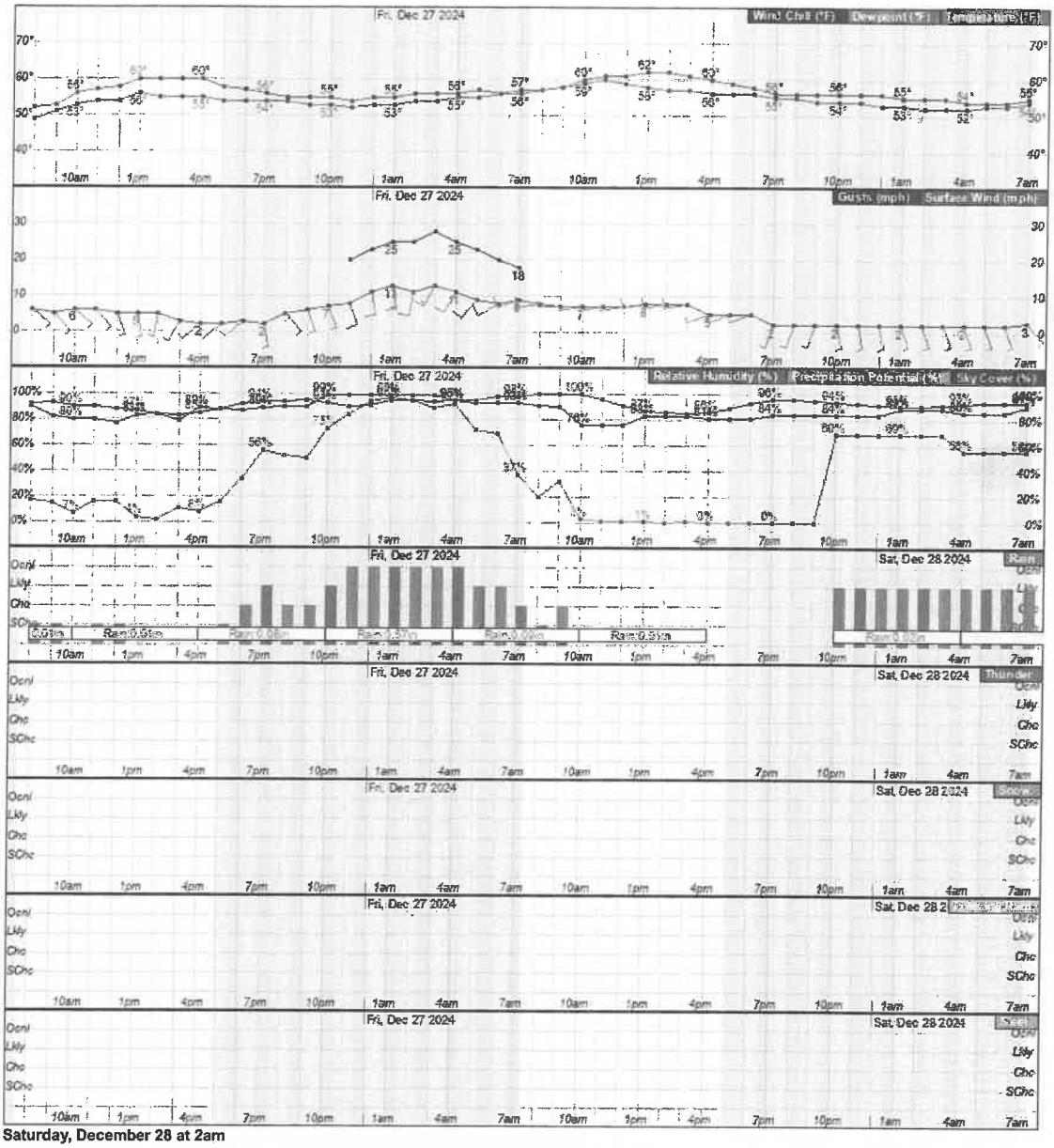
KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast



Saturday, December 28 at 2am

Temperature: 55 °F Dewpoint: 52 °F Wind Chill: N/A Surface Wind: SSE 2mph
Sky Cover (%): 89% Precipitation Potential (%): 69% Relative Humidity (%): 91%
Rain: Likely (60%-70%) Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Dense Fog for the Center of the Nation; Severe Thunderstorms Across the South; Parade of Pacific Storms Continue

Series of Pacific storms will continue to significantly impact portions of the West through this last weekend of 2024; Strong winds, high surf, heavy lower elevation rain and heavy mountain snow expected. Across the Plains, low visibility and dense fog will make for travel difficulties as warmer air lifts north. This will fuel severe thunderstorms across several southern states on Saturday. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
58°F
14°C

Humidity	98%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	57°F (14°C)
Visibility	NA
Last update	27 Dec 08:00 AM PST

Alameda Pool

Extended Forecast for
Oakland CA

Today	Tonight	Saturday	Saturday Night	Sunday	Sunday Night	Monday	Monday Night	Tuesday
								
High: 61 °F	**Low: 54 °F**	**High: 63 °F**	**Low: 54 °F**	**High: 61 °F**	**Low: 44 °F**	**High: 58 °F**	**Low: 41 °F**	**High: 57 °F**
Slight Chance Rain and Patchy Fog then Mostly Cloudy	Chance Rain and Patchy Fog	Slight Chance Rain and Patchy Fog then Patchy Fog	Rain and Patchy Fog	Rain then Rain Likely	Mostly Clear	Sunny	Partly Cloudy	Mostly Sunny

Detailed Forecast

Today
A 20 percent chance of rain before 9am. Patchy fog between 9am and 11am. Otherwise, mostly cloudy, with a high near 61. West wind around 8 mph.

Tonight
A 30 percent chance of rain, mainly between 11pm and 3am. Patchy fog before 10pm, then patchy fog after 1am. Otherwise, mostly cloudy, with a low around 54. South southeast wind 3 to 5 mph. New precipitation amounts of less than a tenth of an inch possible.

Saturday
A 10 percent chance of rain before 7am. Patchy fog before 1pm. Otherwise, mostly cloudy, with a high near 63. South southwest wind 3 to 6 mph.

Saturday Night
Rain, mainly after 10pm. Patchy fog. Low around 54. South wind 3 to 6 mph. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Sunday
Rain. High near 61. South wind around 11 mph becoming west southwest in the afternoon. Winds could gust as high as 20 mph. Chance of precipitation is 100%. New precipitation amounts between a tenth and quarter of an inch possible.

Sunday Night
Mostly clear, with a low around 44.

Monday
Sunny, with a high near 58.

Monday Night
Partly cloudy, with a low around 41.

Tuesday
Mostly sunny, with a high near 57.

Tuesday Night
Partly cloudy, with a low around 41.

New Year's Day
Mostly sunny, with a high near 58.

Wednesday Night
Partly cloudy, with a low around 43.

Thursday
Mostly sunny, with a high near 60.



Forecast Area

ABOUT THIS FORECAST

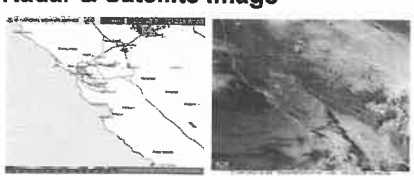
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

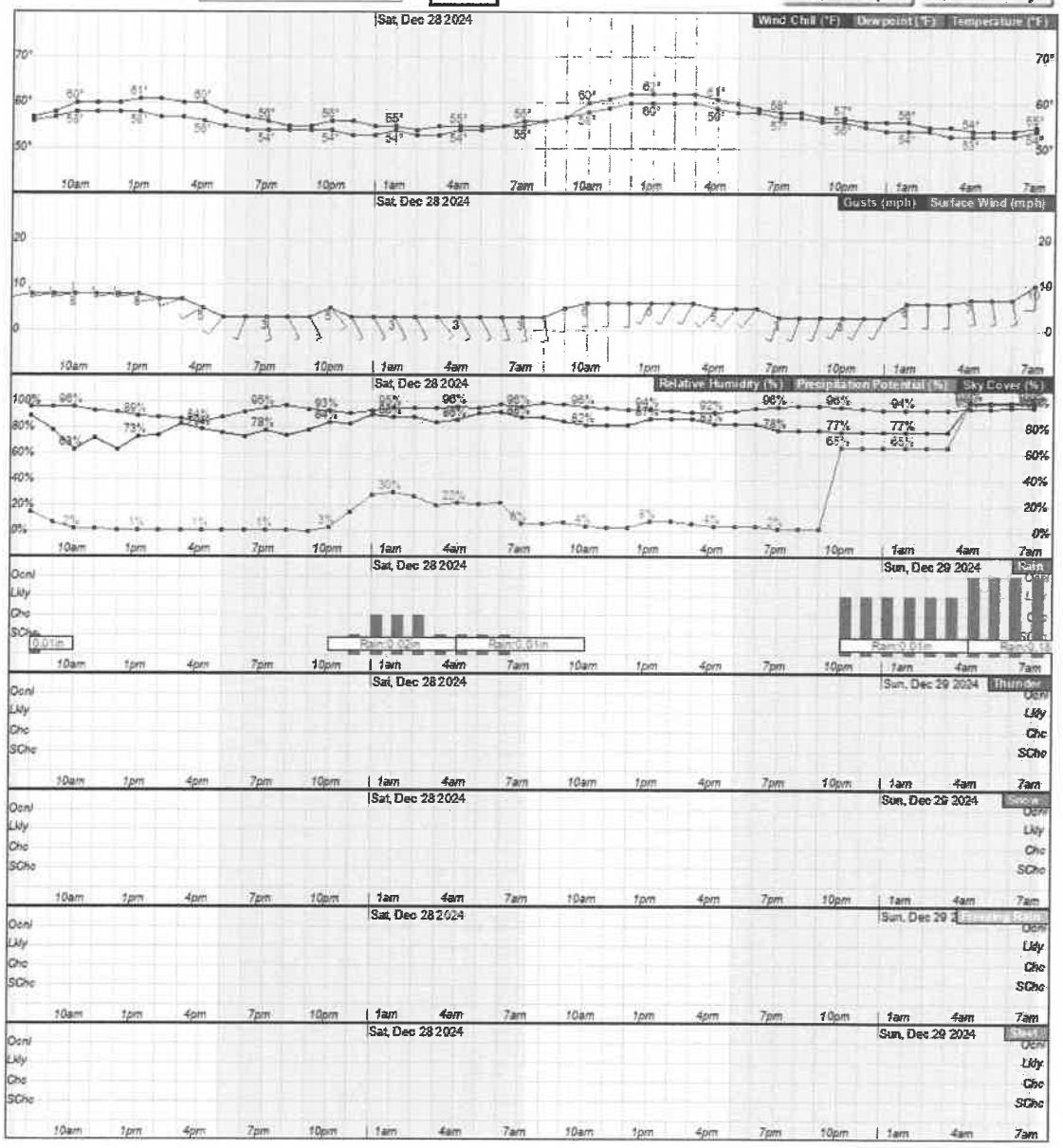
Last Update: 1:52 am PST Dec 27, 2024

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Fri, Dec 27 2024 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Critical Fire Weather Concerns; Storm Tracking Across the Plains

Combination of strong winds, dry conditions and above normal temperatures will result in elevated to critical fire weather concerns for the Southern Plains and portions of Southern California. This is part of a storm system that is tracking across the central Plains with occasional snow showers and heavier snow from the Rockies through the Central/Northern Plains. Read More >

Hazardous Weather Conditions

- Frost Advisory in effect from December 30, 08:00 PM PST until December 31, 10:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
48°F
9°C

Humidity	89%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	45°F (7°C)
Visibility	NA
Last update	30 Dec 05:00 AM PST

Alameda Pool

Extended Forecast for
Oakland CA

Click here for hazard details and duration

Today	Tonight	Tuesday	Tuesday Night	New Year's Day	Wednesday Night	Thursday	Thursday Night	Friday
High: 57 °F	Low: 39 °F	High: 56 °F	Low: 41 °F	High: 58 °F	Low: 45 °F	High: 61 °F	Low: 46 °F	High: 61 °F
Mostly Sunny	Mostly Clear	Sunny	Partly Cloudy	Mostly Sunny	Partly Cloudy	Mostly Sunny	Partly Cloudy then Patchy Fog	Chance Rain and Patchy Fog

Detailed Forecast

Today
Mostly sunny, with a high near 57. Calm wind becoming north northwest around 6 mph in the afternoon.

Tonight
Mostly clear, with a low around 39. Calm wind.

Tuesday
Sunny, with a high near 56. Light and variable wind.

Tuesday Night
Partly cloudy, with a low around 41. Calm wind.

New Year's Day
Mostly sunny, with a high near 58. Light northeast wind.

Wednesday Night
Partly cloudy, with a low around 45.

Thursday
Mostly sunny, with a high near 61.

Thursday Night
Patchy fog after 5am. Otherwise, partly cloudy, with a low around 46.

Friday
A chance of rain. Patchy fog before 9am. Otherwise, mostly cloudy, with a high near 61.

Friday Night
A chance of rain before 10pm, then a slight chance of drizzle after 10pm. Mostly cloudy, with a low around 47.

Saturday
Patchy fog. Otherwise, partly sunny, with a high near 59.

Saturday Night
Partly cloudy, with a low around 45.

Sunday
Mostly sunny, with a high near 60.



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 2:16 am PST Dec 30, 2024

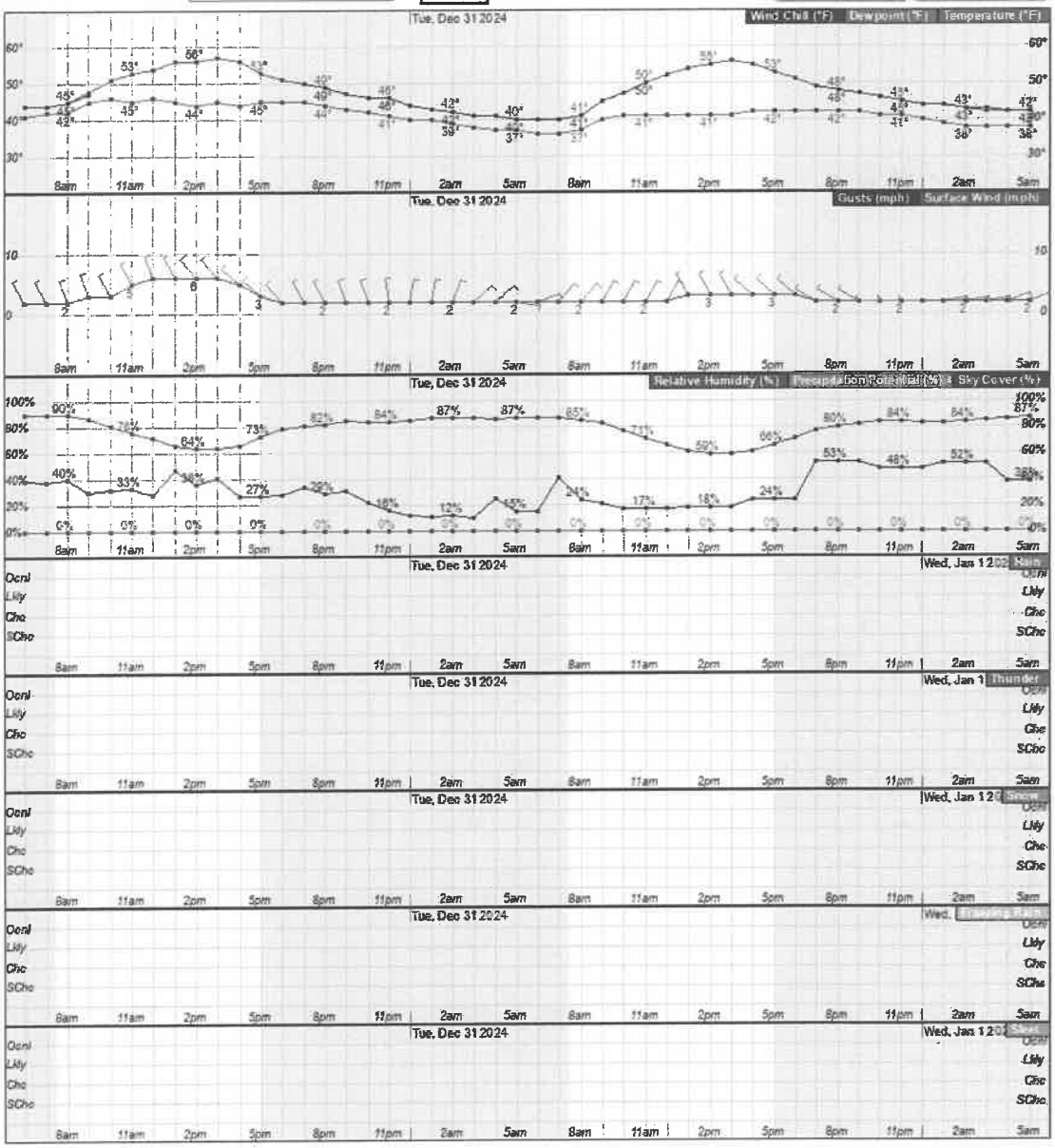
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 6am Mon, Dec 30 2024 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

The New Year Holiday Outlook

A storm tracking across the Ohio Valley with occasional rain, some snow, will track across the mid-Atlantic and Northeast through New Years Day. Showers, a few thunderstorms, will accompany this system as it tracks eastward, along with increasing winds. Lake Effect Snow will increase downwind of the Great Lakes into the new year. Fire weather concerns linger for portions of Southern California. Read More >

Hazardous Weather Conditions

- Frost Advisory until December 31, 10:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
46°F
8°C

Humidity	93%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	44°F (7°C)
Visibility	NA
Last update	31 Dec 05:00 AM PST

Alameda Pool

Extended Forecast for
Oakland CA

NOW until 10:00am Tue	Today	Tonight	New Year's Day	Wednesday Night	Thursday	Thursday Night	Friday	Friday Night
Frost Advisory	Click here for hazard details and duration					30 %	60%	
	High: 56 °F	Low: 43 °F	High: 58 °F	Low: 45 °F	High: 63 °F	Low: 48 °F	High: 60 °F	Low: 46 °F
	Sunny	Partly Cloudy	Mostly Sunny	Mostly Cloudy	Mostly Sunny	Partly Cloudy then Chance Rain	Rain Likely	Chance Rain

Detailed Forecast

Today
Sunny, with a high near 56. Light and variable wind.

Tonight
Partly cloudy, with a low around 43. Calm wind.

New Year's Day
Mostly sunny, with a high near 58. Light and variable wind.

Wednesday Night
Mostly cloudy, with a low around 45. Calm wind.

Thursday
Mostly sunny, with a high near 63. Calm wind becoming northeast around 5 mph in the afternoon.

Thursday Night
A 30 percent chance of rain after 4am. Partly cloudy, with a low around 48.

Friday
Rain likely, mainly between 10am and 4pm. Mostly cloudy, with a high near 60. Chance of precipitation is 60%.

Friday Night
A chance of rain before 10pm, then a slight chance of drizzle after 10pm. Mostly cloudy, with a low around 46.

Saturday
Partly sunny, with a high near 59.

Saturday Night
Partly cloudy, with a low around 45.

Sunday
Mostly sunny, with a high near 60.

Sunday Night
Partly cloudy, with a low around 45.

Monday
Partly sunny, with a high near 61.



Forecast Area

ABOUT THIS FORECAST

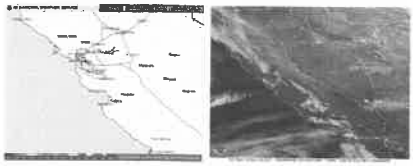
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

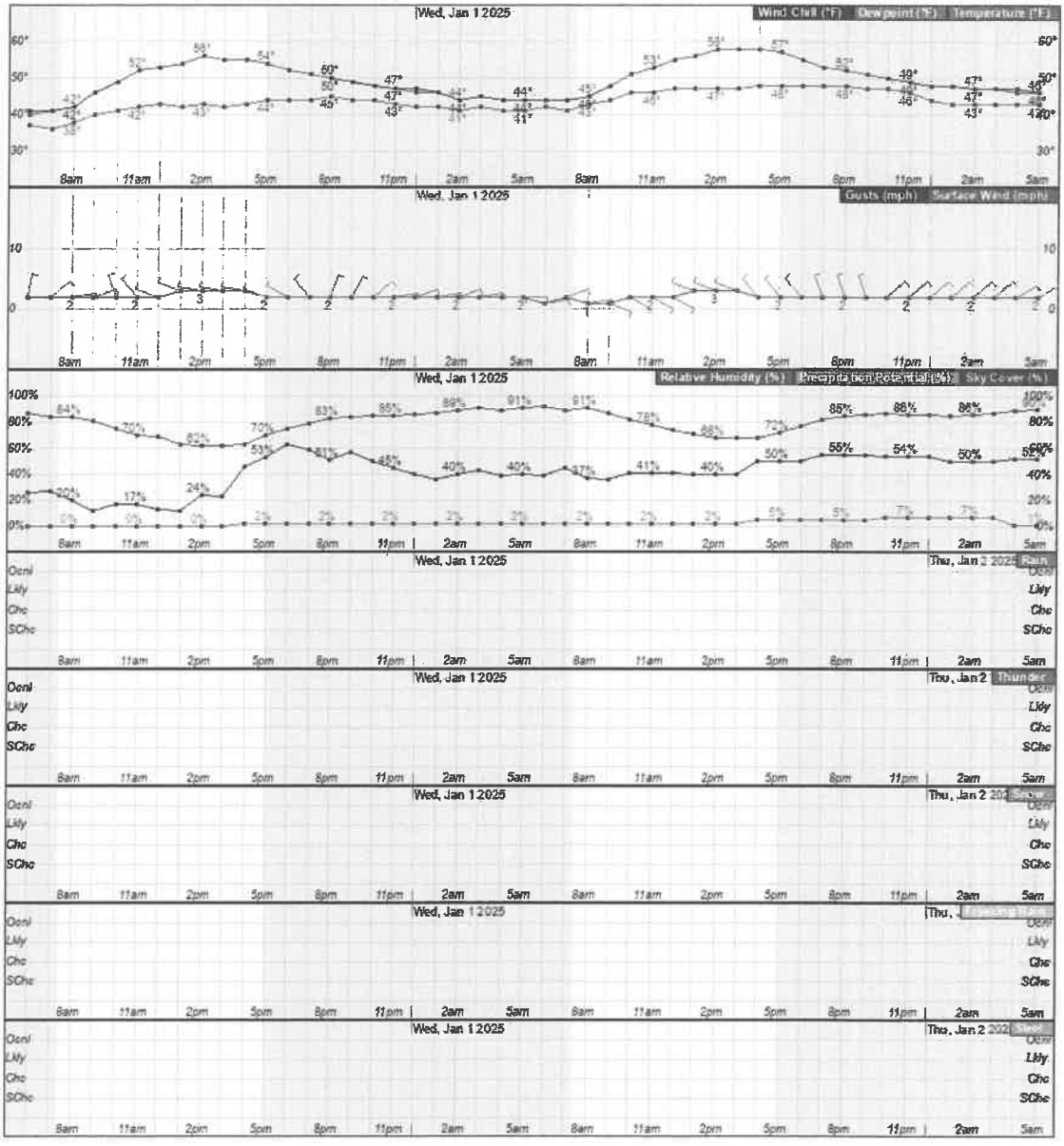
Last Update: 2:57 am PST Dec 31, 2024

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 6am Tue, Dec 31 2024 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Lingering Cold and Snow in the Great Lakes/Appalachians/Northeast; Pacific Storms Continue to Impact the Northwest

In the wake of a storm lifting through the Canadian Maritimes, heavy snow will continue downwind of the Great Lakes through this weekend and over parts of the Appalachians and interior Northeast through Friday along with gusty winds. Several Pacific storms will continue periods of low elevation rain showers and mountain snow over the Northwest U.S. today thorough this weekend. Read More >

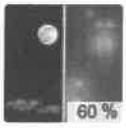
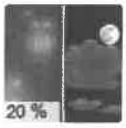
Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
54°F
12°C

Humidity 69%
Wind Speed NA NA MPH
Barometer NA
Dewpoint 44°F (7°C)
Visibility NA
Last update 02 Jan 10:00 AM PST

Alameda Pool

Extended Forecast for
Oakland CA

Today	Tonight	Friday	Friday Night	Saturday	Saturday Night	Sunday	Sunday Night	Monday
								
High: 64 °F	**Low: 49 °F**	**High: 59 °F**	**Low: 45 °F**	**High: 58 °F**	**Low: 44 °F**	**High: 60 °F**	**Low: 45 °F**	**High: 62 °F**
Mostly Sunny	Mostly Clear then Rain Likely	Rain	Slight Chance Rain then Partly Cloudy	Mostly Sunny	Partly Cloudy	Mostly Sunny	Partly Cloudy	Mostly Sunny

Detailed Forecast

Today
Mostly sunny, with a high near 64. North northeast wind around 6 mph.

Tonight
Rain likely after 4am. Increasing clouds, with a low around 49. Calm wind. Chance of precipitation is 60%. New precipitation amounts of less than a tenth of an inch possible.

Friday
Rain, mainly before 4pm. High near 59. South southeast wind 5 to 9 mph becoming west southwest in the afternoon. Chance of precipitation is 90%. New precipitation amounts between a quarter and half of an inch possible.

Friday Night
A 20 percent chance of rain before 10pm. Partly cloudy, with a low around 45. West wind around 6 mph becoming calm in the evening. New precipitation amounts of less than a tenth of an inch possible.

Saturday
Mostly sunny, with a high near 58. Calm wind becoming northwest around 6 mph in the afternoon.

Saturday Night
Partly cloudy, with a low around 44.

Sunday
Mostly sunny, with a high near 60.

Sunday Night
Partly cloudy, with a low around 45.

Monday
Mostly sunny, with a high near 62.

Monday Night
Partly cloudy, with a low around 46.

Tuesday
Mostly sunny, with a high near 63.

Tuesday Night
Partly cloudy, with a low around 46.

Wednesday
Sunny, with a high near 63.



Forecast Area

ABOUT THIS FORECAST

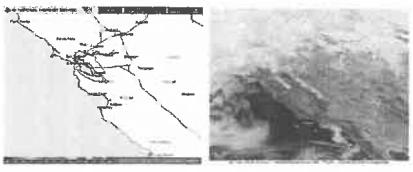
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 6:11 am PST Jan 2, 2025

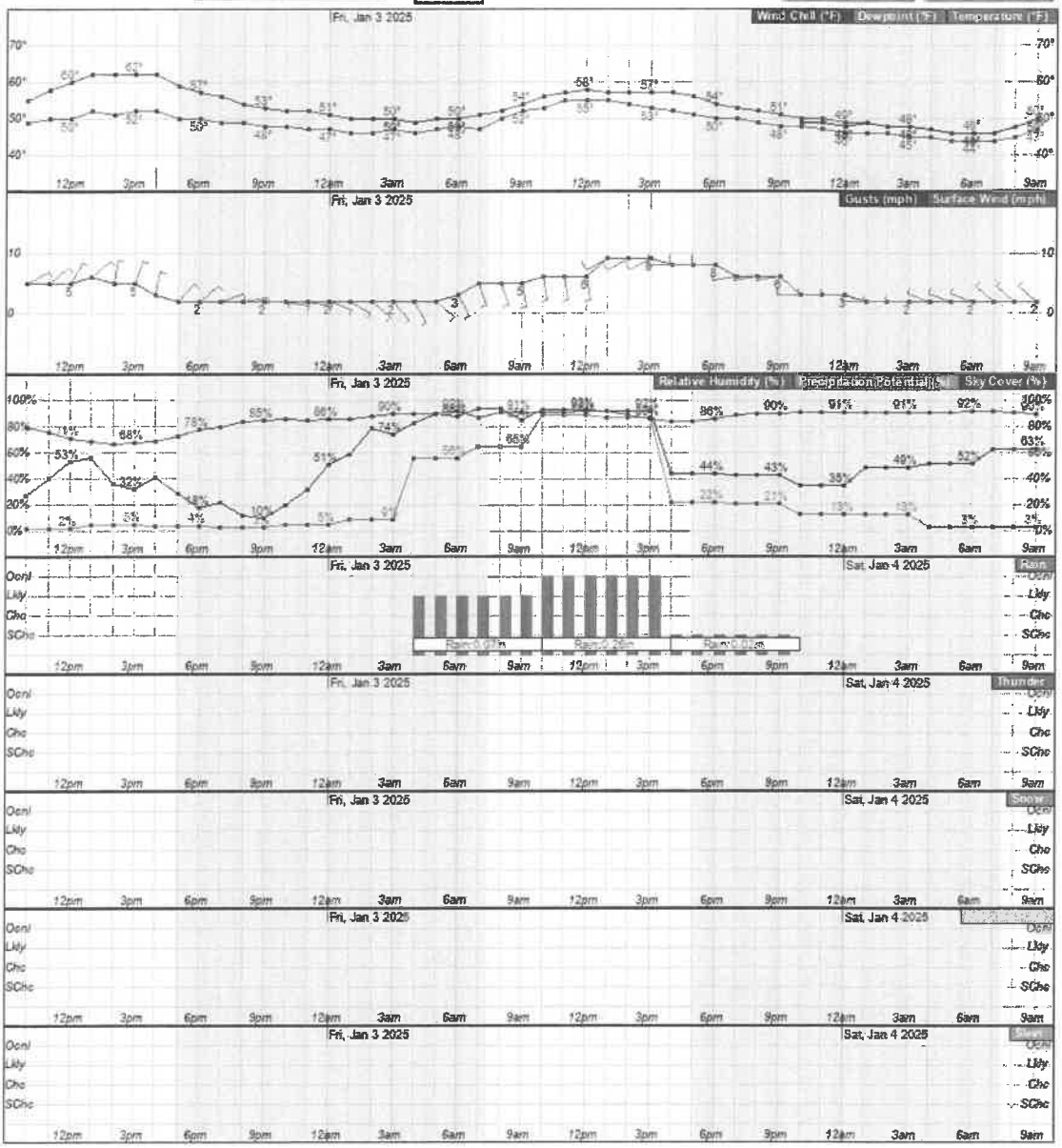
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 10am Thu, Jan 2 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Major Winter Storm to Bring Snow and Ice from the Central Plains to the Mid-Atlantic

A major winter storm will produce widespread significant impacts from the central Plains across the Ohio and Tennessee valleys, and into the Mid-Atlantic region this weekend into Monday. Areas between central Kansas and Indiana, especially along and north of Interstate 70, are likely to receive heavy snowfall. Icing is likely from eastern Kansas into the southern Appalachians.
Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
52°F
11°C

Humidity 98%
Wind Speed NA NA MPH
Barometer NA
Dewpoint 51°F (11°C)
Visibility NA
Last update 03 Jan 08:00 AM PST

Alameda Pool

Extended Forecast for
Oakland CA

Today	Tonight	Saturday	Saturday Night	Sunday	Sunday Night	Monday	Monday Night	Tuesday
								
High: 58 °F	**Low: 44 °F**	**High: 57 °F**	**Low: 43 °F**	**High: 60 °F**	**Low: 46 °F**	**High: 61 °F**	**Low: 46 °F**	**High: 63 °F**
Rain	Partly Cloudy	Patchy Fog then Mostly Sunny	Partly Cloudy	Mostly Sunny	Mostly Clear then Patchy Fog	Areas Fog then Mostly Sunny	Partly Cloudy	Sunny

Detailed Forecast

Today
Rain, mainly before 1pm. High near 58. South southeast wind 6 to 11 mph becoming west in the morning. Winds could gust as high as 23 mph. Chance of precipitation is 80%. New precipitation amounts between a tenth and quarter of an inch possible.

Tonight
Partly cloudy, with a low around 44. West wind 5 to 7 mph becoming calm after midnight.

Saturday
Patchy fog before 10am. Otherwise, mostly sunny, with a high near 57. Calm wind becoming northwest around 5 mph in the afternoon.

Saturday Night
Partly cloudy, with a low around 43. Calm wind.

Sunday
Mostly sunny, with a high near 60. Light and variable wind.

Sunday Night
Patchy fog after 4am. Otherwise, partly cloudy, with a low around 46.

Monday
Areas of fog before 10am. Otherwise, mostly sunny, with a high near 61.

Monday Night
Partly cloudy, with a low around 46.

Tuesday
Sunny, with a high near 63.

Tuesday Night
Partly cloudy, with a low around 46.

Wednesday
Mostly sunny, with a high near 62.

Wednesday Night
Mostly clear, with a low around 44.

Thursday
Sunny, with a high near 64.



ABOUT THIS FORECAST

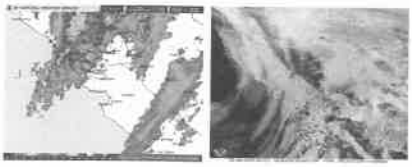
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 3:38 am PST Jan 3, 2025

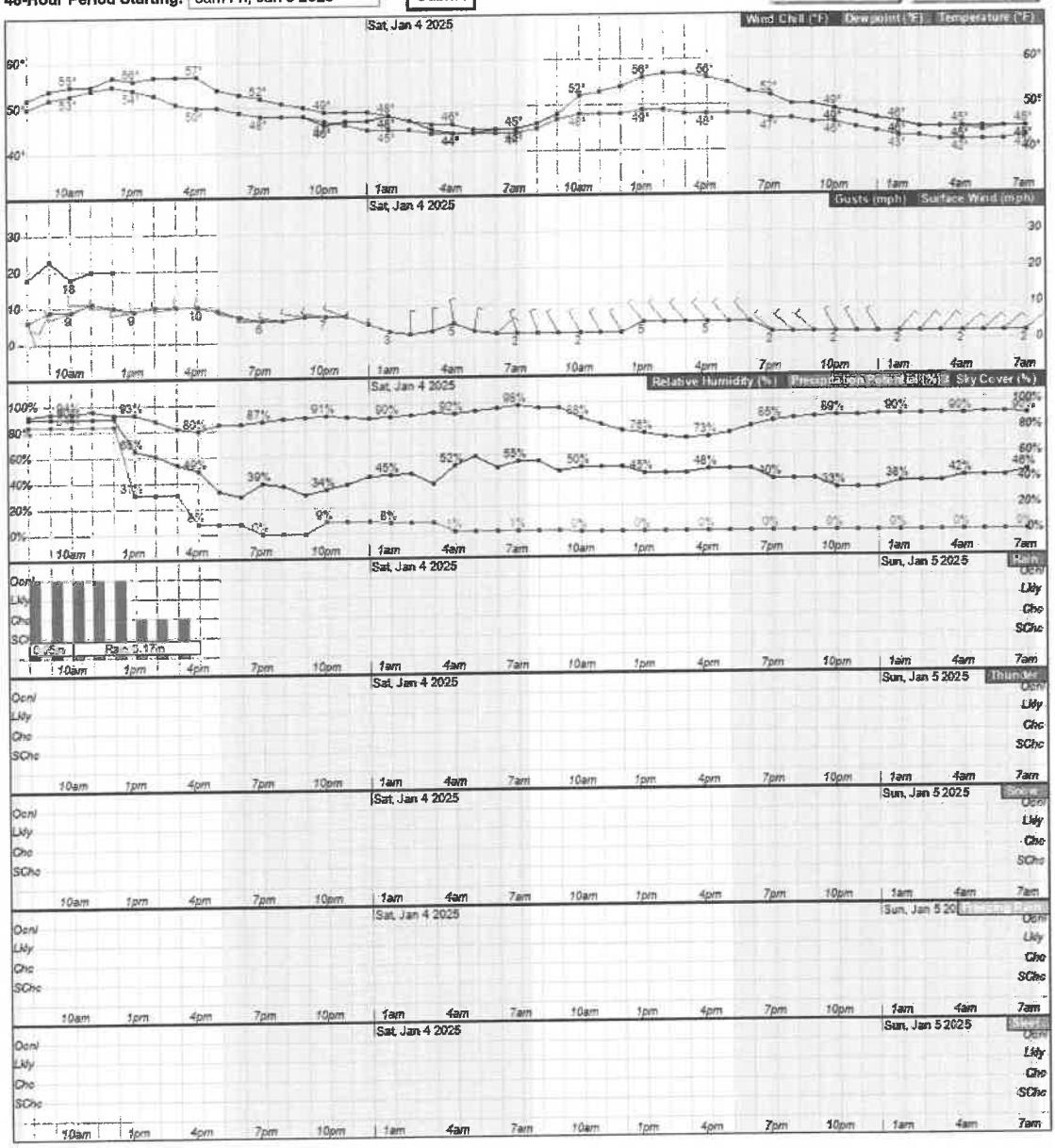
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Fri, Jan 3 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Major Winter Storm Moves Through the Mid-Atlantic; High Winds Coming to Southern California

A major winter storm will move from the Ohio Valley to the Mid-Atlantic today, continuing severe travel delays, with major impacts due to areas of heavy snow and some icing for portions of West Virginia, Maryland, Virginia, Washington D.C., and Delaware. High winds will impact much of southern California Tuesday into Wednesday possibly resulting in power outages and fire weather. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
46°F
8°C

Humidity	99%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	46°F (8°C)
Visibility	NA
Last update	06 Jan 07:00 AM PST

Extended Forecast for
Oakland CA

Today	Tonight	Tuesday	Tuesday Night	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday
								
High: 60 °F	**Low: 47 °F**	**High: 66 °F**	**Low: 46 °F**	**High: 64 °F**	**Low: 42 °F**	**High: 65 °F**	**Low: 44 °F**	**High: 62 °F**
Patchy Fog then Mostly Sunny	Partly Cloudy	Sunny	Partly Cloudy	Sunny	Clear	Sunny	Mostly Clear	Sunny

Detailed Forecast

Today
Patchy fog before 10am. Otherwise, partly sunny, with a high near 60. Calm wind becoming west northwest around 6 mph in the afternoon.

Tonight
Partly cloudy, with a low around 47. Northwest wind 3 to 6 mph. Winds could gust as high as 20 mph.

Tuesday
Sunny, with a high near 66. North northeast wind 8 to 15 mph, with gusts as high as 24 mph.

Tuesday Night
Partly cloudy, with a low around 46. North northeast wind 9 to 14 mph becoming light east after midnight. Winds could gust as high as 28 mph.

Wednesday
Sunny, with a high near 64. Light and variable wind becoming northeast around 5 mph in the morning.

Wednesday Night
Clear, with a low around 42.

Thursday
Sunny, with a high near 65.

Thursday Night
Mostly clear, with a low around 44.

Friday
Sunny, with a high near 62.

Friday Night
Mostly clear, with a low around 45.

Saturday
Sunny, with a high near 64.

Saturday Night
Clear, with a low around 44.

Sunday
Sunny, with a high near 62.



Forecast Area

ABOUT THIS FORECAST

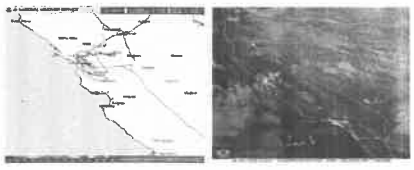
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 12:26 am PST Jan 6, 2025

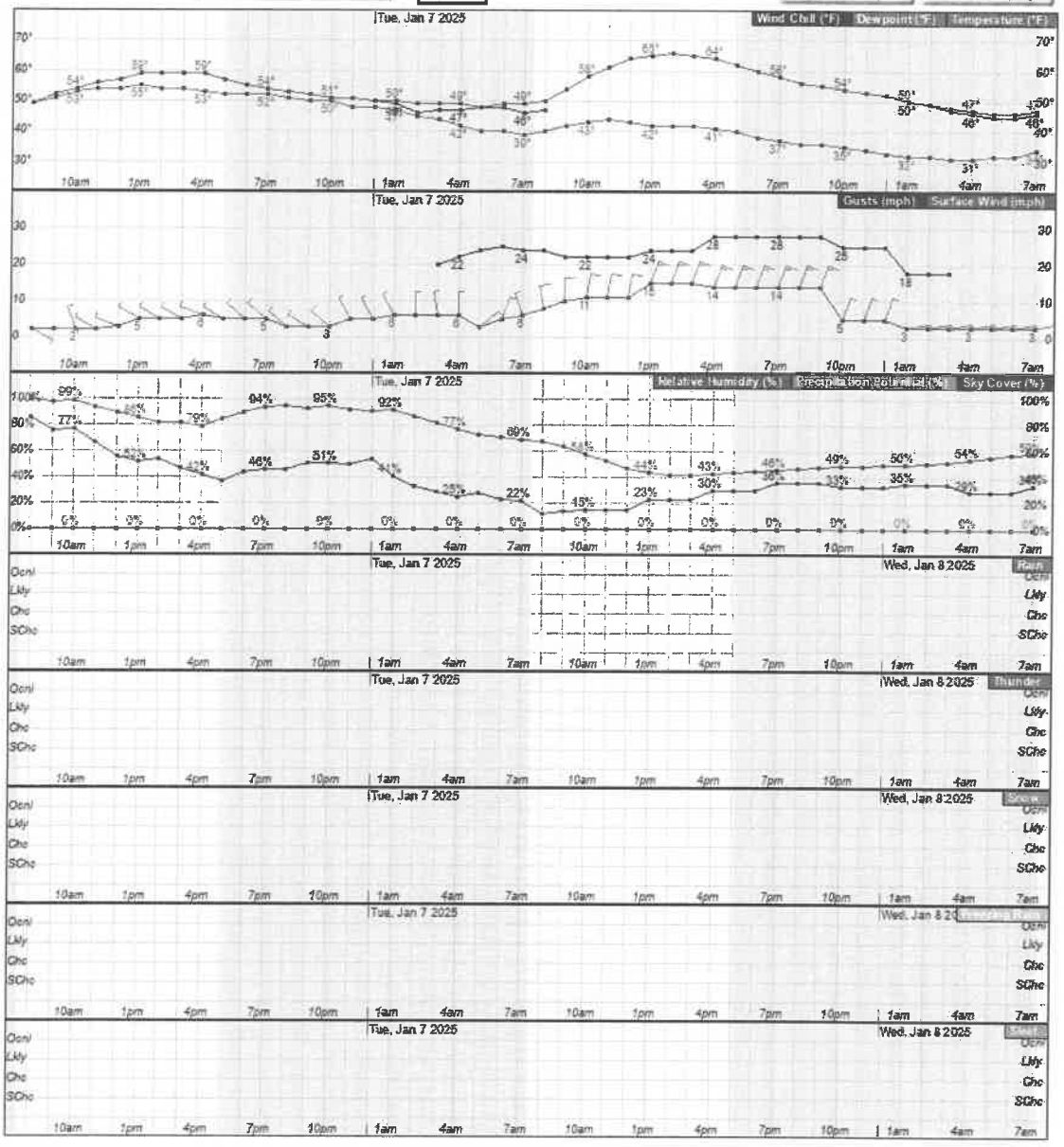
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Mon, Jan 6 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Extremely Critical Fire Weather in Southern California; Winter Storm To Impact the Southern U.S.

High winds and low relative humidity will produce critical to extremely critical fire weather in southern California through Thursday. Impactful wintry weather is becoming more likely Thursday morning through Friday evening for portions of Texas into the Lower Mississippi Valley and Mid-South before possibly moving through the Mid-Atlantic on Saturday. Winter Storm Watches are being raised. Read More >

Hazardous Weather Conditions

- Wind Advisory until January 8, 10:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
49°F
9°C

Humidity	58%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	35°F (2°C)
Visibility	NA
Last update	07 Jan 05:00 AM PST

Extended Forecast for
Oakland CA

NOW until 10:00am Wed	Today	Tonight	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday	Friday Night
	Click here for hazard details and duration	Wind Advisory						
Wind Advisory	High: 64 °F	Low: 49 °F	High: 64 °F	Low: 43 °F	High: 65 °F	Low: 44 °F	High: 62 °F	Low: 44 °F
	Sunny	Mostly Clear	Sunny	Mostly Clear	Sunny	Mostly Clear	Sunny	Mostly Clear

Detailed Forecast

Today
Sunny, with a high near 64. North wind 8 to 14 mph, with gusts as high as 29 mph.

Tonight
Mostly clear, with a low around 49. North wind 6 to 14 mph becoming west after midnight. Winds could gust as high as 33 mph.

Wednesday
Sunny, with a high near 64. East wind around 6 mph becoming north in the afternoon.

Wednesday Night
Mostly clear, with a low around 43. Light north northeast wind.

Thursday
Sunny, with a high near 65. Calm wind becoming north northeast 5 to 7 mph in the morning.

Thursday Night
Mostly clear, with a low around 44.

Friday
Sunny, with a high near 62.

Friday Night
Mostly clear, with a low around 44.

Saturday
Sunny, with a high near 63.

Saturday Night
Clear, with a low around 43.

Sunday
Sunny, with a high near 62.

Sunday Night
Mostly clear, with a low around 43.

Monday
Sunny, with a high near 61.



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 12:31 am PST Jan 7, 2025

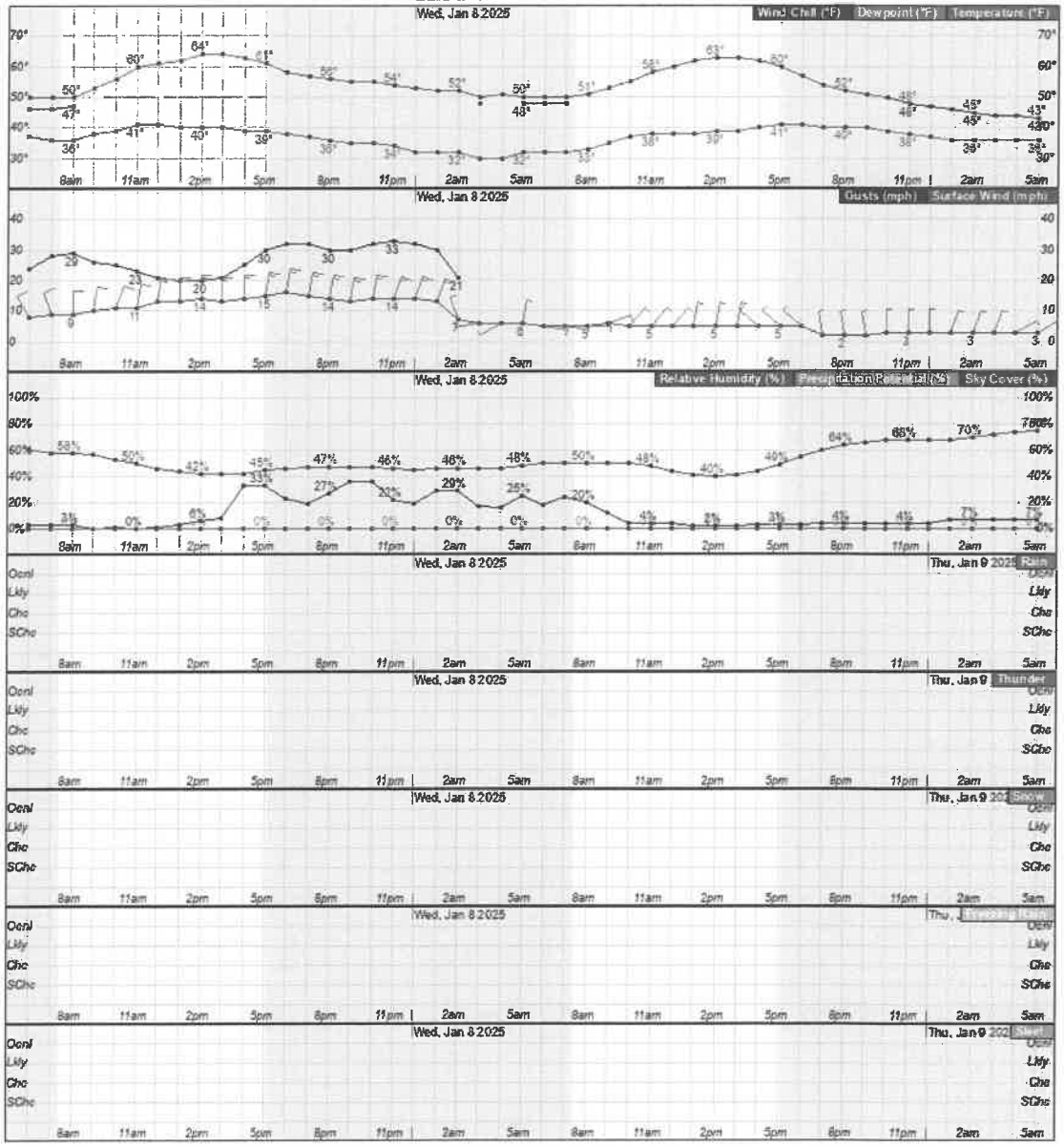
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 6am Tue, Jan 7 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Extremely Critical Fire Weather in Southern California; Winter Storm To Impact the Southern U.S.

High winds and low relative humidity will continue critical to extremely critical fire weather in southern California through Thursday. A winter storm is expected to bring major impacts from areas of heavy snow, sleet, and freezing rain to portions of the southern Plains beginning on Thursday before intensifying as it shifts across the Mid-South Friday through Saturday morning. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
65°F
18°C

Humidity	30%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	33°F (1°C)
Visibility	NA
Last update	08 Jan 02:00 PM PST

Extended Forecast for
Oakland CA

This Afternoon	Tonight	Thursday	Thursday Night	Friday	Friday Night	Saturday	Saturday Night	Sunday
								
High: 63 °F	**Low: 44 °F**	**High: 65 °F**	**Low: 44 °F**	**High: 62 °F**	**Low: 43 °F**	**High: 63 °F**	**Low: 44 °F**	**High: 62 °F**
Sunny	Mostly Clear	Sunny	Clear	Sunny	Partly Cloudy	Sunny	Clear	Sunny

Detailed Forecast

This Afternoon
Sunny, with a high near 63. North wind around 9 mph.

Tonight
Mostly clear, with a low around 44. Northwest wind around 5 mph becoming calm after midnight.

Thursday
Sunny, with a high near 65. Calm wind becoming north 5 to 7 mph in the morning.

Thursday Night
Clear, with a low around 44. Light and variable wind.

Friday
Sunny, with a high near 62. Light and variable wind.

Friday Night
Partly cloudy, with a low around 43.

Saturday
Sunny, with a high near 63.

Saturday Night
Clear, with a low around 44.

Sunday
Sunny, with a high near 62.

Sunday Night
Clear, with a low around 43.

Monday
Sunny, with a high near 61.

Monday Night
Clear, with a low around 42.

Tuesday
Sunny, with a high near 61.



Forecast Area

ABOUT THIS FORECAST

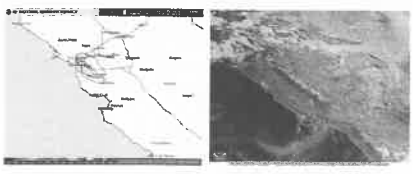
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 1:12 pm PST Jan 8, 2025

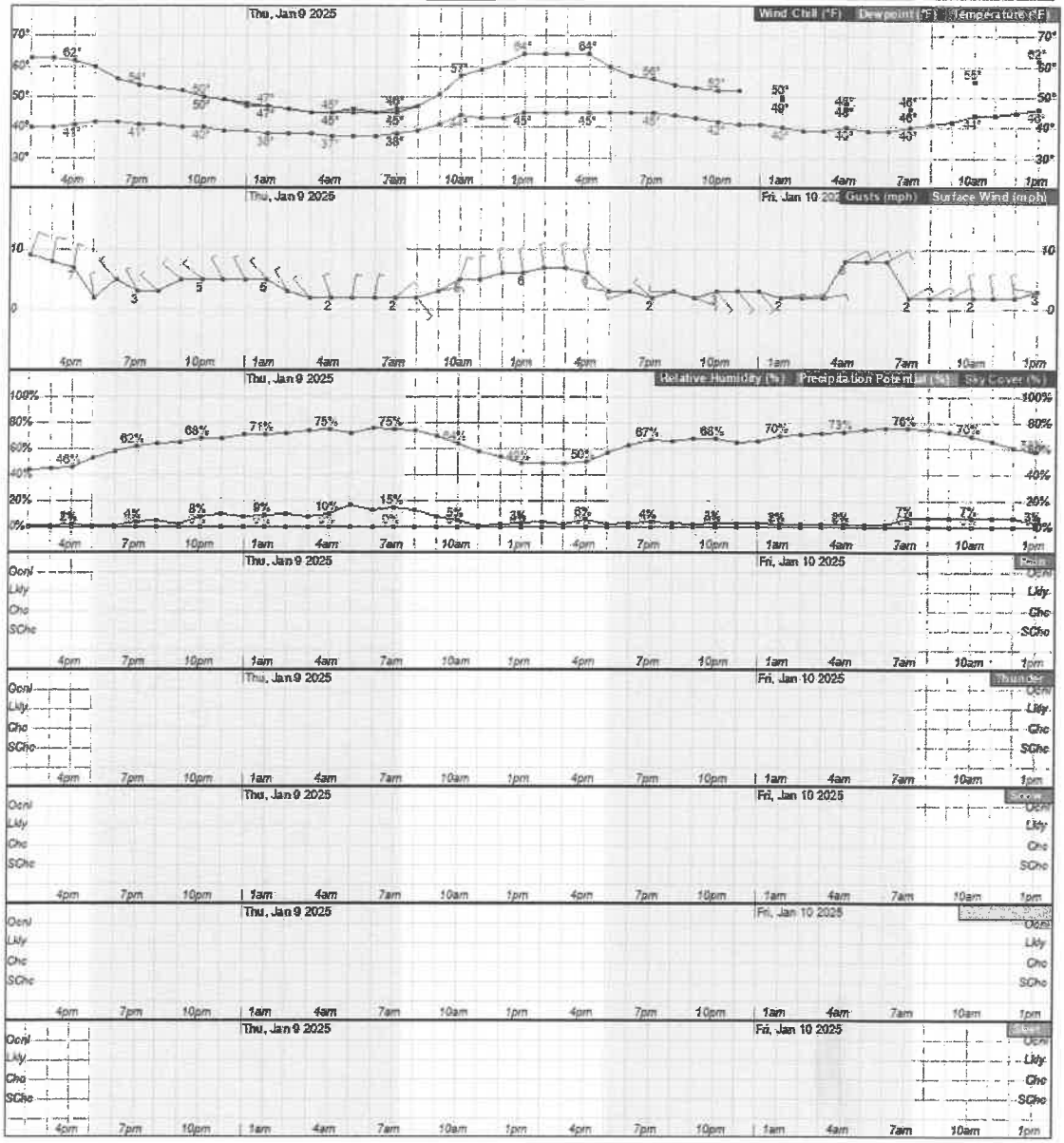
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 2pm Wed, Jan 8 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Critical Fire Weather Conditions Over Southern California; Winter Storm to Impact the Southern U.S.

High winds and low relative humidity will continue to support critical fire weather conditions in southern California through Friday. Red Flag Warnings remain in effect. A winter storm is expected to bring snow from southeast Oklahoma through western North Carolina through Saturday. Snow will transition to sleet and freezing rain across the ArkLaTex through the Southeast into the Mid-Atlantic. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
63°F
17°C

Humidity	39%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	38°F (3°C)
Visibility	NA
Last update	09 Jan 12:00 PM PST

Extended Forecast for
Oakland CA

This Afternoon	Tonight	Friday	Friday Night	Saturday	Saturday Night	Sunday	Sunday Night	Monday
High: 65 °F	Low: 44 °F	High: 62 °F	Low: 43 °F	High: 64 °F	Low: 44 °F	High: 61 °F	Low: 41 °F	High: 60 °F
Sunny	Clear	Sunny	Mostly Clear	Sunny	Clear	Sunny	Mostly Clear	Sunny

Detailed Forecast

This Afternoon
Sunny, with a high near 65. North wind 8 to 10 mph.

Tonight
Clear, with a low around 44. West northwest wind around 6 mph becoming calm after midnight.

Friday
Sunny, with a high near 62. East northeast wind around 5 mph becoming calm in the morning.

Friday Night
Mostly clear, with a low around 43. Calm wind.

Saturday
Sunny, with a high near 64. Light north wind increasing to 5 to 9 mph in the morning.

Saturday Night
Clear, with a low around 44.

Sunday
Sunny, with a high near 61.

Sunday Night
Mostly clear, with a low around 41.

Monday
Sunny, with a high near 60.

Monday Night
Clear, with a low around 41.

Tuesday
Sunny, with a high near 60.

Tuesday Night
Clear, with a low around 40.

Wednesday
Sunny, with a high near 60.



Forecast Area

ABOUT THIS FORECAST

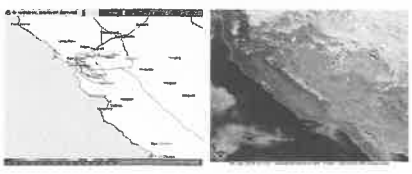
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

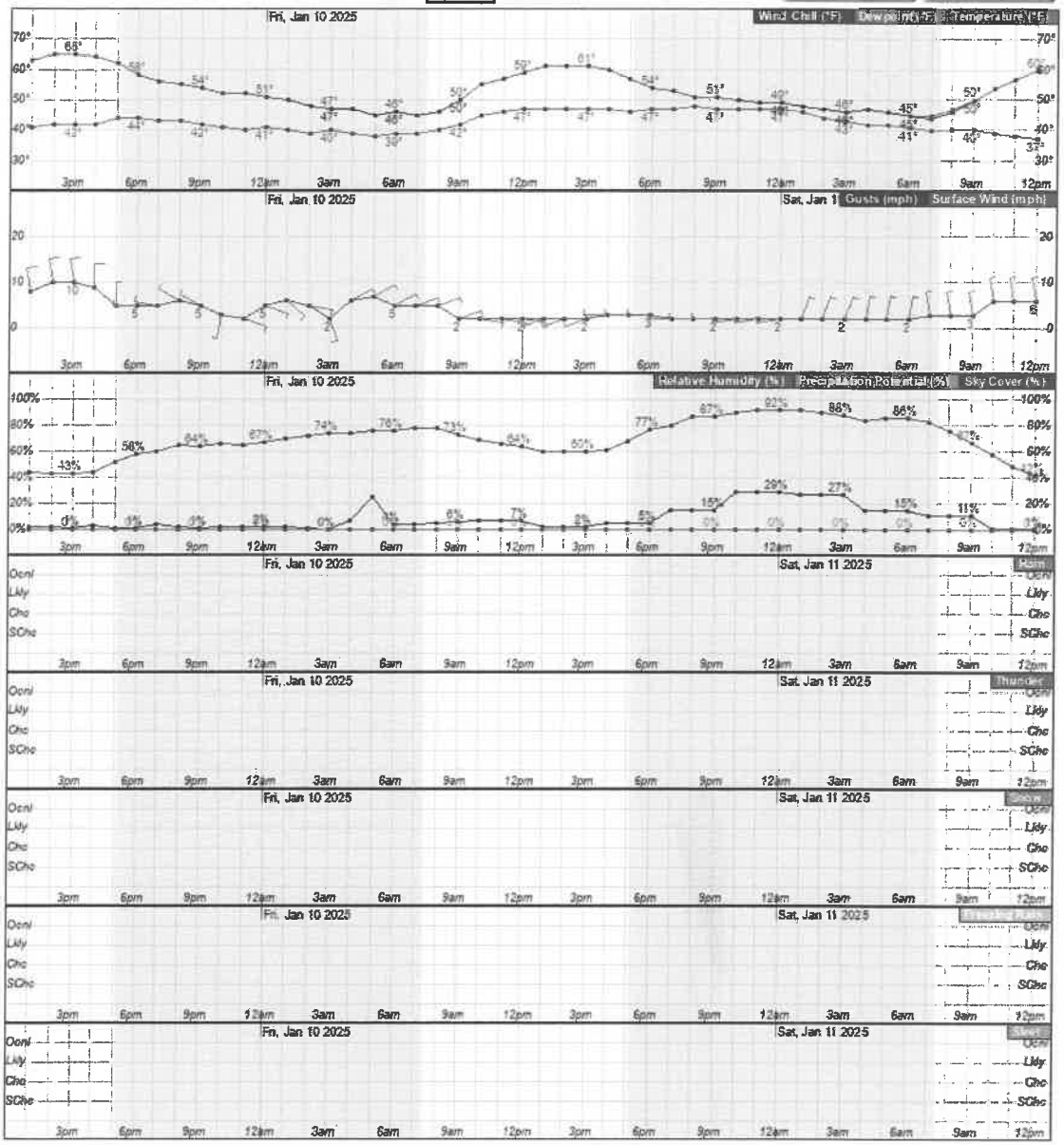
Last Update: 12:26 pm PST Jan 9, 2025

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 1pm Thu, Jan 9 2025 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Critical to Extremely Critical Fire Weather Continues for Coastal Southern California; Arctic Blast to Chill the East

Critical to extremely critical fire weather conditions will continue for southern California through Wednesday due to moderate to locally strong Santa Ana winds. Red Flag Warnings are in effect. A fresh Arctic blast will impact the eastern half of the U.S. through the middle of this week before milder temperatures briefly return by week's end. Heavy lake effect snow is expected in the Great Lakes. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
42°F
6°C

Humidity	83%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	37°F (3°C)
Visibility	NA
Last update	14 Jan 08:00 AM PST

Extended Forecast for
Oakland CA

Today	Tonight	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday	Friday Night	Saturday
								
High: 61 °F	**Low: 41 °F**	**High: 63 °F**	**Low: 41 °F**	**High: 62 °F**	**Low: 44 °F**	**High: 58 °F**	**Low: 44 °F**	**High: 58 °F**
Sunny	Mostly Clear	Sunny	Clear	Sunny	Mostly Clear	Mostly Sunny	Partly Cloudy	Mostly Sunny

Detailed Forecast

Today
Sunny, with a high near 61. Calm wind becoming west northwest around 6 mph in the afternoon.

Tonight
Mostly clear, with a low around 41. Light and variable wind.

Wednesday
Sunny, with a high near 63. Calm wind becoming northeast around 5 mph in the afternoon.

Wednesday Night
Clear, with a low around 41. Calm wind.

Thursday
Sunny, with a high near 62. Light east northeast wind.

Thursday Night
Mostly clear, with a low around 44.

Friday
Mostly sunny, with a high near 58.

Friday Night
Partly cloudy, with a low around 44.

Saturday
Mostly sunny, with a high near 58.

Saturday Night
Mostly clear, with a low around 41.

Sunday
Sunny, with a high near 56.

Sunday Night
Mostly clear, with a low around 40.

M.L.King Day
Sunny, with a high near 58.



Forecast Area

ABOUT THIS FORECAST

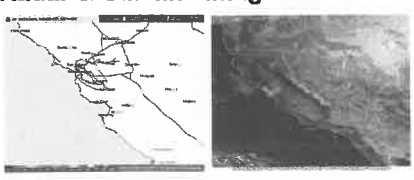
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 12:28 am PST Jan 14, 2025

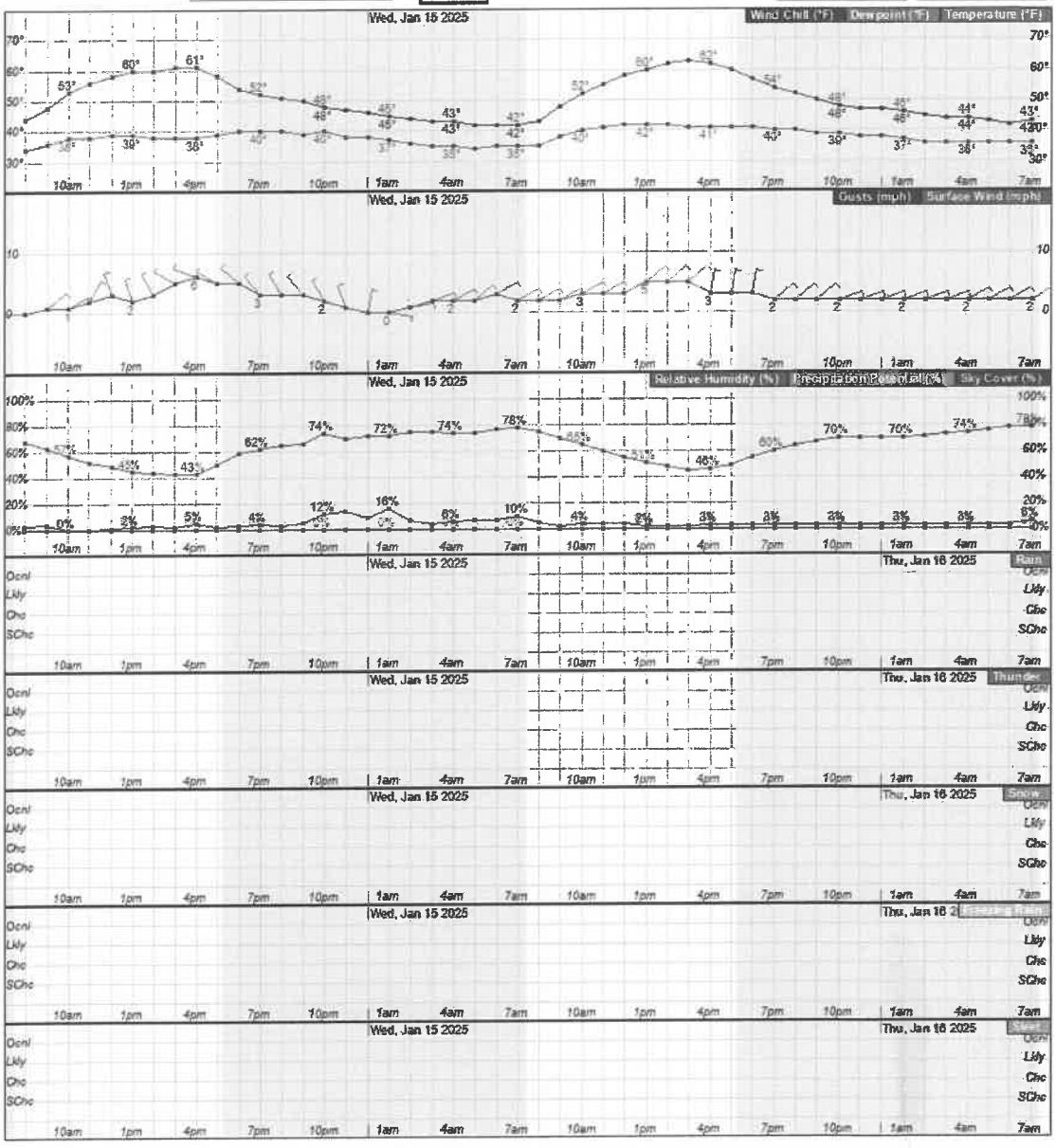
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Tue, Jan 14 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Critical Fire Weather Conditions Continue for Southern California; Much Colder in the Central and Eastern U.S.

Critical fire weather conditions will continue for coastal southern California through today due to moderate to locally strong Santa Ana winds. Particularly Dangerous Situation Red Flag Warnings remain in effect. Cold temperatures continue today from the Midwest to the central Appalachians, with a brief warm up for the end of the week. Another Arctic cold snap is expected over the weekend. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
43°F
6°C

Humidity	80%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	37°F (3°C)
Visibility	NA
Last update	15 Jan 07:00 AM PST

Extended Forecast for
Oakland CA

Today	Tonight	Thursday	Thursday Night	Friday	Friday Night	Saturday	Saturday Night	Sunday
High: 64 °F	**Low: 42 °F**	**High: 63 °F**	**Low: 43 °F**	**High: 58 °F**	**Low: 43 °F**	**High: 60 °F**	**Low: 42 °F**	**High: 59 °F**
Sunny	Clear	Sunny	Mostly Clear	Mostly Sunny	Partly Cloudy	Patchy Fog then Sunny	Mostly Clear	Sunny

Detailed Forecast

Today
Sunny, with a high near 64. Calm wind becoming west southwest around 5 mph.

Tonight
Clear, with a low around 42. Calm wind.

Thursday
Sunny, with a high near 63. Calm wind.

Thursday Night
Mostly clear, with a low around 43. Calm wind.

Friday
Mostly sunny, with a high near 58. Calm wind becoming west southwest around 6 mph in the afternoon.

Friday Night
Partly cloudy, with a low around 43.

Saturday
Patchy fog before 7am. Otherwise, mostly sunny, with a high near 60.

Saturday Night
Mostly clear, with a low around 42.

Sunday
Sunny, with a high near 59.

Sunday Night
Mostly clear, with a low around 41.

M.L.King Day
Sunny, with a high near 59.

Monday Night
Mostly clear, with a low around 41.

Tuesday
Sunny, with a high near 60.



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

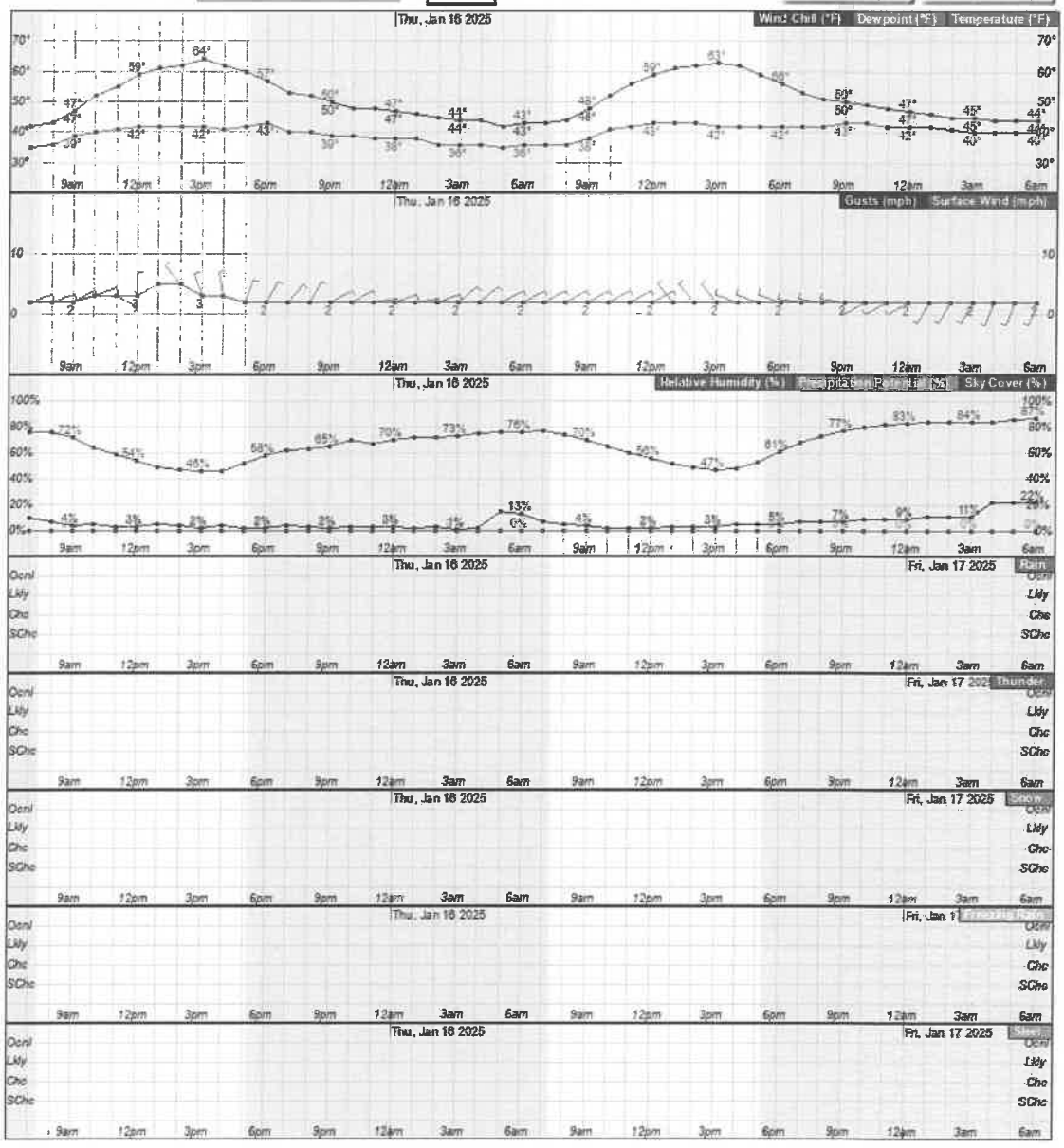
Last Update: 12:26 am PST Jan 15, 2025

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 7am Wed, Jan 15 2025 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Arctic Air Spreads South and East from Rockies Friday through Next Week

Arctic air is plunging across the Rockies and Great Plains and will reach the Deep South and Great Lakes Saturday night, and the Eastern Seaboard by Sunday night, bringing dangerously cold wind chill temperatures. Snow and heavy winds could produce blizzard conditions in the Northern Plains Friday. There is a wintry mix expected in the Midwest/Northeast and rain for the Southeast into Saturday. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
52°F
11°C

Humidity	79%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	45°F (7°C)
Visibility	NA
Last update	17 Jan 11:00 AM PST

Extended Forecast for
Oakland CA

Today	Tonight	Saturday	Saturday Night	Sunday	Sunday Night	M.L.King Day	Monday Night	Tuesday
								
High: 54 °F	**Low: 43 °F**	**High: 60 °F**	**Low: 40 °F**	**High: 58 °F**	**Low: 41 °F**	**High: 62 °F**	**Low: 41 °F**	**High: 62 °F**
Mostly Sunny	Mostly Cloudy	Patchy Fog then Sunny	Mostly Clear	Patchy Fog then Sunny	Partly Cloudy	Sunny	Mostly Clear	Mostly Sunny

Detailed Forecast

Today
Mostly sunny, with a high near 54. West wind 3 to 6 mph.

Tonight
Mostly cloudy, with a low around 43. Calm wind.

Saturday
Patchy fog before 9am. Otherwise, partly sunny, then gradually becoming sunny, with a high near 60. Light and variable wind.

Saturday Night
Mostly clear, with a low around 40. Calm wind.

Sunday
Patchy fog before 8am. Otherwise, sunny, with a high near 58. Light and variable wind.

Sunday Night
Partly cloudy, with a low around 41.

M.L.King Day
Sunny, with a high near 62.

Monday Night
Mostly clear, with a low around 41.

Tuesday
Mostly sunny, with a high near 62.

Tuesday Night
Mostly clear, with a low around 41.

Wednesday
Sunny, with a high near 62.

Wednesday Night
Mostly clear, with a low around 43.

Thursday
Sunny, with a high near 65.



Forecast Area

ABOUT THIS FORECAST

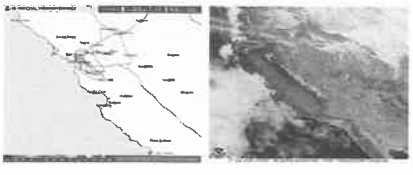
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 11:31 am PST Jan 17, 2025

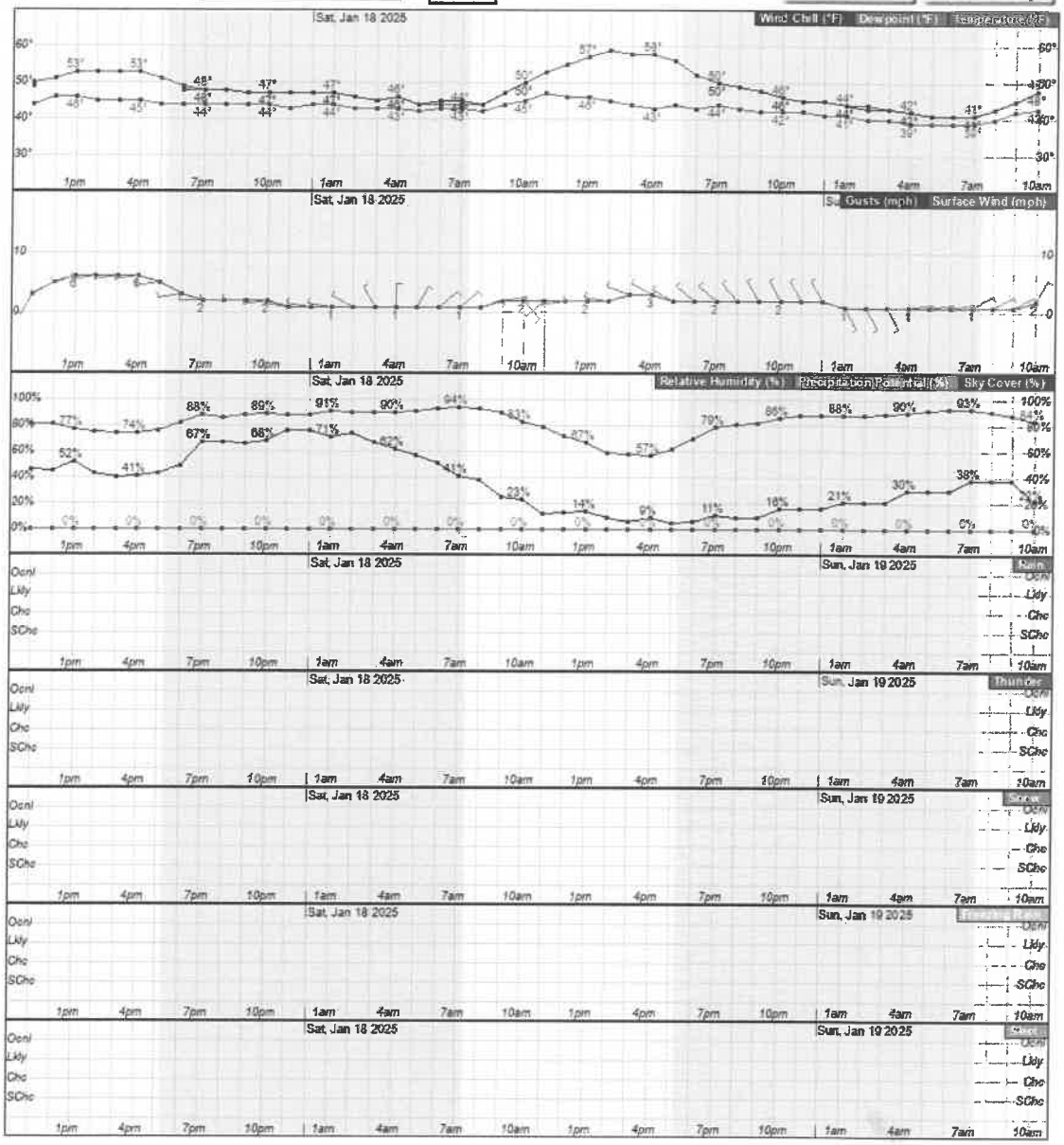
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 11am Fri, Jan 17 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Dangerous Cold Weather for Most of the Country; Rare Southern Winter Storm; Fire Weather Concerns for Southern California

Arctic air is encompassing the eastern two-thirds of the United States. A major winter storm is bringing heavy snow as well as areas of sleet and freezing rain from south Texas through the eastern Carolinas. Moderate to strong Santa Ana winds and low humidity will maintain Critical to Extremely Critical fire weather conditions in southern California. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
40°F
4°C

Humidity	70%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	31°F (-1°C)
Visibility	NA
Last update	21 Jan 08:00 AM PST

Extended Forecast for
Oakland CA

Today	Tonight	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday	Friday Night	Saturday
								
High: 62 °F	**Low: 39 °F**	**High: 64 °F**	**Low: 42 °F**	**High: 65 °F**	**Low: 43 °F**	**High: 62 °F**	**Low: 42 °F**	**High: 57 °F**
Sunny	Mostly Clear	Sunny	Clear	Sunny	Partly Cloudy	Mostly Sunny	Mostly Clear	Slight Chance Rain

Detailed Forecast

Today
Sunny, with a high near 62. Northeast wind 5 to 8 mph becoming calm.

Tonight
Mostly clear, with a low around 39. North northwest wind around 5 mph becoming calm in the evening.

Wednesday
Sunny, with a high near 64. Calm wind becoming north northwest around 5 mph in the afternoon.

Wednesday Night
Clear, with a low around 42. Calm wind.

Thursday
Sunny, with a high near 65. Northeast wind 3 to 5 mph.

Thursday Night
Partly cloudy, with a low around 43.

Friday
Mostly sunny, with a high near 62.

Friday Night
Mostly clear, with a low around 42.

Saturday
A slight chance of rain. Mostly sunny, with a high near 57.

Saturday Night
A slight chance of rain before 10pm. Mostly clear, with a low around 39.

Sunday
Sunny, with a high near 57.

Sunday Night
Mostly clear, with a low around 38.

Monday
Sunny, with a high near 58.



Forecast Area

ABOUT THIS FORECAST

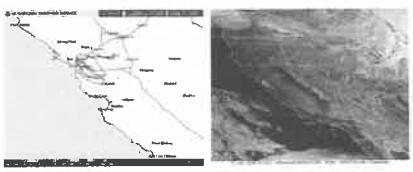
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

XML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 5:36 am PST Jan 21, 2025

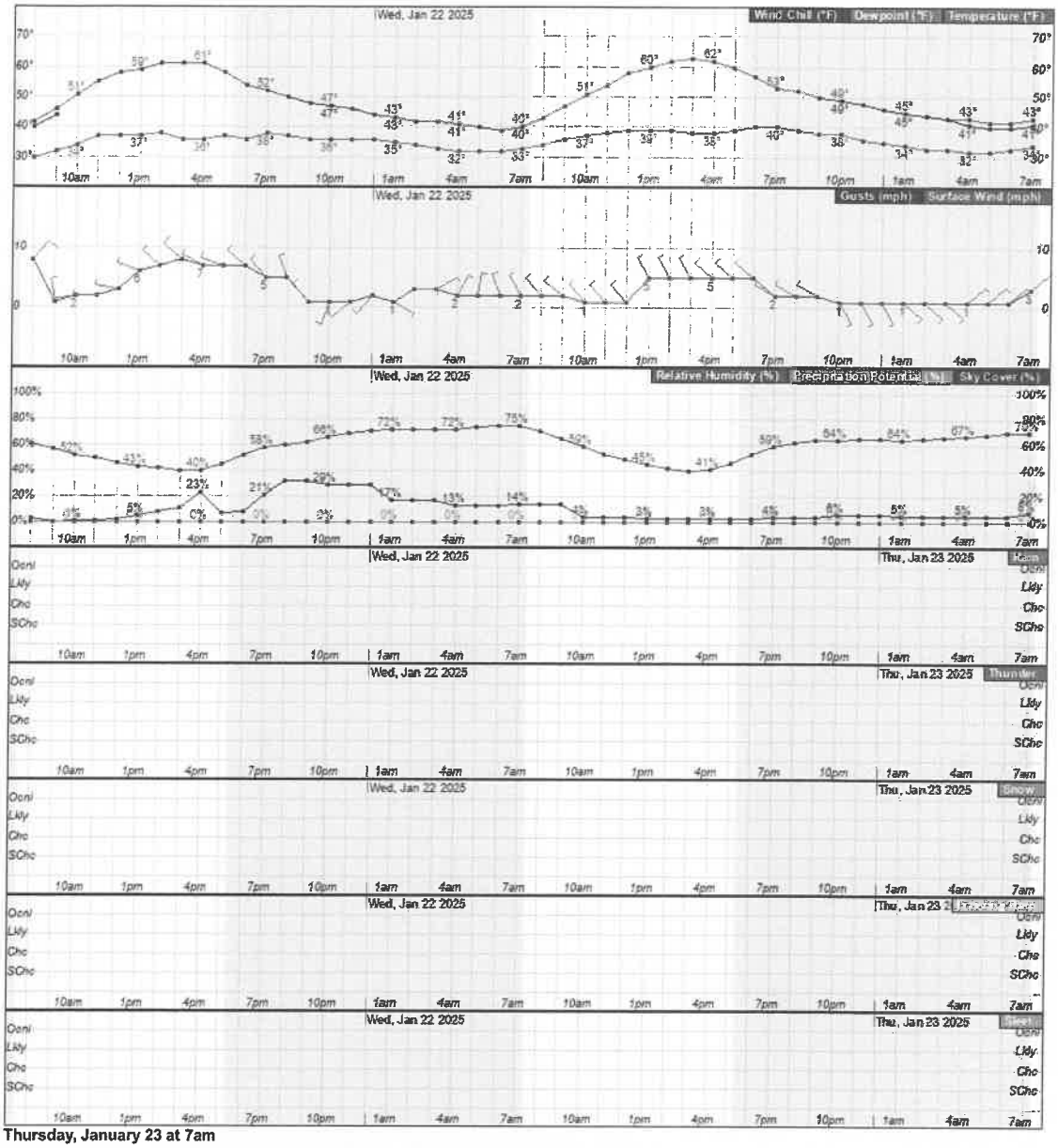
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Tue, Jan 21 2025 Submit

Back 2 Days | Forward 2 Days



Thursday, January 23 at 7am

Temperature: 43 °F Dewpoint: 34 °F Wind Chill: 41 °F Surface Wind: NE 3mph
Sky Cover (%): 8% Precipitation Potential (%): 0% Relative Humidity (%): 70%
Rain: <10% Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Rare Southern U.S. Winter Storm; Dangerous Cold Weather For Much of the Eastern U.S.; Critical Fire Weather for Southern California

A rare winter storm impacting the Southern U.S. will move offshore Wednesday morning. Behind the storm, arctic air will continue encompassing the eastern two-thirds of the Nation with only a slow return to normal temperatures expected by the end of the week. Moderate to strong Santa Ana winds and low humidity will maintain Critical fire weather conditions in southern California into Thursday. Read More >

Hazardous Weather Conditions

- Frost Advisory in effect from January 22, 12:00 AM PST until January 22, 10:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
41°F
5°C

Humidity	87%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	37°F (3°C)
Visibility	NA
Last update	22 Jan 06:00 AM PST

Extended Forecast for
Oakland CA

NOW until 10:00am Wed	Today	Tonight	Thursday	Thursday Night	Friday	Friday Night	Saturday	Saturday Night
Frost Advisory	*Click here for hazard details and duration*							
	High: 68 °F	Low: 42 °F	High: 66 °F	Low: 43 °F	High: 62 °F	Low: 43 °F	High: 59 °F	Low: 40 °F
	Sunny	Clear	Sunny	Mostly Clear	Partly Sunny	Mostly Clear	Sunny	Mostly Clear

Detailed Forecast

Today
Sunny, with a high near 68. Calm wind becoming west northwest around 5 mph in the afternoon.

Tonight
Clear, with a low around 42. Light northeast wind.

Thursday
Sunny, with a high near 66. East northeast wind around 6 mph.

Thursday Night
Mostly clear, with a low around 43. Calm wind.

Friday
Partly sunny, with a high near 62. Light and variable wind.

Friday Night
Mostly clear, with a low around 43.

Saturday
Sunny, with a high near 59.

Saturday Night
Mostly clear, with a low around 40.

Sunday
Sunny, with a high near 60.

Sunday Night
Clear, with a low around 39.

Monday
Sunny, with a high near 61.

Monday Night
Clear, with a low around 39.

Tuesday
Sunny, with a high near 60.



Forecast Area

ABOUT THIS FORECAST

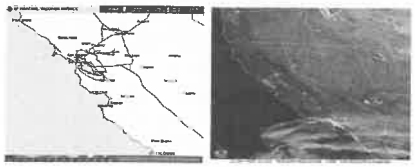
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 5:20 am PST Jan 22, 2025

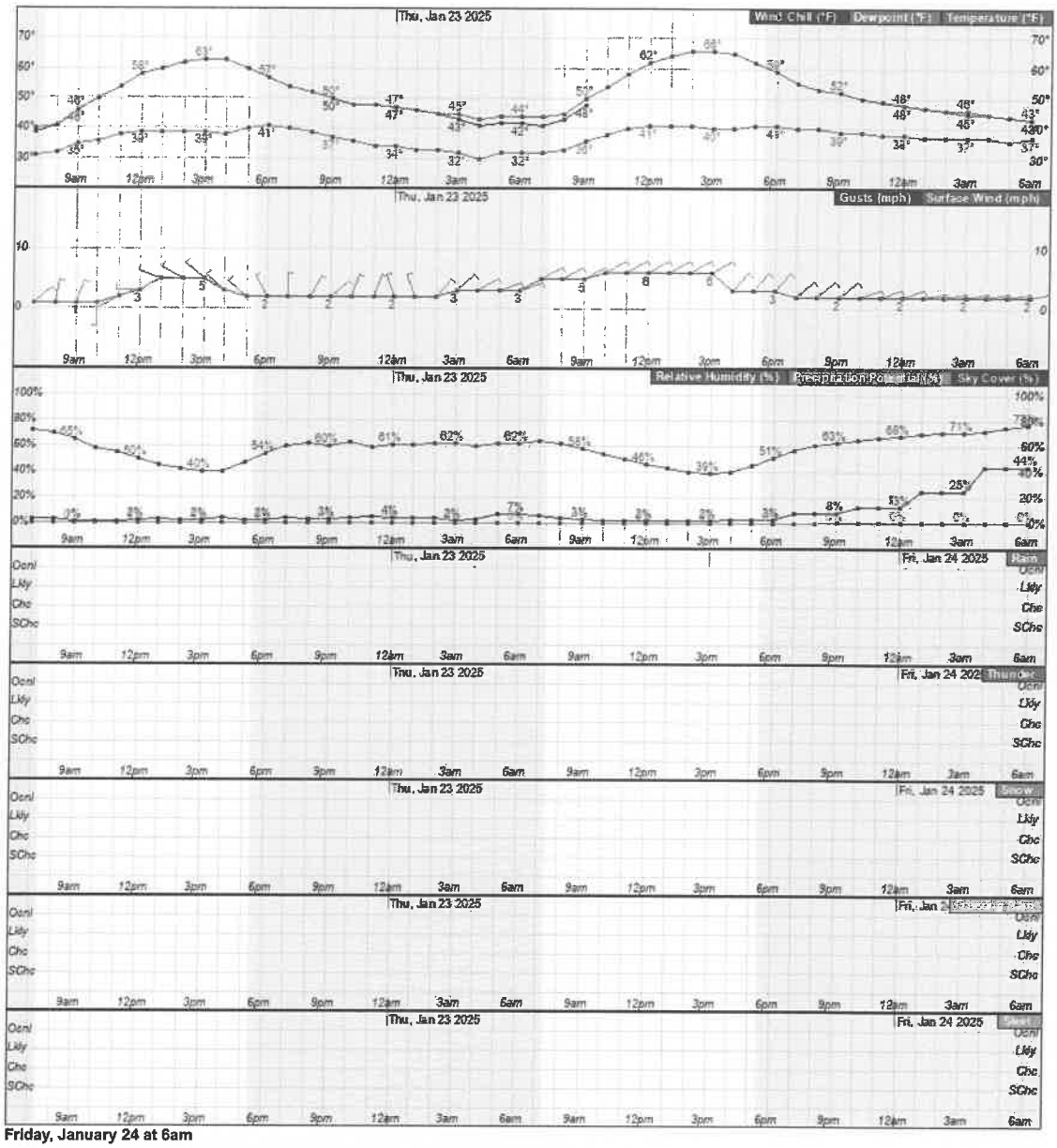
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 7am Wed, Jan 22 2025 Submit

Back 2 Days | Forward 2 Days



Friday, January 24 at 6am

Temperature: 43 °F Dewpoint: 37 °F Wind Chill: 43 °F Surface Wind: E 2mph
Sky Cover (%): 44% Precipitation Potential (%): 0% Relative Humidity (%): 77%
Rain: <10% Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Winter Storm Moving through the Southwest U.S.; Arctic Front to Bring Gusty Winds and Snow Squalls in the Northeast U.S.

A winter storm continues to produce showers and thunderstorms, and higher-elevation snow over parts of the southwest U.S. through Tuesday. There is a risk of debris flows on and below recent burn scars. An arctic front will cross the Great Lakes and New England tonight into Wednesday bringing gusty winds and snow squalls which could make for difficult travel. Read More >

Hazardous Weather Conditions

- Freeze Watch in effect from January 28, 01:00 AM PST until January 30, 09:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
42°F
6°C

Humidity	61%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	30°F (-1°C)
Visibility	NA
Last update	27 Jan 09:00 AM PST

Extended Forecast for
Oakland CA

Click here for hazard details and duration

Today	Tonight	Tuesday	Tuesday Night	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday
			Freeze Watch					
High: 60 °F	Low: 39 °F	High: 59 °F	Low: 42 °F	High: 58 °F	Low: 43 °F	High: 57 °F	Low: 43 °F	High: 58 °F
Sunny	Clear	Sunny	Mostly Clear	Mostly Sunny	Partly Cloudy	Partly Sunny	Mostly Cloudy then Slight Chance Rain	Chance Rain

Detailed Forecast

Today
Sunny, with a high near 60. Calm wind becoming west around 5 mph in the afternoon.

Tonight
Clear, with a low around 39. Calm wind.

Tuesday
Sunny, with a high near 59. Light and variable wind.

Tuesday Night
Mostly clear, with a low around 42. Calm wind.

Wednesday
Mostly sunny, with a high near 58. Light and variable wind.

Wednesday Night
Partly cloudy, with a low around 43.

Thursday
Partly sunny, with a high near 57.

Thursday Night
A slight chance of rain after 4am. Mostly cloudy, with a low around 43.

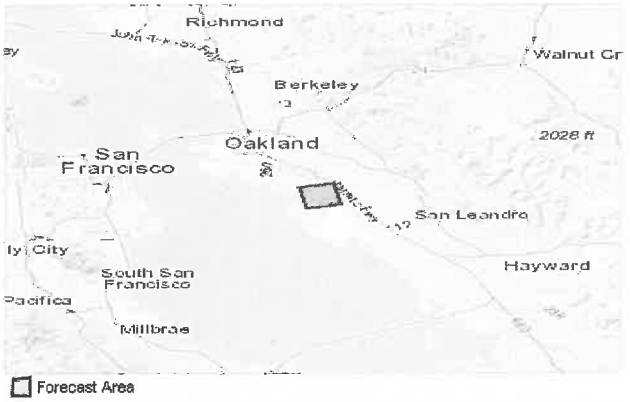
Friday
A chance of rain, mainly after 10am. Mostly cloudy, with a high near 58.

Friday Night
A chance of rain. Cloudy, with a low around 47.

Saturday
A chance of rain. Mostly cloudy, with a high near 62.

Saturday Night
A chance of rain. Mostly cloudy, with a low around 49.

Sunday
A chance of rain. Partly sunny, with a high near 63.



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 2:53 am PST Jan 27, 2025

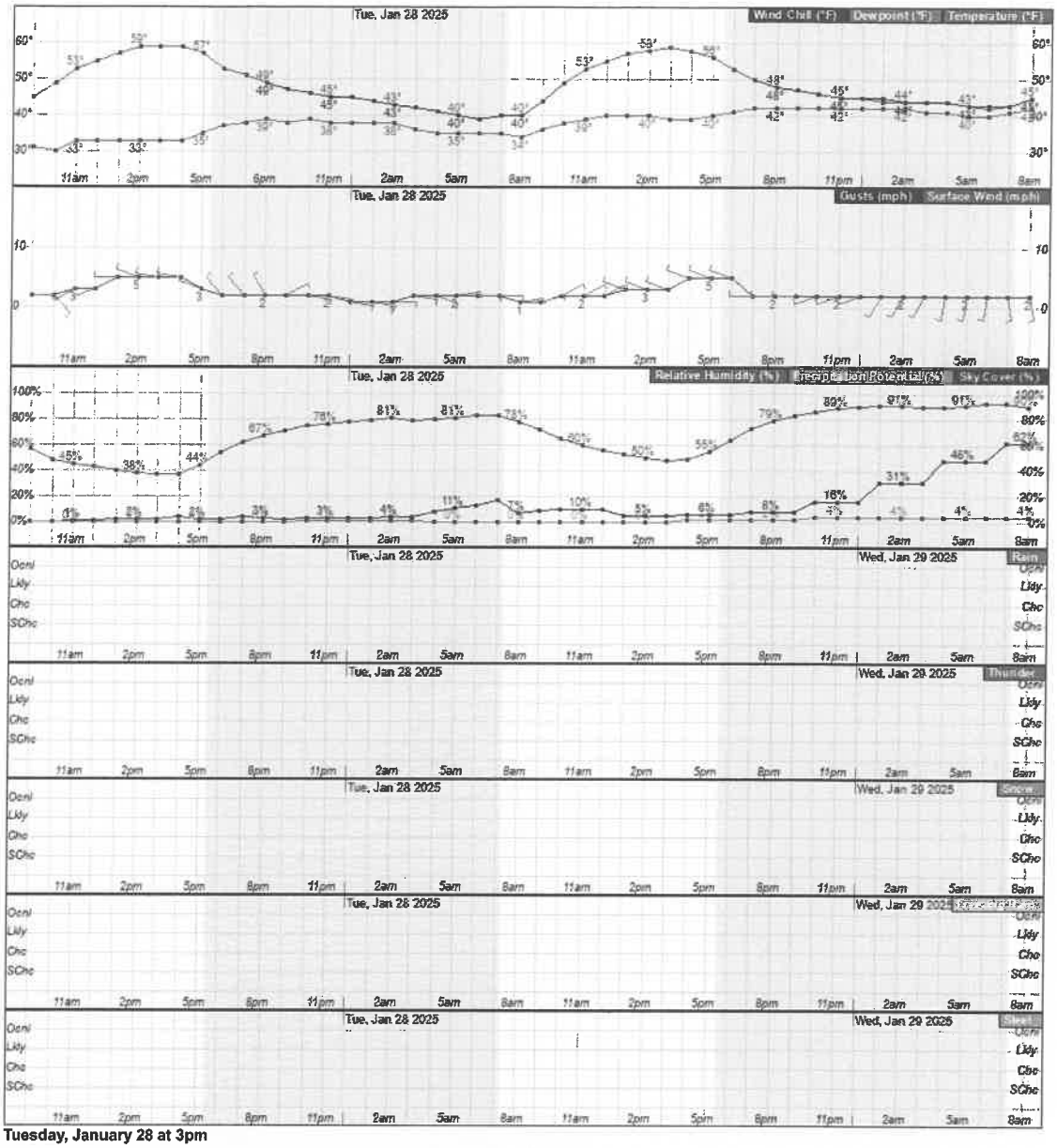
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 9am Mon, Jan 27 2025 Submit

Back 2 Days | Forward 2 Days



Tuesday, January 28 at 3pm

Temperature: 59 °F Dewpoint: 39 °F Wind Chill: N/A Surface Wind: WNW 3mph
Sky Cover (%): 5% Precipitation Potential (%): 0% Relative Humidity (%): 48%
Rain: <10% Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Snow Squalls in the Northeast U.S.; Tracking Storm Moving into the Southern U.S.

A clipper storm and arctic front will trigger additional snow showers and squalls over the eastern Great Lakes, Upstate New York, interior New England, and the northern Mid-Atlantic states into this evening making for hazardous travel. A storm crossing the southern Rockies with heavy snow today will move over the south-central U.S. Thursday with areas of severe thunderstorms and excessive rain. Read More >

Hazardous Weather Conditions

- Freeze Watch in effect from January 30, 01:00 AM PST until January 30, 09:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
49°F
9°C

Humidity	87%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	45°F (7°C)
Visibility	NA
Last update	29 Jan 06:00 AM PST

Extended Forecast for
Oakland CA

Click here for hazard details and duration

Today	Tonight	Thursday	Thursday Night	Friday	Friday Night	Saturday	Saturday Night	Sunday
	Freeze Watch							
			30 %	80%	90%	80%		
High: 56 °F	Low: 43 °F	High: 57 °F	Low: 45 °F	High: 57 °F	Low: 52 °F	High: 61 °F	Low: 54 °F	High: 61 °F
Patchy Fog then Partly Sunny	Mostly Cloudy	Patchy Fog then Mostly Sunny	Mostly Cloudy then Chance Rain	Rain	Rain	Rain	Rain Likely	Rain Likely

Detailed Forecast

Today
Patchy fog between 8am and 9am. Otherwise, partly sunny, with a high near 56. Calm wind becoming west around 5 mph in the afternoon.

Tonight
Mostly cloudy, with a low around 43. Calm wind.

Thursday
Patchy fog before 9am. Otherwise, cloudy, then gradually becoming mostly sunny, with a high near 57. Light and variable wind.

Thursday Night
A 30 percent chance of rain after 4am. Mostly cloudy, with a low around 45. Calm wind.

Friday
Rain, mainly after 10am. High near 57. South wind 3 to 7 mph. Chance of precipitation is 80%. New precipitation amounts between a tenth and quarter of an inch possible.

Friday Night
Rain. Low around 52. Chance of precipitation is 90%. New precipitation amounts between a quarter and half of an inch possible.

Saturday
Rain. High near 61. Chance of precipitation is 80%.

Saturday Night
Rain likely. Cloudy, with a low around 54.

Sunday
Rain likely. Cloudy, with a high near 61.

Sunday Night
A chance of rain. Cloudy, with a low around 51.

Monday
A chance of rain. Cloudy, with a high near 59.

Monday Night
Rain. Cloudy, with a low around 47.

Tuesday
Rain. Mostly cloudy, with a high near 57.



Forecast Area

ABOUT THIS FORECAST

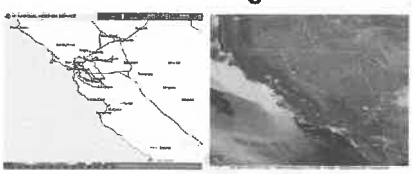
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 2:53 am PST Jan 29, 2025

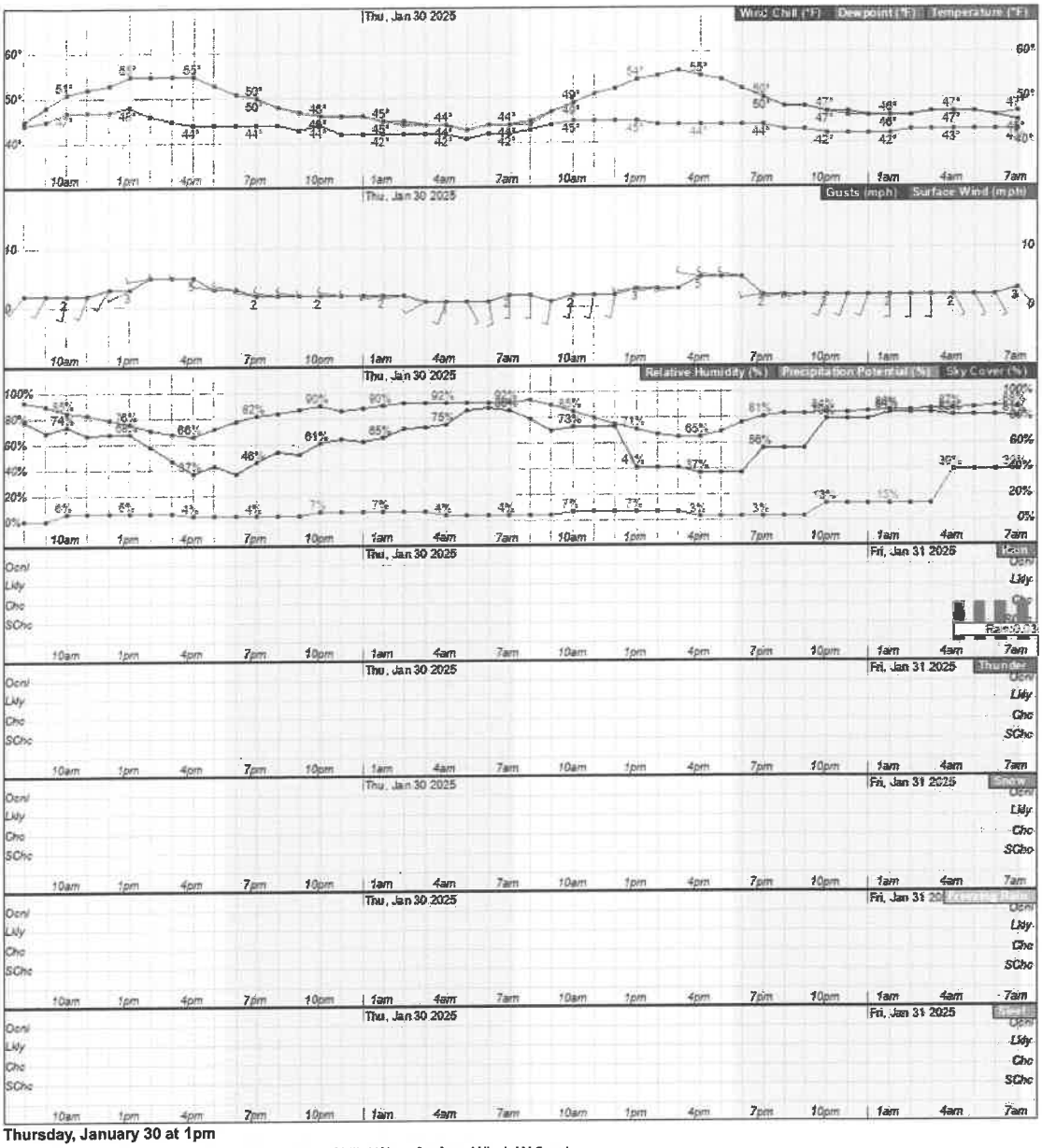
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Wed, Jan 29 2025 Submit

Back 2 Days | Forward 2 Days



Thursday, January 30 at 1pm

Temperature: 54 °F Dewpoint: 45 °F Wind Chill: N/A Surface Wind: W 3mph
Sky Cover (%): 41% Precipitation Potential (%): 7% Relative Humidity (%): 71%
Rain: <10% Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Severe Thunderstorms and Excessive Rainfall over the Southern U.S.; Pacific Storm to Impact Hawaii

A storm system will produce severe thunderstorms over and near Louisiana, and heavy to excessive rainfall from the Southern Plains through the Ohio River Valley today. A strong weather system will bring the potential for flash flooding, severe thunderstorms, strong to locally damaging non-thunderstorm winds, and high elevation snow to the Hawaiian Islands through Friday. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
48°F
9°C

Humidity	83%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	43°F (6°C)
Visibility	NA
Last update	30 Jan 07:00 AM PST

Extended Forecast for
Oakland CA

Today	Tonight	Friday	Friday Night	Saturday	Saturday Night	Sunday	Sunday Night	Monday
	 30%	 90%	 100%	 90%	 90%	 80%		
High: 56 °F	**Low: 45 °F**	**High: 57 °F**	**Low: 52 °F**	**High: 61 °F**	**Low: 54 °F**	**High: 59 °F**	**Low: 51 °F**	**High: 58 °F**
Partly Sunny	Chance Rain	Rain	Rain	Rain	Rain	Rain	Rain Likely	Rain

Detailed Forecast

Today
Partly sunny, with a high near 56. Calm wind becoming west around 5 mph in the afternoon.

Tonight
A 30 percent chance of rain, mainly after 4am. Increasing clouds, with a low around 45. Calm wind.

Friday
Rain, mainly after 10am. High near 57. South southeast wind 5 to 8 mph. Chance of precipitation is 90%. New precipitation amounts between a quarter and half of an inch possible.

Friday Night
Rain. Low around 52. South southeast wind 6 to 9 mph. Chance of precipitation is 100%. New precipitation amounts between a half and three quarters of an inch possible.

Saturday
Rain. High near 61. South wind 7 to 9 mph. Chance of precipitation is 90%. New precipitation amounts between a half and three quarters of an inch possible.

Saturday Night
Rain. Low around 54. Chance of precipitation is 90%. New precipitation amounts between a quarter and half of an inch possible.

Sunday
Rain. High near 59. Chance of precipitation is 80%.

Sunday Night
Rain likely, mainly after 4am. Cloudy, with a low around 51.

Monday
Rain. Cloudy, with a high near 58.

Monday Night
Rain. Cloudy, with a low around 48.

Tuesday
Rain. Mostly cloudy, with a high near 58.

Tuesday Night
Rain likely. Mostly cloudy, with a low around 44.

Wednesday
Rain likely. Mostly cloudy, with a high near 55.



Forecast Area

ABOUT THIS FORECAST

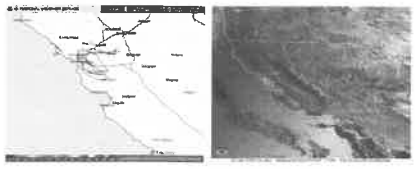
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 6:39 am PST Jan 30, 2025

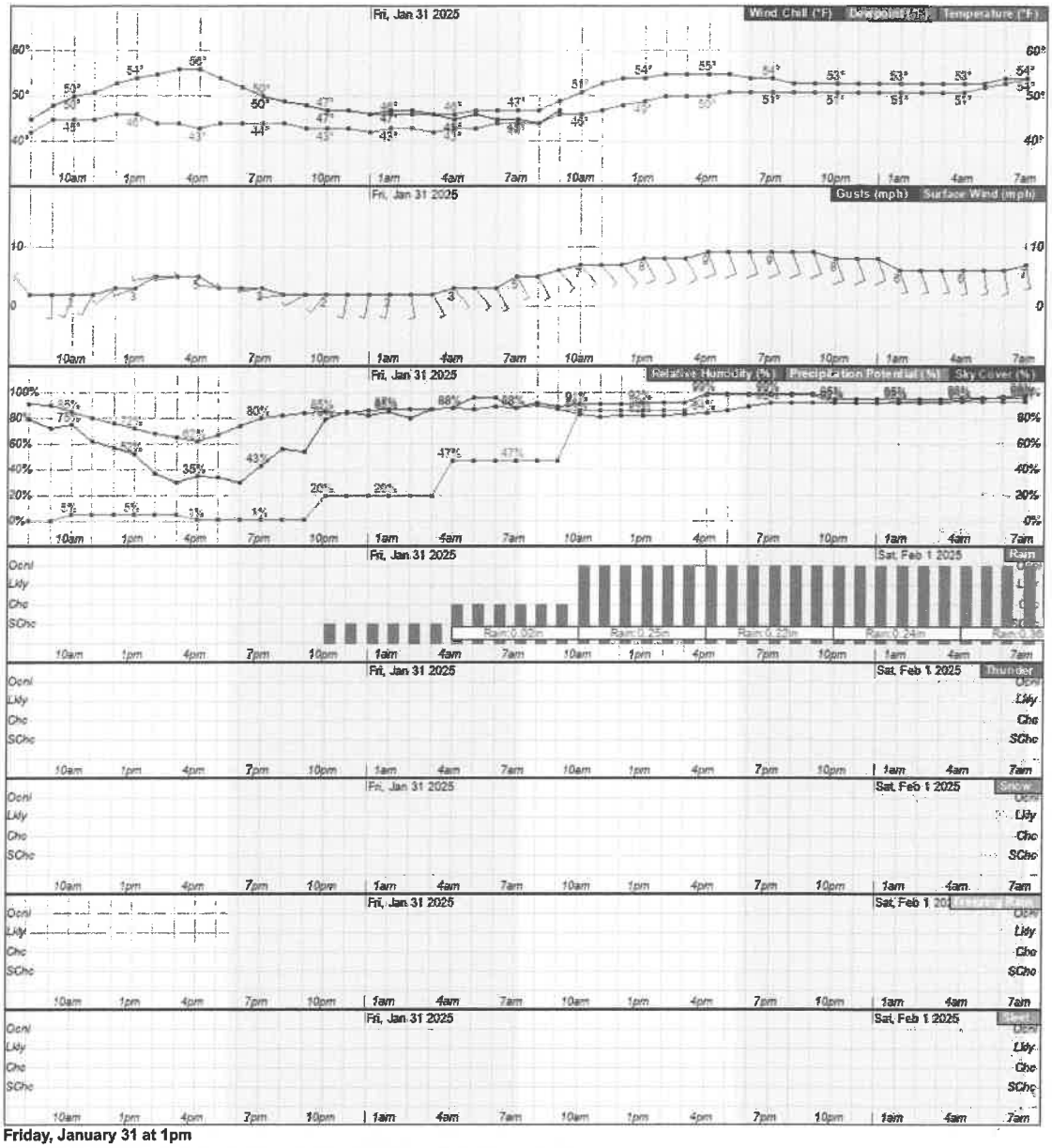
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Thu, Jan 30 2025 Submit

Back 2 Days | Forward 2 Days



Friday, January 31 at 1pm

Temperature: 54 °F Dewpoint: 49 °F Wind Chill: N/A Surface Wind: SSE 8mph

Sky Cover (%): 92% Precipitation Potential (%): 86% Relative Humidity (%): 82%

Rain: Occasional (80%-100%) Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Areas of Heavy Rain in the East; Prolonged Heavy Rain and Snowfall Event for the Northwest U.S.

A storm system crossing the eastern U.S. today will bring areas of heavy rain over West Virginia and northern Illinois. A prolonged atmospheric river event will continue to bring moderate to heavy rain to northern into central California through the Pacific Northwest with mountain snow in the Cascades and northern Rockies today into next week. Read More >

Hazardous Weather Conditions

- Flood Watch in effect from January 31, 12:00 PM PST until February 2, 10:00 PM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
48°F
9°C

Humidity	79%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	42°F (6°C)
Visibility	NA
Last update	31 Jan 07:00 AM PST

Extended Forecast for
Oakland CA

Click here for hazard details and duration

Today	Tonight	Saturday	Saturday Night	Sunday	Sunday Night	Monday	Monday Night	Tuesday
		Flood Watch						
100%	100%	100%	90%	90%	80%	80%		
High: 56 °F	Low: 51 °F	High: 60 °F	Low: 54 °F	High: 60 °F	Low: 53 °F	High: 61 °F	Low: 49 °F	High: 57 °F
Rain	Rain	Rain	Rain	Rain	Rain	Rain	Rain	Rain

Detailed Forecast

Today
Drizzle likely before 10am, then rain after 10am. High near 56. South southeast wind 6 to 13 mph. Chance of precipitation is 100%. New precipitation amounts between a quarter and half of an inch possible.

Tonight
Rain. Low around 51. South southeast wind around 11 mph. Chance of precipitation is 100%. New precipitation amounts between a half and three quarters of an inch possible.

Saturday
Rain. High near 60. South wind 8 to 15 mph, with gusts as high as 18 mph. Chance of precipitation is 100%. New precipitation amounts between a half and three quarters of an inch possible.

Saturday Night
Rain. Low around 54. South wind 13 to 15 mph, with gusts as high as 18 mph. Chance of precipitation is 90%. New precipitation amounts between a tenth and quarter of an inch possible.

Sunday
Rain. High near 60. South wind 13 to 16 mph, with gusts as high as 21 mph. Chance of precipitation is 90%. New precipitation amounts between a tenth and quarter of an inch possible.

Sunday Night
Rain. Low around 53. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Monday
Rain. High near 61. Chance of precipitation is 80%.

Monday Night
Rain. Cloudy, with a low around 49.

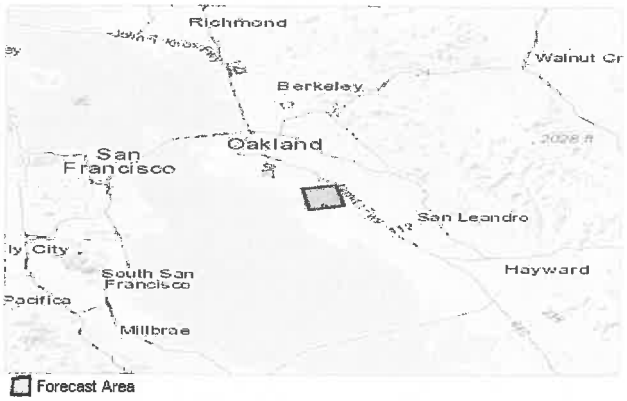
Tuesday
Rain. Cloudy, with a high near 57.

Tuesday Night
Rain likely, mainly before 4am. Mostly cloudy, with a low around 42.

Wednesday
Rain likely. Mostly cloudy, with a high near 56.

Wednesday Night
Rain likely. Mostly cloudy, with a low around 40.

Thursday
A chance of rain or drizzle. Partly sunny, with a high near 55.



Forecast Area

ABOUT THIS FORECAST

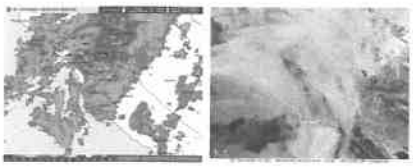
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 12:48 am PST Jan 31, 2025

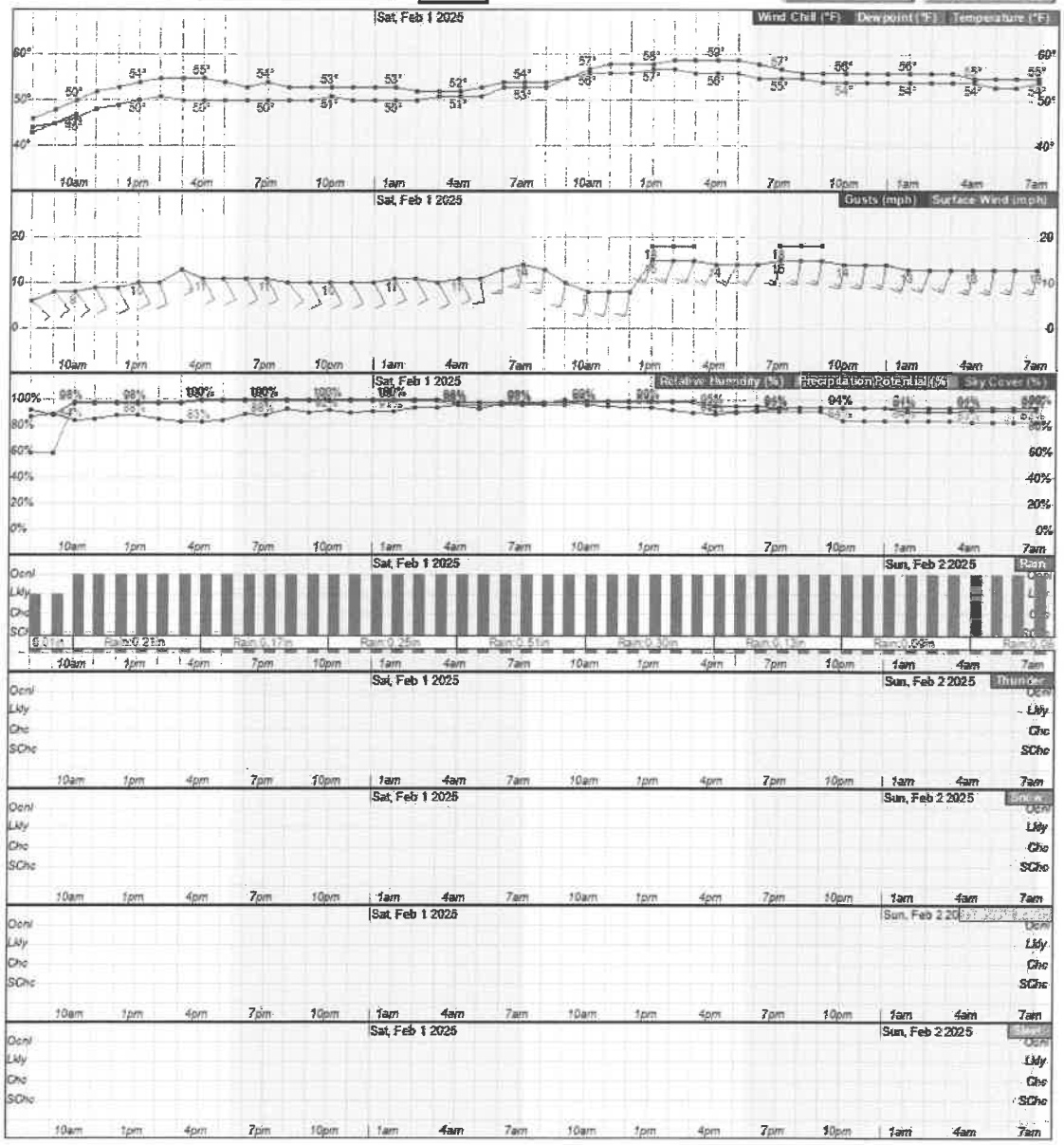
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Fri, Jan 31 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Prolonged Heavy Rain and Heavy Snow Event Continues for Northern California and Into the Northern Rockies

A prolonged atmospheric river event will continue to bring moderate to heavy rain with a risk for flooding to northern into central California with heavy mountain snow in the Sierras, southern Cascades, and northern Rockies through midweek. High winds may bring power outages and make for difficult travel across northern Nevada and the central Rockies. Read More >

Hazardous Weather Conditions

- Flood Watch in effect from February 3, 04:00 PM PST until February 5, 04:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
56°F
13°C

Humidity	81%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	50°F (10°C)
Visibility	NA
Last update	03 Feb 09:00 AM PST

Extended Forecast for
Oakland CA

Click here for hazard details and duration

Today	Tonight	Tuesday	Tuesday Night	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday
80%	100%	100%	80 % → 20 %	30%	60%	90%		
High: 61 °F	**Low: 51 °F**	**High: 59 °F**	**Low: 42 °F**	**High: 57 °F**	**Low: 43 °F**	**High: 59 °F**	**Low: 46 °F**	**High: 56 °F**
Rain	Rain	Rain	Rain then Slight Chance Rain	Chance Rain	Rain Likely	Rain	**Rain**	Rain Likely

Detailed Forecast

Today
Rain. High near 61. South wind 15 to 18 mph, with gusts as high as 26 mph. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Tonight
Rain. Low around 51. South wind 10 to 17 mph, with gusts as high as 30 mph. Chance of precipitation is 100%. New precipitation amounts between a half and three quarters of an inch possible.

Tuesday
Rain. High near 59. South southwest wind 8 to 10 mph. Chance of precipitation is 100%. New precipitation amounts between 1 and 2 inches possible.

Tuesday Night
Rain, mainly before 10pm. Low around 42. Southwest wind 6 to 8 mph becoming west northwest after midnight. Chance of precipitation is 80%. New precipitation amounts between a tenth and quarter of an inch possible.

Wednesday
A 30 percent chance of rain, mainly between 10am and 4pm. Mostly sunny, with a high near 57. Light west southwest wind becoming west 5 to 10 mph in the morning.

Wednesday Night
Rain likely, mainly after 4am. Mostly cloudy, with a low around 43. Chance of precipitation is 60%. New precipitation amounts between a tenth and quarter of an inch possible.

Thursday
Rain. High near 59. Chance of precipitation is 90%.

Thursday Night
Rain. Cloudy, with a low around 46.

Friday
Rain likely, mainly before 4pm. Mostly cloudy, with a high near 56.

Friday Night
A slight chance of rain before 10pm. Partly cloudy, with a low around 40.

Saturday
Sunny, with a high near 56.

Saturday Night
Mostly clear, with a low around 38.

Sunday
Sunny, with a high near 56.



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 3:47 am PST Feb 3, 2025

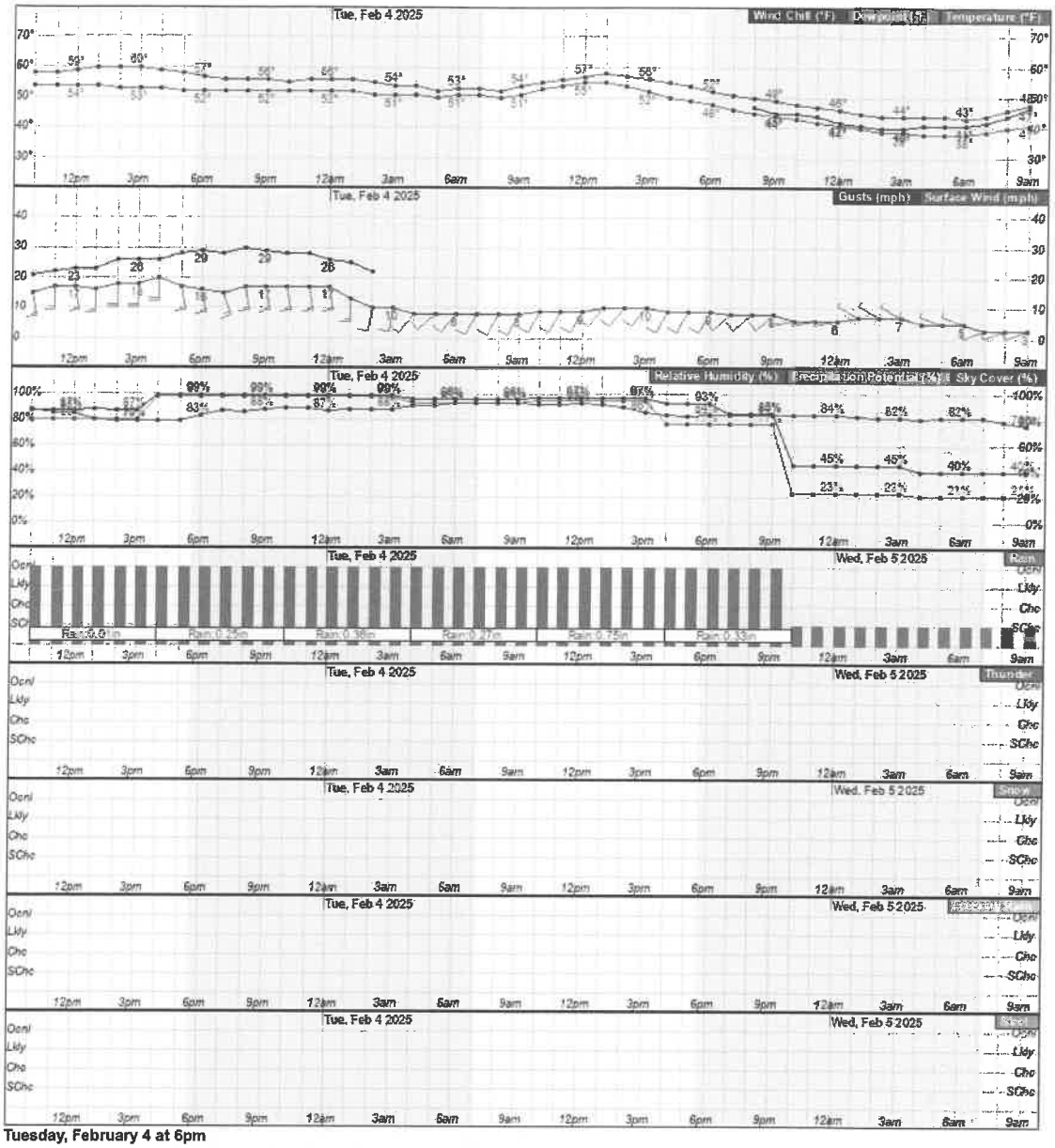
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 10am Mon, Feb 3 2025 Submit

Back 2 Days | Forward 2 Days



Tuesday, February 4 at 6pm

Temperature: 52 °F Dewpoint: 48 °F Wind Chill: N/A Surface Wind: SSW 9mph
Sky Cover (%): 93% Precipitation Potential (%): 77% Relative Humidity (%): 84%
Rain: Occasional (80%-100%) Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Prolonged Atmospheric River Continues to Impact the West; Impactful Winter Storm from the Midwest to Northeast

A prolonged atmospheric river event will continue to bring moderate to heavy rain with a risk for flooding to northern and central California with heavy mountain snow in the Sierras, southern Cascades, and northern Rockies through Wednesday. A winter storm is expected to bring snow and ice from the Midwest through the Mid-Atlantic States and New England Wednesday through Thursday. Read More >

Hazardous Weather Conditions

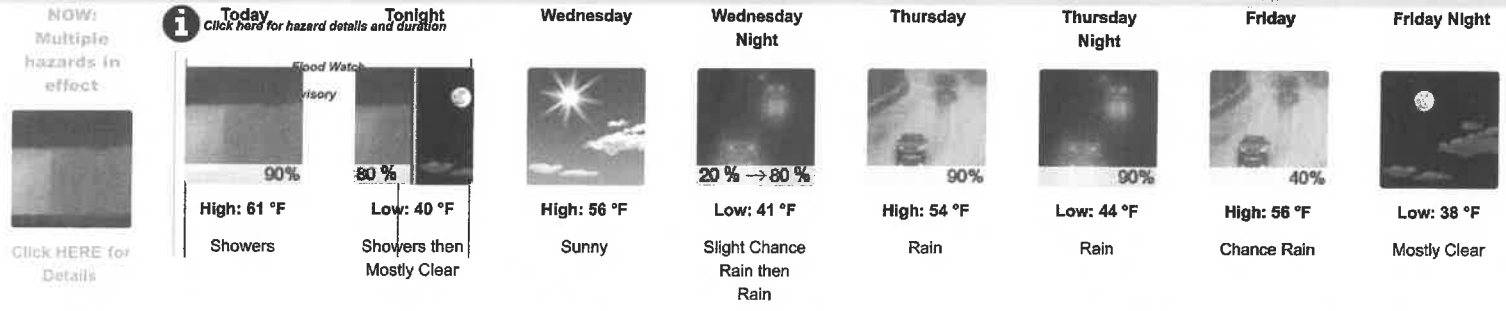
- Flood Watch until February 5, 04:00 AM PST
- Wind Advisory in effect from February 4, 07:00 AM PST until February 4, 11:00 PM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
55°F
13°C

Humidity	93%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	53°F (12°C)
Visibility	NA
Last update	04 Feb 10:00 AM PST

Extended Forecast for
Oakland CA



Detailed Forecast

Today
Showers, with thunderstorms also possible after 4pm. High near 61. South wind 17 to 21 mph, with gusts as high as 41 mph. Chance of precipitation is 90%. New rainfall amounts between a half and three quarters of an inch possible.

Tonight
Showers and possibly a thunderstorm before 7pm, then showers between 7pm and 10pm. Low around 40. West wind 6 to 11 mph, with gusts as high as 24 mph. Chance of precipitation is 80%. New precipitation amounts between a quarter and half of an inch possible.

Wednesday
Sunny, with a high near 56. Light and variable wind becoming west around 5 mph in the afternoon.

Wednesday Night
Rain, mainly after 4am. Low around 41. Calm wind. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Thursday
Rain. High near 54. Light east wind becoming east southeast 5 to 9 mph in the morning. Chance of precipitation is 90%. New precipitation amounts between a quarter and half of an inch possible.

Thursday Night
Rain, mainly before 4am. Low around 44. Chance of precipitation is 90%. New precipitation amounts between a quarter and half of an inch possible.

Friday
A 40 percent chance of rain, mainly before 10am. Mostly sunny, with a high near 56.

Friday Night
Mostly clear, with a low around 38.

Saturday
Sunny, with a high near 56.

Saturday Night
Mostly clear, with a low around 38.

Sunday
Sunny, with a high near 57.

Sunday Night
Partly cloudy, with a low around 39.

Monday
Sunny, with a high near 57.



ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 8:37 am PST Feb 4, 2025

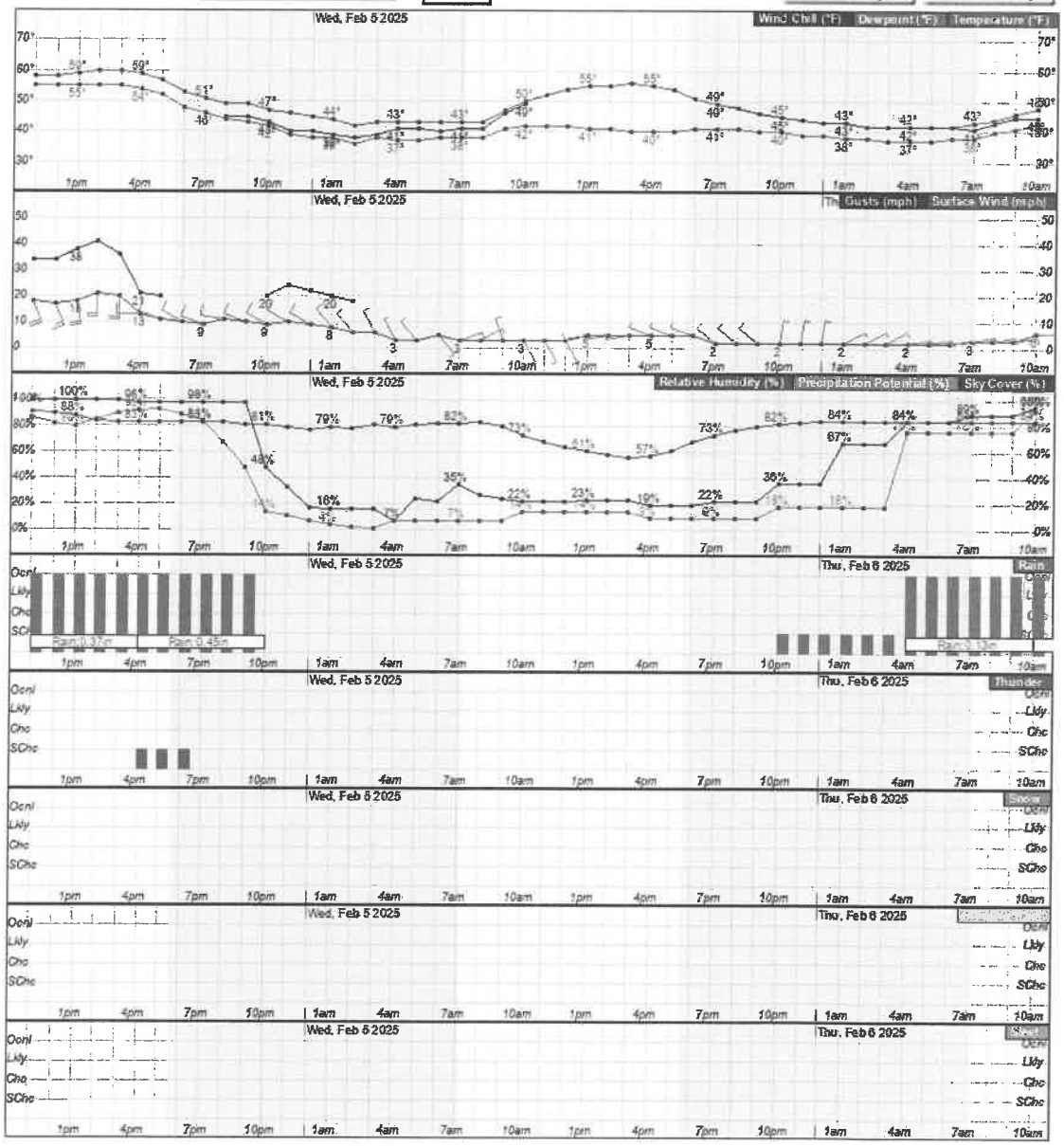
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 11am Tue, Feb 4 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

Pacific Storms Continuing to Impact the West; Impactful Winter Storm in the Central and Eastern U.S.

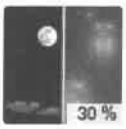
Pacific storms will continue to bring strong winds, heavy rain with a risk for flooding to northern and central California, and heavy mountain snow in the Sierras, southern Cascades, and northern Rockies through Friday. Winter storm to impact the Midwest to Mid-Atlantic, with a combination of snow, sleet and freezing rain later today through Thursday. Hazardous travel is expected. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
55°F
13°C

Humidity	59%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	41°F (5°C)
Visibility	NA
Last update	05 Feb 01:00 PM PST

Extended Forecast for
Oakland CA

This Afternoon	Tonight	Thursday	Thursday Night	Friday	Friday Night	Saturday	Saturday Night	Sunday
								
High: 56 °F	**Low: 41 °F**	**High: 58 °F**	**Low: 47 °F**	**High: 57 °F**	**Low: 39 °F**	**High: 57 °F**	**Low: 38 °F**	**High: 57 °F**
Sunny	Mostly Clear then Chance Rain	Rain	Rain	Chance Rain then Slight Chance Rain	Mostly Clear	Sunny	Clear	Sunny

Detailed Forecast

This Afternoon
Sunny, with a high near 56. West northwest wind around 7 mph.

Tonight
A 30 percent chance of rain after 4am. Increasing clouds, with a low around 41. Light and variable wind becoming northeast 5 to 10 mph after midnight. New precipitation amounts of less than a tenth of an inch possible.

Thursday
Rain, mainly after 10am. High near 58. East wind 5 to 10 mph becoming south southeast 12 to 17 mph in the afternoon. Chance of precipitation is 100%. New precipitation amounts between a quarter and half of an inch possible.

Thursday Night
Rain, mainly before 4am. Low around 47. South southeast wind 16 to 20 mph becoming west after midnight. Winds could gust as high as 23 mph. Chance of precipitation is 100%. New precipitation amounts between a tenth and quarter of an inch possible.

Friday
A 50 percent chance of rain, mainly before 10am. Mostly sunny, with a high near 57. West wind 10 to 13 mph.

Friday Night
Mostly clear, with a low around 39.

Saturday
Sunny, with a high near 57.

Saturday Night
Clear, with a low around 38.

Sunday
Sunny, with a high near 57.

Sunday Night
Mostly clear, with a low around 38.

Monday
Mostly sunny, with a high near 57.

Monday Night
Partly cloudy, with a low around 41.

Tuesday
A slight chance of rain. Mostly sunny, with a high near 57.



Forecast Area

ABOUT THIS FORECAST

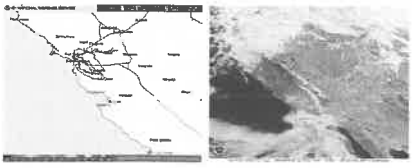
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

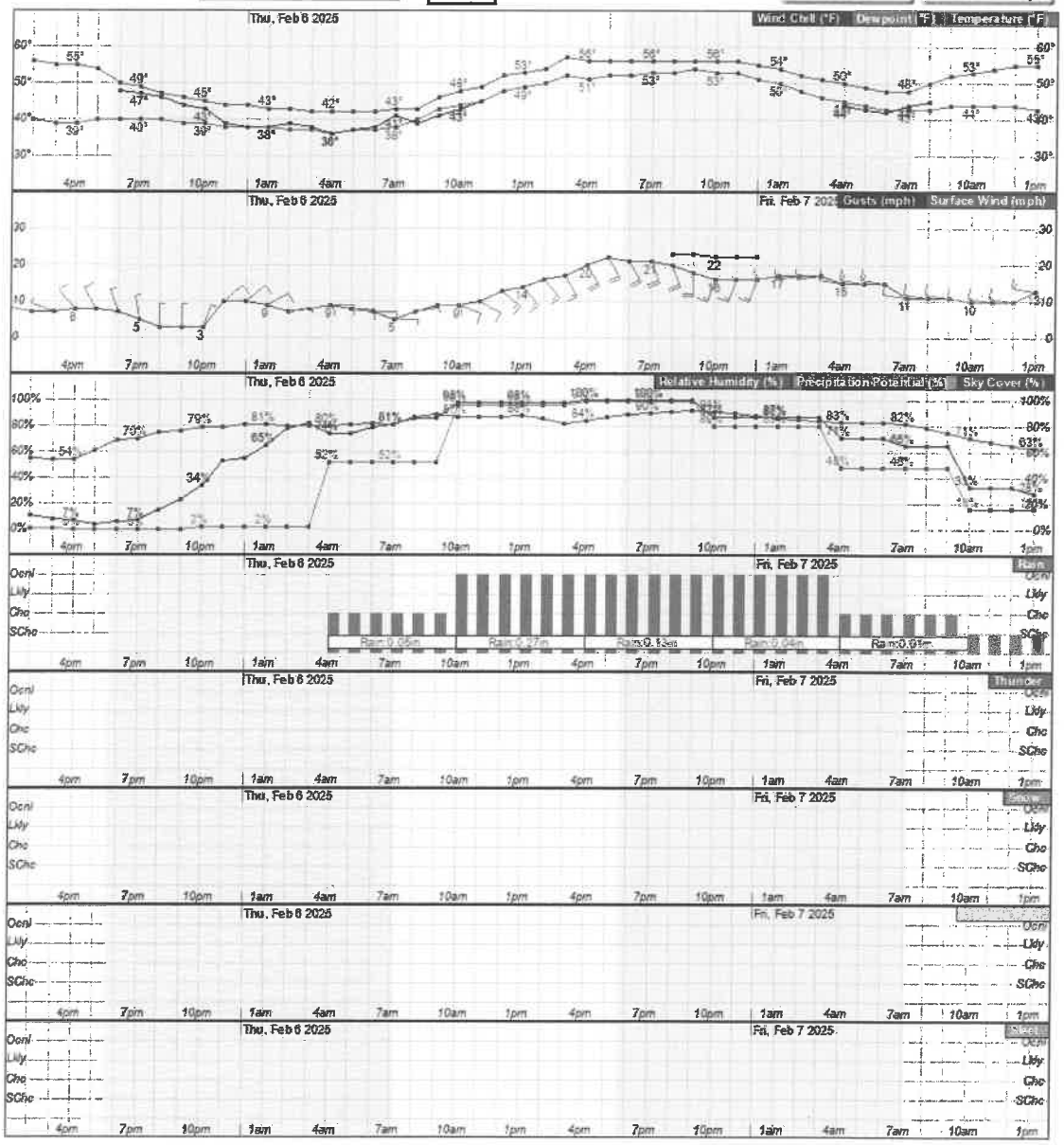
Last Update: 12:58 pm PST Feb 5, 2025

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 2pm Wed, Feb 5 2025 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

A Series of Storms Will Impact the Central and Eastern U.S. into Early Next Week; Pacific Storms Continue to Impact the West

A series of winter storms will impact the Midwest to Mid-Atlantic and Northeast U.S. into next week with locally heavy rain, and a combination of snow, sleet, and freezing rain. Pacific storms will continue to bring strong winds, heavy rain with a risk for flooding to northern and central California, and heavy mountain snow in the Sierras, southern Cascades, and northern Rockies through Friday. Read More >

Hazardous Weather Conditions

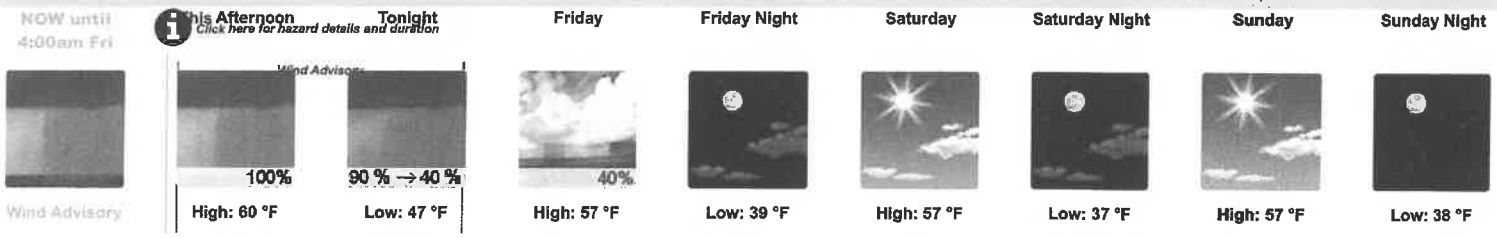
- Wind Advisory until February 7, 04:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
58°F
14°C

Humidity	91%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	56°F (13°C)
Visibility	NA
Last update	06 Feb 03:00 PM PST

Extended Forecast for
Oakland CA



Detailed Forecast

This Afternoon
Showers and possibly a thunderstorm. High near 60. South wind around 14 mph, with gusts as high as 20 mph. Chance of precipitation is 100%. New rainfall amounts of less than a tenth of an inch, except higher amounts possible in thunderstorms.

Tonight
Showers and possibly a thunderstorm. Low around 47. South wind 10 to 17 mph becoming west in the evening. Winds could gust as high as 24 mph. Chance of precipitation is 90%. New precipitation amounts between a tenth and quarter of an inch, except higher amounts possible in thunderstorms.

Friday
A 40 percent chance of showers, mainly before 10am. Mostly cloudy, then gradually becoming sunny, with a high near 57. West wind 6 to 11 mph. New precipitation amounts of less than a tenth of an inch possible.

Friday Night
Mostly clear, with a low around 39. Northwest wind 5 to 8 mph becoming calm in the evening.

Saturday
Sunny, with a high near 57. Calm wind becoming north northwest around 6 mph in the afternoon.

Saturday Night
Mostly clear, with a low around 37.

Sunday
Sunny, with a high near 57.

Sunday Night
Clear, with a low around 38.

Monday
Sunny, with a high near 56.

Monday Night
Partly cloudy, with a low around 39.

Tuesday
A slight chance of rain. Mostly sunny, with a high near 55.

Tuesday Night
A chance of rain. Mostly cloudy, with a low around 38.

Wednesday
Rain. Mostly cloudy, with a high near 54.

Wednesday Night
Rain. Mostly cloudy, with a low around 44.



ABOUT THIS FORECAST

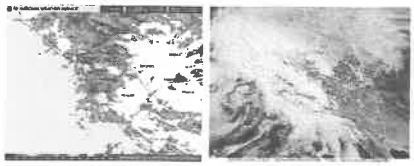
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 2:11 pm PST Feb 6, 2025

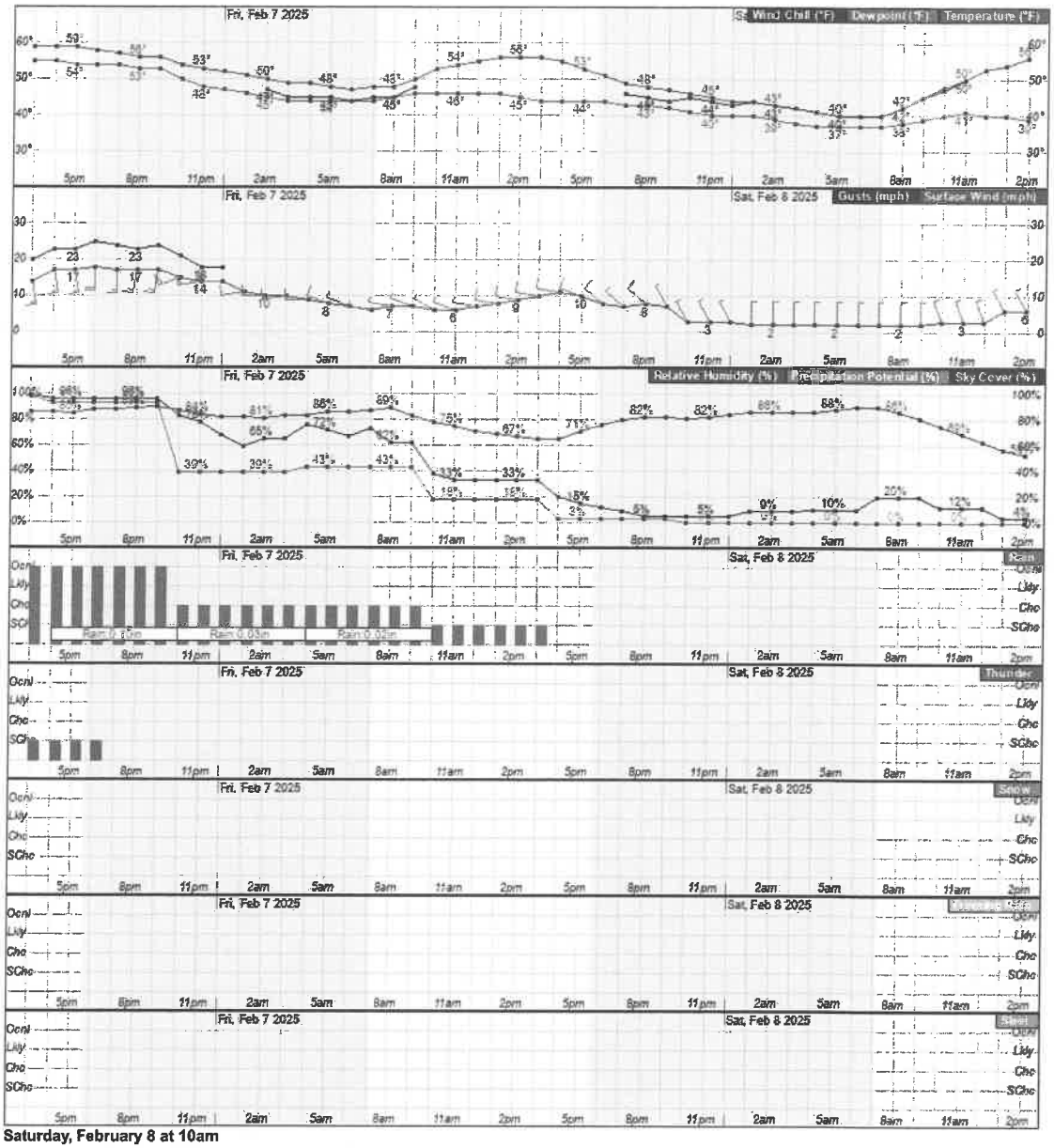
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 3pm Thu, Feb 6 2025 Submit

Back 2 Days | Forward 2 Days



Saturday, February 8 at 10am

Temperature: 48 °F Dewpoint: 40 °F Wind Chill: 47 °F Surface Wind: NNW 3mph
Sky Cover (%): 12% Precipitation Potential (%): 0% Relative Humidity (%): 75%
Rain: <10% Thunder: <10% Snow: <10% Freezing Rain: <10% Sleet: <10%

Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Pacific Storm Impacts the West Through Friday; Series of Storms to Impact the Central and Eastern U.S. Into Next Week

A Pacific storm will continue to bring strong winds, heavy rain with a risk for flooding to northern and central California, and heavy mountain snow in the Sierras, southern Cascades, and northern Rockies through Friday. A series of winter storms will impact the Central and Eastern U.S. through next week with locally heavy rain, and a combination of snow, sleet, and freezing rain. Read More >

Hazardous Weather Conditions

- Frost Advisory in effect from February 8, 01:00 AM PST until February 8, 09:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
51°F
11°C

Humidity	83%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	46°F (8°C)
Visibility	NA
Last update	07 Feb 05:00 AM PST

Extended Forecast for
Oakland CA

Click here for hazard details and duration

Today	Tonight	Saturday	Saturday Night	Sunday	Sunday Night	Monday	Monday Night	Tuesday
								
High: 56 °F	**Low: 39 °F**	**High: 56 °F**	**Low: 38 °F**	**High: 57 °F**	**Low: 38 °F**	**High: 57 °F**	**Low: 40 °F**	**High: 54 °F**
Chance Drizzle	Mostly Clear	Sunny	Mostly Clear	Sunny	Mostly Clear	Sunny	Partly Cloudy	Slight Chance Drizzle

Detailed Forecast

Today
A chance of drizzle, mainly before 10am. Mostly cloudy, then gradually becoming sunny, with a high near 56. Calm wind becoming west 5 to 8 mph in the morning.

Tonight
Mostly clear, with a low around 39. North northwest wind around 5 mph becoming calm in the evening.

Saturday
Sunny, with a high near 56. Calm wind becoming northwest around 6 mph in the afternoon.

Saturday Night
Mostly clear, with a low around 38. Northwest wind around 5 mph becoming calm in the evening.

Sunday
Sunny, with a high near 57. Calm wind becoming north around 6 mph in the afternoon.

Sunday Night
Mostly clear, with a low around 38.

Monday
Sunny, with a high near 57.

Monday Night
Partly cloudy, with a low around 40.

Tuesday
A slight chance of drizzle after 10am. Mostly sunny, with a high near 54.

Tuesday Night
A slight chance of drizzle before 10pm, then a chance of rain after 10pm. Mostly cloudy, with a low around 38.

Wednesday
Rain and snow likely. Partly sunny, with a high near 54.

Wednesday Night
Rain. Mostly cloudy, with a low around 44.

Thursday
Rain. Cloudy, with a high near 57.



Forecast Area

ABOUT THIS FORECAST

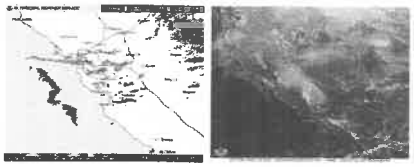
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

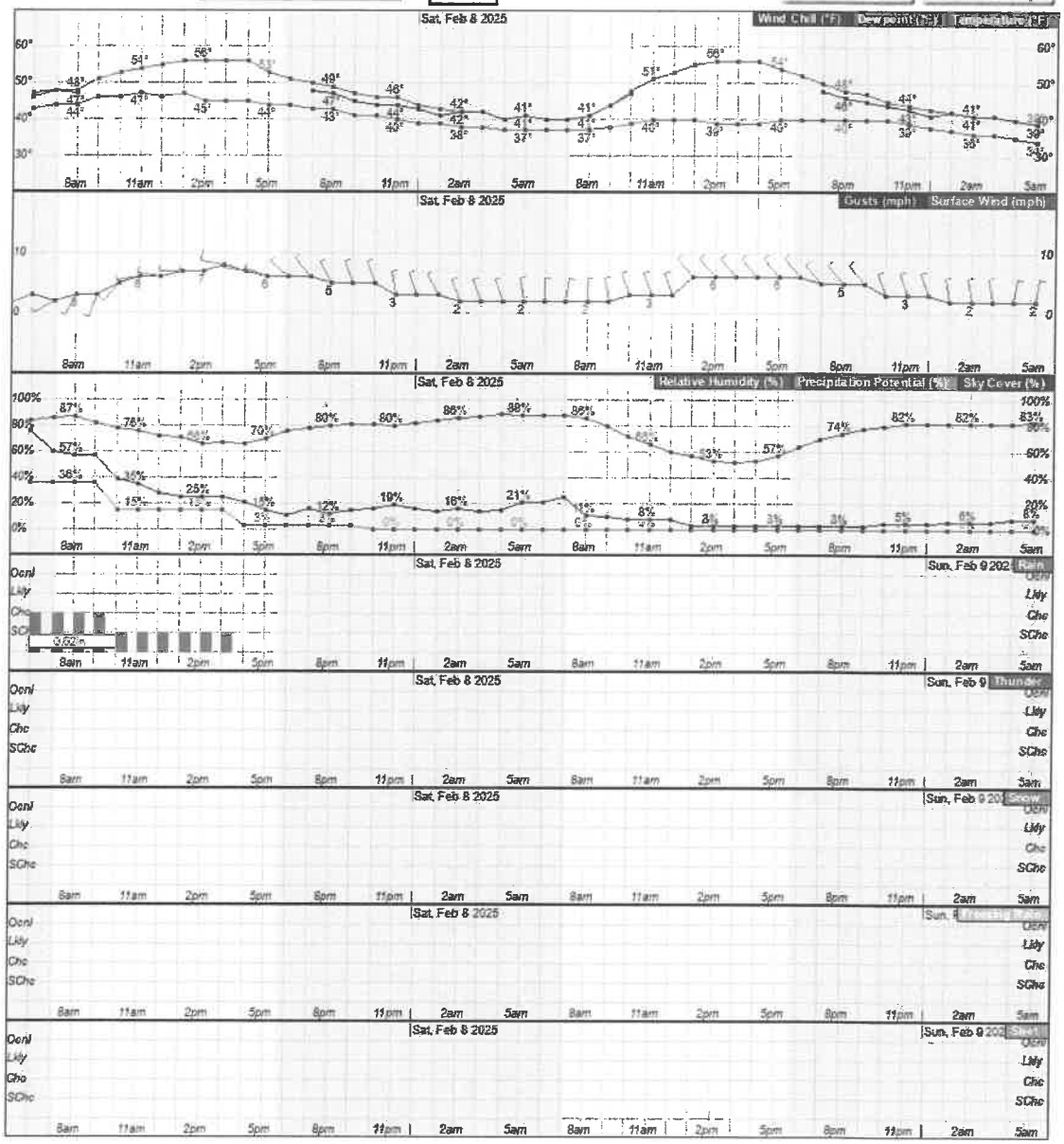
Last Update: 4:36 am PST Feb 7, 2025

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 6am Fri, Feb 7 2025 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Cold Temperatures Across the Northern High Plains; Winter Storms to Impact the Central Plains and Mid-Atlantic on Tuesday.

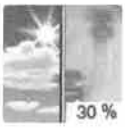
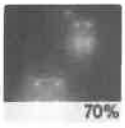
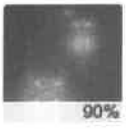
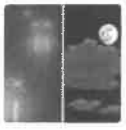
Arctic high pressure will usher in well below normal temperatures across the northern High Plains. Lake effect snow will drop up to a foot of snow downwind of Lake Ontario today. Two winter storms will begin to bring snow and a wintry mix to the Central Plains and the Mid-Atlantic by mid-day Tuesday. Heavy rain will create mainly localized areas of flash flooding in the Mid-South on Tuesday. Read More >

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
58°F
14°C

Humidity	34%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	29°F (-2°C)
Visibility	NA
Last update	10 Feb 03:00 PM PST

Extended Forecast for
Oakland CA

Tonight	Tuesday	Tuesday Night	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday	Friday Night
	 30 %	 70%	 50%	 90%	 100%	 100%		
Low: 38 °F	**High: 56 °F**	**Low: 42 °F**	**High: 55 °F**	**Low: 47 °F**	**High: 60 °F**	**Low: 51 °F**	**High: 59 °F**	**Low: 45 °F**
Partly Cloudy	Mostly Sunny then Chance Rain	Rain Likely	Chance Rain	Rain	Rain	Showers	Rain Likely	Slight Chance Rain then Partly Cloudy

Detailed Forecast

Tonight
Partly cloudy, with a low around 38. West wind around 5 mph becoming calm in the evening.

Tuesday
A 30 percent chance of rain after 4pm. Increasing clouds, with a high near 56. Calm wind becoming west 5 to 8 mph in the afternoon. New precipitation amounts of less than a tenth of an inch possible.

Tuesday Night
Rain likely, mainly after 10pm. Cloudy, with a low around 42. West wind around 6 mph becoming light and variable in the evening. Chance of precipitation is 70%. New precipitation amounts between a tenth and quarter of an inch possible.

Wednesday
A 50 percent chance of rain. Mostly cloudy, with a high near 55. East northeast wind around 7 mph. New precipitation amounts of less than a tenth of an inch possible.

Wednesday Night
Rain, mainly after 10pm. Low around 47. Southeast wind around 8 mph. Chance of precipitation is 90%. New precipitation amounts between three quarters and one inch possible.

Thursday
Rain. High near 60. Chance of precipitation is 100%. New precipitation amounts between three quarters and one inch possible.

Thursday Night
Showers and possibly a thunderstorm before 4am, then rain likely and possibly a thunderstorm after 4am. Low around 51. Chance of precipitation is 100%.

Friday
Rain likely, mainly before 10am. Partly sunny, with a high near 59.

Friday Night
A slight chance of rain before 10pm. Partly cloudy, with a low around 45.

Saturday
Partly sunny, with a high near 60.

Saturday Night
Mostly cloudy, with a low around 47.

Sunday
A chance of rain. Patchy fog. Otherwise, mostly cloudy, with a high near 62.

Sunday Night
A chance of rain. Mostly cloudy, with a low around 50.

Washington's Birthday
A chance of rain. Partly sunny, with a high near 62.



Forecast Area

ABOUT THIS FORECAST

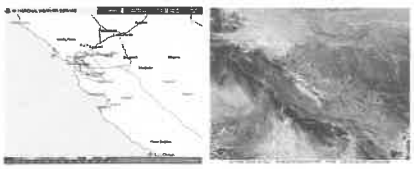
Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image



Hourly Weather Forecast

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

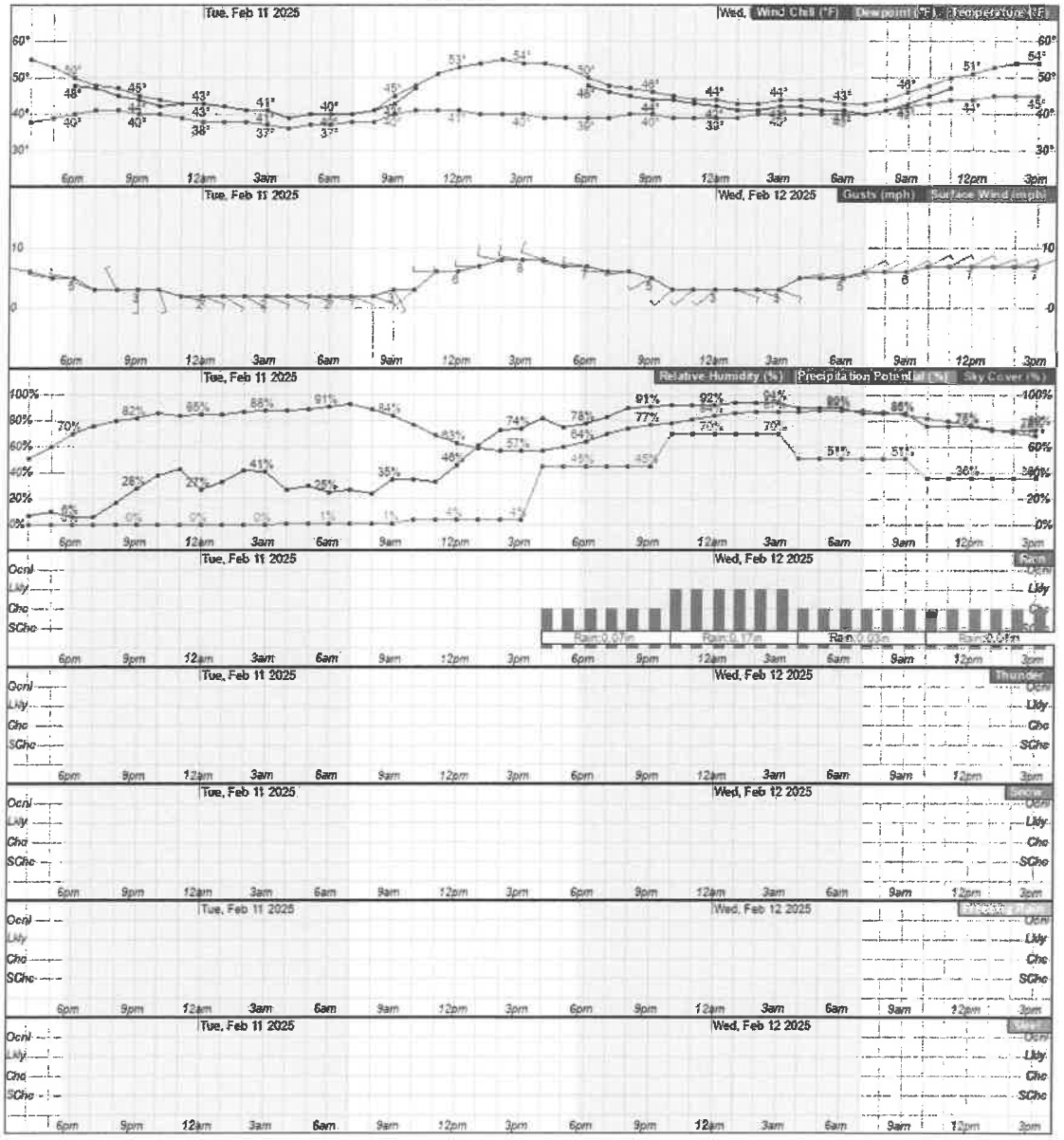
Last Update: 12:26 pm PST Feb 10, 2025

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 4pm Mon, Feb 10 2025 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units	Forecast Discussion
7-Day Forecast	Tabular Forecast
Hourly River Stages	Hourly Rainfall
NWS Office Map	Weather Calculator

User Defined Area

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Winter Storms in the Central and Eastern U.S.; Heavy Rain in the Southeast

A winter storm will bring heavy snow and ice to the Ohio Valley into the Mid-Atlantic through Wednesday. Significant ice is forecast for the Central Appalachians. Another winter storm will bring heavy snow and ice to the Central Plains today. Heavy to excessive rain will result in flash and river flooding threats over parts of the Lower Mississippi and Tennessee Valleys and Southern Appalachians. Read More >

Hazardous Weather Conditions

- Flood Watch in effect from February 12, 10:00 PM PST until February 15, 10:00 PM PST
- High Wind Watch in effect from February 12, 10:00 PM PST until February 14, 10:00 AM PST

Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
51°F
11°C

Humidity	66%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	40°F (4°C)
Visibility	NA
Last update	11 Feb 04:00 PM PST

Extended Forecast for
Oakland CA

This Afternoon	Tonight	Wednesday	Wednesday Night	Thursday	Thursday Night	Friday	Friday Night	Saturday
Click here for hazard details and duration								
50%	60%	30 % → 60 %	100%	100%	100%	50%		
High: 53 °F	**Low: 42 °F**	**High: 57 °F**	**Low: 50 °F**	**High: 61 °F**	**Low: 51 °F**	**High: 58 °F**	**Low: 43 °F**	**High: 60 °F**
Chance Rain	Rain Likely	Chance Rain then Rain Likely	Heavy Rain	Showers	Showers	Chance Rain	Partly Cloudy	Partly Sunny

Detailed Forecast

This Afternoon
A 50 percent chance of rain. Cloudy, with a steady temperature around 53. West wind around 10 mph.

Tonight
Rain likely, mainly between 10pm and 4am. Mostly cloudy, with a low around 42. West southwest wind 5 to 7 mph becoming light and variable. Chance of precipitation is 60%. New precipitation amounts of less than a tenth of an inch possible.

Wednesday
Rain likely, mainly after 4pm. Partly sunny, with a high near 57. Northeast wind 5 to 10 mph becoming light and variable. Chance of precipitation is 60%. New precipitation amounts of less than a tenth of an inch possible.

Wednesday Night
Rain. The rain could be heavy at times. Low around 50. Light southeast wind becoming south southeast 11 to 16 mph in the evening. Winds could gust as high as 34 mph. Chance of precipitation is 100%. New precipitation amounts between 1 and 2 inches possible.

Thursday
Rain before 4pm, then showers and possibly a thunderstorm after 4pm. High near 61. South southwest wind 14 to 18 mph, with gusts as high as 33 mph. Chance of precipitation is 100%. New rainfall amounts between three quarters and one inch possible.

Thursday Night
Showers and possibly a thunderstorm before 10pm, then rain after 10pm. Low around 51. Chance of precipitation is 100%. New precipitation amounts between a tenth and quarter of an inch, except higher amounts possible in thunderstorms.

Friday
A 50 percent chance of rain. Partly sunny, with a high near 58.

Friday Night
Partly cloudy, with a low around 43.

Saturday
Partly sunny, with a high near 60.

Saturday Night
Mostly cloudy, with a low around 46.

Sunday
A chance of rain. Mostly cloudy, with a high near 61.

Sunday Night
A chance of rain. Mostly cloudy, with a low around 49.

Washington's Birthday
A slight chance of rain. Partly sunny, with a high near 62.



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image

NATIONAL WEATHER SERVICE

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

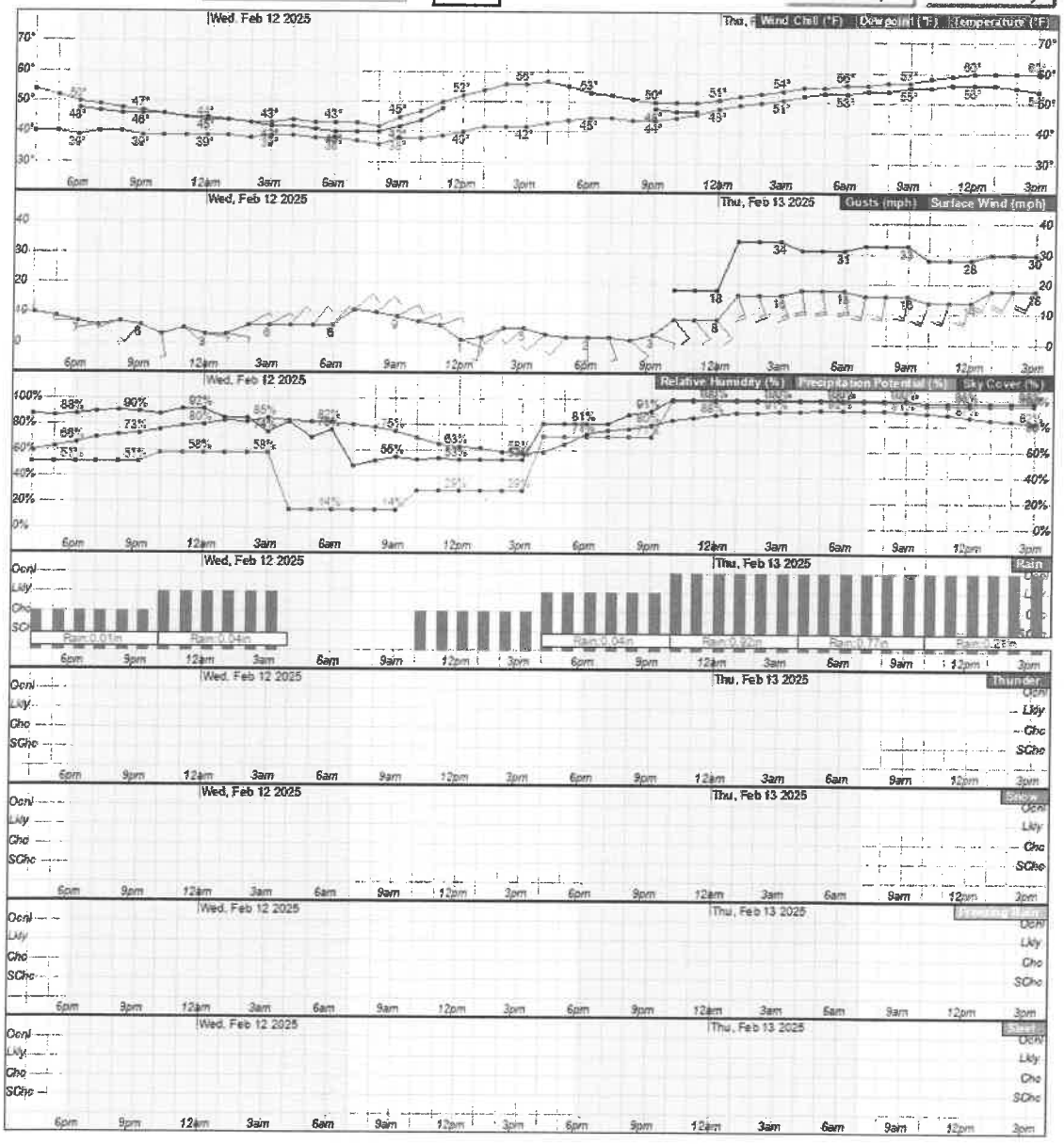
Last Update: 1:23 pm PST Feb 11, 2025

Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
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☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 4pm Tue, Feb 11 2025 Submit Back 2 Days Forward 2 Days



Additional Forecasts & Information

International System of Units
Forecast Discussion
7-Day Forecast
Tabular Forecast
River Stage Summary
24 Hour Precipitation Summary
NWS Office Map

NATIONAL WEATHER SERVICE

Potent Winter Storm in the Central U.S.; Heavy Rain and Severe Thunderstorms in the Southeast

A winter storm will produce heavy snow from the Central Plains into the Great Lakes today and into New England tonight into Friday. A wintry mix of snow, sleet, and freezing rain will be south of the snow. Heavy rainfall and thunderstorms will bring concerns for flash flooding and severe weather over parts of the Lower Mississippi Valley and the Southeast. Read More >

Hazardous Weather Conditions

- Flood Watch in effect from February 12, 10:00 PM PST until February 15, 10:00 PM PST
- High Wind Watch in effect from February 12, 10:00 PM PST until February 14, 10:00 AM PST

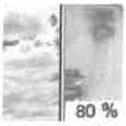
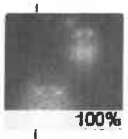
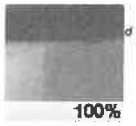
Current conditions at
Oakland Museum (OAMC1)
Lat: 37.7981°N **Lon:** 122.26343°W **Elev:** 30.0ft.

NA
45°F
7°C

Humidity	71%
Wind Speed	NA NA MPH
Barometer	NA
Dewpoint	36°F (2°C)
Visibility	NA
Last update	12 Feb 07:00 AM PST

Extended Forecast for
Oakland CA

Click here for hazard details and duration

Today	Tonight	Thursday	Thursday Night	Friday	Friday Night	Saturday	Saturday Night	Sunday
								
80 %	100%	100%	100%	50%				
High: 57 °F	**Low: 49 °F**	**High: 61 °F**	**Low: 51 °F**	**High: 58 °F**	**Low: 44 °F**	**High: 60 °F**	**Low: 47 °F**	**High: 61 °F**
Partly Sunny then Rain	Rain	Showers	Showers	Chance Rain	Partly Cloudy	Patchy Fog then Mostly Cloudy	Mostly Cloudy	Chance Rain

Detailed Forecast

Today
Rain after 4pm. High near 57. East northeast wind 5 to 9 mph becoming light and variable in the afternoon. Chance of precipitation is 80%. New precipitation amounts of less than a tenth of an inch possible.

Tonight
Rain. Low around 49. Light and variable wind becoming south 15 to 20 mph in the evening. Winds could gust as high as 39 mph. Chance of precipitation is 100%. New precipitation amounts between 1 and 2 inches possible.

Thursday
Rain before 10am, then showers and possibly a thunderstorm after 10am. High near 61. South southwest wind 5 to 15 mph, with gusts as high as 31 mph. Chance of precipitation is 100%. New rainfall amounts between a half and three quarters of an inch possible.

Thursday Night
Showers and possibly a thunderstorm before 10pm, then rain after 10pm. Low around 51. Southwest wind 14 to 17 mph, with gusts as high as 29 mph. Chance of precipitation is 100%. New precipitation amounts between a tenth and quarter of an inch, except higher amounts possible in thunderstorms.

Friday
A 50 percent chance of rain. Partly sunny, with a high near 58. West wind 10 to 14 mph, with gusts as high as 20 mph. New precipitation amounts of less than a tenth of an inch possible.

Friday Night
Partly cloudy, with a low around 44.

Saturday
Patchy fog before 8am. Otherwise, mostly cloudy, with a high near 60.

Saturday Night
Mostly cloudy, with a low around 47.

Sunday
A chance of rain. Mostly cloudy, with a high near 61.

Sunday Night
A chance of rain, mainly before 10pm. Mostly cloudy, with a low around 49.

Washington's Birthday
A slight chance of rain. Partly sunny, with a high near 61.

Monday Night
Partly cloudy, with a low around 45.

Tuesday



Forecast Area

ABOUT THIS FORECAST

Point Forecast:
Oakland CA
37.76°N 122.23°W (Elev. 3 ft)

Forecast Discussion

KML XML

Additional Resources

Radar & Satellite Image

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Point Forecast: Oakland CA
37.76N 122.23W (Elev. 3 ft)

Last Update: 5:40 am PST Feb 12, 2025

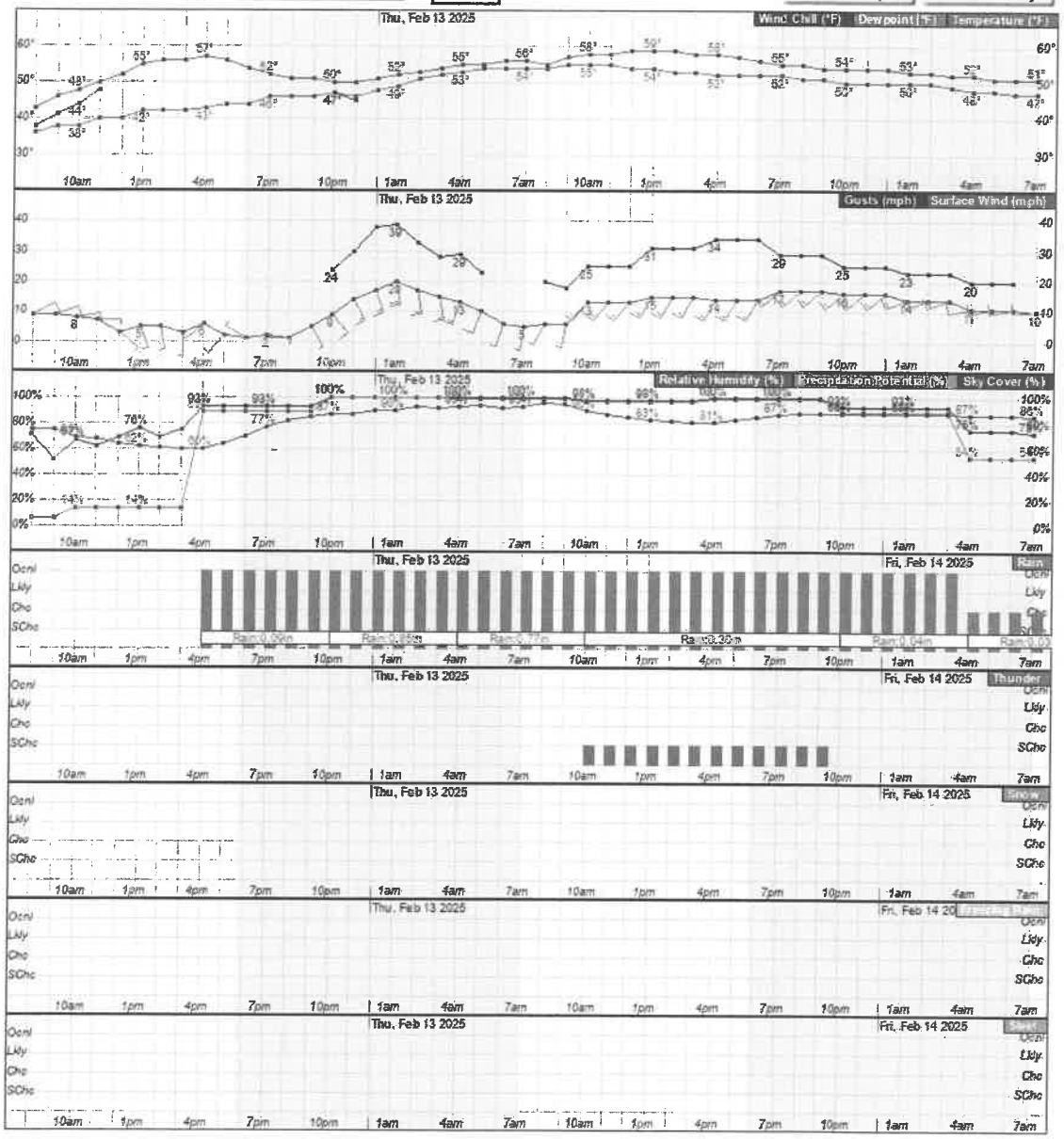
Hourly Weather Forecast Graph

[dashes/dots] | [b/w] | [hide menu] XML

Weather Elements	Weather/Precipitation	
☑ Temperature (°F)	☑ Rain	☐ Lightning Activity Level
☑ Dewpoint (°F)	☑ Thunder	☐ Trans. Wind mph
☑ Wind Chill (°F)	☑ Snow	☐ 20ft Wind mph
	☑ Freezing Rain	
	☑ Sleet	
☑ Surface Wind mph	☐ Fog	
☑ Sky Cover (%)		
☑ Precipitation Potential (%)		
☑ Relative Humidity (%)		

48-Hour Period Starting: 8am Wed, Feb 12 2025 Submit

Back 2 Days | Forward 2 Days



Additional Forecasts & Information

- International System of Units
- Forecast Discussion
- 7-Day Forecast
- Tabular Forecast
- River Stage Summary
- 24 Hour Precipitation Summary
- NWS Office Map

Appendix O: Example Storm Event Monitoring Forms

Rain Gauge Log Sheet				
Construction Site Name:				
WDID #:				
Date (mm/dd/yy)	Time (24-hr)	Initials	Rainfall Depth (Inches)	Notes:

Risk Level 1, 2, 3 ***Visual Inspection Field Log Sheet***					
Date and Time of Inspection:				Report Date:	
Inspection Type:	☐ Weekly	☐ Pre Qualifying Precipitation Event (QPE)	☐ During QPE	☐ Post QPE	☐ Dewatering Discharge
Site Information					
Construction Site Name:					
Construction stage and completed activities:				Approximate area of exposed site:	
Weather and Observations					
Date Rain Predicted to Occur:			Predicted % chance of precipitation (PoP): Predicted quantity of precipitation (QPF):		
Estimate storm beginning: _____ (date and time)		Estimate storm duration:_____ (hours)	Estimate time since last storm: _____ (days or hours)	Rain gauge reading:_____ (inches)	
Observations: If yes identify location					
Odors	Yes ☐	No ☐			
Floating material	Yes ☐	No ☐			
Suspended Material	Yes ☐	No ☐			
Sheen	Yes ☐	No ☐			
Discolorations	Yes ☐	No ☐			
Turbidity	Yes ☐	No ☐			
Site Inspections					
Outfalls or BMPs Evaluated			**Deficiencies Noted**		
(add additional sheets or attached detailed BMP Inspection Checklists)					
Photos Taken:	Yes ☐	No ☐	Photo Reference IDs:		
Corrective Actions Identified (note if SWPPP/REAP change is needed)					
Inspector Information					
Inspector Name:			Inspector Title:		
Signature:				Date:	

Risk Level 1, 2, 3 ***Effluent Sampling Field Log Sheets***			
Construction Site Name:		Date:	Time Start:
Sampler:			
Sampling Event Type:	☐ Stormwater	☐ Dewatering Discharge	☐ Non-visible pollutant
Field Meter Calibration			
pH Meter ID No./Desc.: Calibration Date/Time:		Turbidity Meter ID No./Desc.: Calibration Date/Time:	

Field pH and Turbidity Measurements			
Discharge Location Description	pH	Turbidity	Time

Grab Samples Collected		
Discharge Location Description	Sample Type	Time

Additional Sampling Notes:
Time End:

Risk Level 3 ***Receiving Water Sampling Field Log Sheets***		
Construction Site Name:	Date:	Time Start:
Sampler:		
Receiving Water Description and Observations		
Receiving Water Name/ID:		
Observations:		
Odors	Yes ☐	No ☐
Floating material	Yes ☐	No ☐
Suspended Material	Yes ☐	No ☐
Sheen	Yes ☐	No ☐
Discolorations	Yes ☐	No ☐
Turbidity	Yes ☐	No ☐
Field Meter Calibration		
pH Meter ID No./Desc.: Calibration Date/Time:	Turbidity Meter ID No./Desc.: Calibration Date/Time:	

Field pH and Turbidity Measurements			
Upstream Location			
Type	Result	Time	Notes
pH			
Turbidity			
Downstream Location			
Type	Result	Time	Notes
pH			
Turbidity			
Additional Sampling Notes:			
Time End:			

NAL Exceedance Evaluation Summary Report	Page __ of __
Project Name	
Project WDID	
Project Location	
Date of Exceedance	
Type of Exceedance	**NAL ☐ pH ☐ Turbidity** **☐ Other (specify) _____**
Measurement or Analytical Method	**☐ Field meter** **(Sensitivity: _____)** **☐ Lab method (specify) _____** **(Minimum Level: _____)** **(MDL: _____)**
Calculated Daily Average	**☐ pH _____ pH units** **☐ Turbidity _____ NTU**
Rain Gauge Measurement	**_____ inches**
Visual Observations on Day of Exceedance	

NAL Exceedance Evaluation Summary Report	Page __ of __
Description of BMPs in Place at Time of Event	
Initial Assessment of Cause	
Corrective Actions Taken (deployed after exceedance)	
Additional Corrective Actions Proposed	
Report Completed By	_____ **(Print Name, Title)**
Signature	_____

CHAIN-OF-CUSTODY **DATE:** **Lab ID:**

DESTINATION LAB: ATTN: **ADDRESS:** **Office Phone:** **Cell Phone:**							REQUESTED ANALYSIS				Notes:
SAMPLED BY:											
Contact:											
Project Name											
Client Sample ID	**Sample Date**	**Sample Time**	**Sample Matrix**	**Container #**	**Container Type**	**Container Pres.**					

SENDER COMMENTS:	**RELINQUISHED BY**	
	Signature:	
	Print:	
	Company:	
	Date:	TIME:
LABORATORY COMMENTS:	**RECEIVED BY**	
	Signature:	
	Print:	
	Company:	
	Date:	TIME:

Appendix P: Field Meter Instructions

- The visual observations and sample collection exception records and reports.

6.4 Records Retention

Dischargers must retain records of all stormwater monitoring information and copies of all reports (including Annual Reports) for a period of at least three years from date of submittal or longer if required by the RWQCB. ATS dischargers must retain all records for three years after the completion of the construction project. Records are to be kept on site while construction is ongoing. These records include:

- The date, place, and time of facility inspections, sampling, visual observations (inspections), and/or measurements, including precipitation;
- The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and/or measurements;
- The date and approximate time of analyses;
- The individual(s) who performed the analyses;
- A summary of all analytical results from the last three years, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Non-stormwater discharge inspections and visual observations (inspections) and stormwater discharge visual observation records;
- Visual observation and sample collection exemption records
- NAL Exceedance Reports; and
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations (inspections), or inspections.

Results of field measurements and laboratory analyses must be kept in the SWPPP. It is also recommended that training logs, COCs, and other documentation related to sampling and analysis be kept with the project's SWPPP.

7.0 Guidance on Field Measurements

This section details the general practices for sampling using field meters. Before any sampling begins it is imperative to wear proper clothing and equipment. This includes the appropriate sampling safety equipment and powder-free nitrile gloves.

7.1 Instrument Calibration

Calibrate field meters and equipment before any sampling. Follow the calibration instructions provided by the manufacturer with your instrument. Calibration standards should be purchased with your instrument and repurchased as needed. The standards have limited shelf life and should not be used beyond the expiration date.

Most pH meters require a two or three point calibration curve; therefore you will need to purchase two or three different standard solutions. Typical solutions have pH values of 4, 7, and 10.

Turbidity measurements are also based on a two- or three-point curve and should include a zero value. It is very important to make sure that the turbidity standard solution is well mixed before meter calibration. Since turbidity standards sometimes contain suspended solids, inaccurate calibration can result if the standards are not properly mixed.

7.2 Field Meter Sampling

Measurement of turbidity and pH using a field meter is very similar. Figure D-2 shows an example of an all-in-one field meter, which among other things, records pH and turbidity. Since methods for specific field meters vary from model to model carefully follow the instructions provided by the manufacturer. This pictorial guide provides an outline for the methods appropriate for an all-in-one meter.



Figure D-2 Example of an All-In-One Meter.

7.2.1 Measurements in-stream

The simplest method is to place the sensor directly into the waterway or flow path (Figure D-3) and record the results. This will only work if there is significant runoff with a depth greater than six inches, which may not be the case at a construction site. With this method, it is important to not only to have runoff with a significant depth but to sample in a location that is representative of the entire flow. Avoid puddles that might have formed off of the main drainage.



Figure D-3 Measuring pH and Turbidity In-stream Measurements.

7.2.2 Measurements in a sample container

Most likely the sampling will take place in low flow conditions so an intermediate container must be used. The container should be clean and decontaminated. Make sure to obtain a grab sample that represents site runoff conditions.

If two or more runoff streams originating from the site converge at one location downstream from the construction site, then collect a grab sample at this location.



Figure D-4 Collecting grab samples.

Collect the field sample by holding the container in the flow path (Figure D-4) until enough water is obtained to fill the field meter's receiving container. In some cases, small, clean cups or sampling syringes may be needed to collect an adequate sample volume.



Figure D-5 Transferring Sample to Field Meter Sample Container.

Next, pour the grab sample into the field meter's receiving container (Figure D-5).



Figure D-6 Inserting Meter into Sample Container.

Insert field meter into receiving container with the sample water (Figure D-6). This step will differ based on the design of the meter.



Figure D-7 Measuring pH and Turbidity in the Sample Container.

Wait for the pH and turbidity values to stabilize before recording the results, which may take few moments.

Complete the field logs (see examples provided in Section 8.0 of this guidance document) with results and any important information to describe the sampling settings. Include in the documentation any apparent odor, color, clarity, sheen, and other visual characteristics of the water sample.

Appendix Q: Supplemental Information

Most Current Submittals of Supplemental Information are included. These reports are for reference only and supplemental only.

Project Geotechnical Report entitled, "Revised Report, Geotechnical Investigation – Proposed Replacement of Two Swimming Pools and Renovation of Existing Aquatic Center Building – Emma Hood Aquatic Center, Alameda High School", prepared by Miller Pacific Engineering Group, dated November 9, 2023.

Project Soil Management Plan dated November 21, 2024, prepared by Kleinfelder

Subject Memo entitled, "Request for Revisions to Data Gap Evaluation Work Plan – Cleanup Program Site (CPS) Case No. RO0003666" dated February 17, 2025, prepared by Alameda County Environmental Health Department.

MILLER PACIFIC ENGINEERING GROUP

REVISED REPORT
GEOTECHNICAL INVESTIGATION
PROPOSED REPLACEMENT OF TWO SWIMMING POOLS AND RENOVATION OF EXISTING AQUATIC CENTER BUILDING
EMMA HOOD AQUATIC CENTER
ALAMEDA HIGH SCHOOL
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNIA

November 9, 2023

Project 1911.021

Prepared for:
Alameda Unified School District
2060 Challenger Drive
Alameda, California 94501

Attention: Robbie Lyng

CERTIFICATION

This document is an instrument of service, prepared by or under the direction of the undersigned professionals, in accordance with the current ordinary standard of care. The service specifically excludes the investigation of radon, asbestos, toxic mold and other biological pollutants, and other hazardous materials. The document is for the sole use of the client and consultants on this project. Use by third parties or others is expressly prohibited without written permission. If the project changes, or more than two years have passed since issuance of this report, the findings and recommendations must be reviewed by the undersigned.

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MILLER PACIFIC ENGINEERING GROUP

PROPOSED REPLACEMENT OF TWO SWIMMING POOLS
AND RENOVATION OF EXISTING AQUATIC CENTER BUILDING
EMMA HOOD AQUATIC CENTER
ALAMEDA HIGH SCHOOL
2200 CENTRAL AVENUE
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REVISED REPORT
GEOTECHNICAL INVESTIGATION
PROPOSED REPLACEMENT OF TWO SWIMMING POOLS
AND RENOVATION OF EXISTING AQUATIC CENTER BUILDING
EMMA HOOD AQUATIC CENTER
ALAMEDA HIGH SCHOOL
2200 CENTRAL AVENUE
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1.0 INTRODUCTION

This report summarizes Miller Pacific Engineering Group's (MPEG) Geotechnical Investigation for the planned improvements to the Emma Hood Aquatic Center at Alameda High School, located at 2200 Central Avenue in Alameda, California. A Site Location Map is shown on Figure 1. The purpose of our Geotechnical Investigation is to review subsurface conditions, evaluate geotechnical hazards that may affect the planned development, and provide geotechnical recommendations and design criteria for the project. In accordance with our proposal dated July 20, 2022, we are providing our geotechnical engineering services in three phases: 1) Geotechnical Engineering Investigation and report for the proposed improvements, 2) supplemental consultation and geotechnical design review, and 3) construction observation and testing. This report completes our Phase 1 services and includes the following:

- Review of readily available published geologic and geotechnical reference data;
- Review of previous exploration of subsurface conditions.
- Performance of subsurface exploration in the proposed building areas with three Cone Penetration Tests (CPTs).
- Evaluation of geologic hazards and development of conceptual mitigation measures;
- Development of geotechnical recommendations and design criteria (i.e., site grading, seismic, foundation, etc.) for the project; and,
- Preparation of this report summarizing our findings.

2.0 PROJECT DESCRIPTION

The proposed project consists of the replacement of two existing swimming pools and renovation of the existing one-story aquatic center building and canopy, located at the eastern central portion of the campus, as shown on the Site Plan, Figure 2. No seismic work is proposed for the existing aquatic center building renovation, but new gravity columns will be constructed. A pool equipment vault, with a floor elevation approximately five feet below existing grade, is planned. Musco lighting is also planned for the new aquatic center. Ancillary improvements may include underground utilities, new asphalt pavements and concrete flatwork, and landscaping.

3.0 SITE CONDITIONS

3.1 Regional Geology

The site is located within the Coast Ranges Province of California. The regional bedrock geology consists of complexly folded, faulted, sheared, and altered sedimentary, igneous, and

metamorphic rock of the Franciscan Complex. Bedrock is characterized by a diverse assemblage of greenstone, sandstone, shale, chert, and mélange, with lesser amounts of conglomerate, calc-silicate rock, schist, and other metamorphic rocks.

The regional topography is characterized by northwest-southeast trending mountain ridges and intervening valleys that were formed by movement between the North American and the Pacific Plates. Continued deformation and erosion during the late Tertiary and Quaternary Age (the last several million years) formed the prominent coastal ridges and the inland depression that is now the San Francisco Bay. The more recent seismic activity within the Coast Range Geomorphic Province is concentrated along the San Andreas Fault zone, a complex group of generally north to northwest trending faults.

Regional geologic mapping by USGS (Helley and Graymer, 1997; Graymer, 2000) indicates that Alameda High School is underlain by aeolian (dune) sands of Holocene and Pleistocene age. Helley and Graymer's map refers to this unit as Merritt Sand (map unit Qms) displaying yardang dune morphology, while Graymer's more recent map identifies them as Quaternary Dune Sand (map unit Qds, as shown on Figure 3) displaying barchan dune morphology, offering an estimated age of approximately 6,000- to 71,000-years old, and indicating previous recognition of paleosols within the deposits. Aside from dune morphology, the map unit descriptions offered in the accompanying reports are nearly identical, with the respective units each described as "fine-grained, very well sorted, well-drained aeolian deposits," and each report indicates the units are likely time-correlative and similarly interfingered with other alluvial deposits. No significant artificial (manmade) fills or soft clay (Bay Mud) underlie the project site. A regional geologic map is shown on Figure 3.

3.2 Surface Conditions

The Alameda High School campus is located on the northerly side of Encinal Avenue, between Oak Street and Walnut Street in Alameda, as shown on the Site Location Map, Figure 1. The existing campus consists of numerous permanent and portable buildings, paved driveways, parking areas, play areas, and landscaping improvements, as shown on the Site Plan and Geologic Map, Figure 2. The ground surface at the project site and the surrounding area is characterized by nearly level to slightly sloping terrain.

The Emma Hood Aquatic Center includes two swimming pools surrounded by concrete decking, an existing one-story aquatic center building located northeast of the pools, and a large open canopy structure on the northeast side of the aquatic center building.

3.3 Field Exploration and Laboratory Testing

We explored the subsurface soil and groundwater conditions with three Cone Penetration Tests (CPTs) at the approximate locations shown on the Site Plan, Figure 2. The CPTs were conducted

with truck-mounted equipment on August 9, 2022. The CPTs were extended to maximum depths of 50 feet below the ground surface. A schematic of the CPT apparatus and a CPT Soil Interpretation Chart is provided on Figure A-1. CPT logs are shown on Figures A-2 through A-4.

Miller Pacific also explored the subsurface conditions at the site in 2014 with an additional six CPTs that extended to depths of about 25 feet to 50 feet, as well as four borings that extended to depths between 20.5 and 25.5 feet. Five additional CPTs were performed in 2017 that extended 46 to 80 feet below the ground surface. The relevant CPT and boring logs from our previous exploration are included in Appendix B.

3.4 Subsurface Conditions

The results of our CPTs and previous subsurface exploration indicate that subsurface conditions are generally consistent with the regionally mapped geology. Review of subsurface data collected at the site indicates that the proposed building site is generally underlain by very loose to loose sand to silty sand to a depth of approximately 6 to 10 feet beneath the ground surface. Soils at depths greater than ten feet consist predominantly of medium-dense to dense silty sand and sandy silt, which extend to the maximum explored depth of 50 feet or more. Given the similarity between dune sand units mapped regionally by others and barring the ability to examine these materials in-situ for evidence of age or dune morphology, soils are judged to belong to either the Quaternary Dune Sand or Merritt Sand units mapped previously by others. Simplified geologic cross sections are presented on Figure 4.

Groundwater was measured at approximately 5- to 10-feet below the ground surface during our CPT investigation. Groundwater was measured at 10.5- to 19.5-feet below the ground surface during previous subsurface exploration in 2014. It is anticipated that the groundwater level beneath the site is influenced by tidal activity in the nearby San Francisco Bay.

We researched both the California State Water Resource Control Board's GeoTracker website (http://geotracker.waterboards.ca.gov/) and the Department of Water Resources Water Library website (http://www.water.ca.gov/waterdatalibrary) to determine if existing groundwater elevation data was available in the immediate vicinity of the campus. The Department of Water Resources Water Library search did not indicate any wells within 1-mile of the project site with groundwater data. We recommend that the highest historic groundwater be assumed at the ground surface for engineering analyses.

3.5 Seismicity

The project site is located within a seismically active region that includes the Central and Northern Coast Mountain Ranges. Several active faults are present in the area including Hayward, San Andreas, Mount Diablo, San Gregorio, and Contra Costa Faults, among others. An "active" fault is defined as one that shows displacement within the last 11,000 years and, therefore, is considered more likely to generate a future earthquake than a fault that shows no evidence of recent rupture. The California Geologic Survey has mapped various active and inactive faults in the region (CDMG, 1972 and 2000). These faults are shown in relation to the project site on the attached Active Fault Map, Figure 5. The Hayward Fault is the nearest known active fault and is located approximately 6.2 kilometers (3.8-miles) northeast of the site (USGS, CGS, 2010).

3.5.1 Historic Fault Activity

Numerous earthquakes have occurred in the region within historic times. Earthquakes (magnitude 2.0 and greater) that have occurred in the San Francisco Bay Area since 1985 have been plotted on a map shown on Figure 6.

Significant historic earthquakes affecting Alameda include the M7.0 1868 earthquake, centered on the Hayward Fault about 6.2-kilometers northeast of the site, and the M7.8 1906 earthquake on the San Andreas Fault about 23.5-kilometers southwest of the site. Both events caused severe damage, ranking VIII on the Modified Mercalli Index, and causing extensive structural damage to unreinforced concrete and masonry structures (CGS, 2019). Events in 1838 (Hayward Fault) and 1989 (San Andreas Fault) caused slightly less severe but still extensive damage, and several dozen small earthquakes per year can generally be felt in the area.

3.5.2 Probability of Future Earthquakes

The site will likely experience moderate to strong ground shaking from future earthquakes originating on any of several active faults in the San Francisco Bay region. The historical records do not directly indicate either the maximum credible earthquake or the probability of such a future event. To evaluate earthquake probabilities in California, the USGS has assembled a group of researchers into the "Working Group on California Earthquake Probabilities" (USGS 2003, 2008; Field, et al 2015) to estimate the probabilities of earthquakes on active faults. These studies have been published cooperatively by the USGS, CGS, and Southern California Earthquake Center (SCEC) as the Uniform California Earthquake Rupture Forecast, Versions 1, 2, and 3.

In these studies, potential seismic sources were analyzed considering fault geometry, geologic slip rates, geodetic strain rates, historic activity, micro-seismicity, and other factors to arrive at estimates of earthquakes of various magnitudes on a variety of faults in California. The 2008 study specifically analyzed fault sources and earthquake probabilities for the seven major regional fault systems in the Bay Area region, and the entire state of California and updated some of the analytical methods and models. The most recent 2015 study (UCERF3) further expanded the database of faults considered and allowed for consideration of multi-fault ruptures, among other improvements.

Conclusions from the most recent UCERF3 and USGS' 2016 Fact Sheet (Aagard et al, 2016) indicate there is a 72% chance of an M>6.7 earthquake in the San Francisco Bay Region between 2014 and 2043. The highest probability of an M>6.7 earthquake on any of the active faults in the San Francisco Bay region by 2043 is assigned to the Hayward/Rodgers Creek Fault system, located approximately 6.2-kilometers northeast of the site, at 33%. Additional studies by the USGS regarding the probability of large earthquakes in the Bay Area are ongoing. These current evaluations include data from additional active faults and updated geological data.

4.0 GEOLOGIC HAZARDS EVALUATION

The principal geologic hazards which could potentially affect the project site are strong seismic shaking from future earthquakes in the San Francisco Bay Region, liquefaction, and post-liquefaction settlement. Other hazards, such as fault rupture, tsunami inundation, slope instability,

and others, are not considered significant at the site. More detailed discussion of each geologic hazard considered, their anticipated impacts, and recommended mitigation measures are discussed below.

4.1 Fault Surface Rupture

Under the Alquist-Priolo Earthquake Fault Zoning Act, the California Geological Survey (CDMG)/California Geologic Survey (CGS) (1972, 2000) produced 1:24,000 scale maps showing all known active faults and defining zones within which special fault studies are required. Based on currently available published geologic information, the project site is not located within an Alquist-Priolo Earthquake Fault Zone (Davis, 1982), nor is the site within the City's General Plan Fault Rupture Hazard Zone. Additionally, we did not observe any evidence of active faulting during our site reconnaissance or previous work in the area. Therefore, the potential for fault surface rupture on the campus is considered to be low.

Evaluation: *No significant impact.*
Recommendations: *No special engineering measures are required.*

4.2 Seismic Shaking

The site will likely experience seismic ground shaking from future earthquakes in the San Francisco Bay Area. Earthquakes along several active faults in the region, as shown on Figure 5, could cause moderate to strong ground shaking at the site.

4.2.1 Deterministic Seismic Hazard Analysis

Deterministic Seismic Hazard Analysis (DSHA) predicts the intensity of earthquake ground motions by analyzing the characteristics of nearby faults, distance to the faults and rupture zones, earthquake magnitudes, earthquake durations, and site-specific geologic conditions. Empirical relations (Abrahamson, Silva & Kamai, Boore, Stewart, Seyhan & Atkinson, Campbell & Borzognia, and Chiou & Youngs, (2014)) for the liquefiable subsurface conditions were utilized to provide approximate estimates of median peak site accelerations. A summary of the principal active faults affecting the site, their closest distance, moment magnitude of characteristic earthquake, probable median accelerations and plus one standard deviation ($+1\sigma$), peak ground accelerations (PGA) for earthquakes on faults near the site are shown in Table A.

TABLE A
DETERMINISTIC PEAK GROUND ACCELERATION
Emma Hood Aquatic Center
Alameda High School
Alameda, California

Fault	Fault Distance[1]	Moment Magnitude[2]	Median PGA[3,4]	+1σ PGA3,[4]
Hayward	6.2 km	7.58	0.41 g	0.69 g
San Andreas	23.5 km	8.04	0.26 g	0.45 g
Calaveras	19.9 km	7.43	0.24 g	0.40 g
Mount Diablo	22.9 km	7.12	0.19 g	0.33 g
San Gregorio	30.8 km	7.44	0.18 g	0.31 g

Notes:
1. Values determined using Google Earth KML Files showing Quaternary Faults & Folds in the US obtained from USGS website August 17, 2023.
2. Values determined using USGS Earthquake Scenario Map (BSSC 2014), accessed 2023.
3. Values determined using V_{S30} = 260 m/s, for Site Class "D".
4. Values determined using Pacific Earthquake Engineering Research Center (PEER) NGA-West2 Excel Spreadsheet, http://peer.berkeley.edu/ngawest2/databases/.

4.2.2 Probabilistic Seismic Hazard Analysis

Probabilistic Seismic Hazard Analysis (PSHA) analyzes all possible earthquake scenarios while incorporating the probability of each individual event to occur. The probability is determined in the form of the recurrence interval, which is the average time for a specific earthquake acceleration to be exceeded. The design earthquake is not solely dependent on the fault with the closest distance to the site and/or the largest magnitude, but rather the probability of given seismic events occurring on both known and unknown faults.

We calculated the PGA for two separate probabilistic conditions, the 2% chance of exceedance in 50 years (2,475-year statistical return period) and the 10% chance of exceedance in 50 years (475-year statistical return period), utilizing the online USGS Unified Hazard Tool (USGS, 2020). The results of the probabilistic analyses are presented below in Table B.

TABLE B
PROBABILISTIC SEISMIC HAZARD ANALYSES
Emma Hood Aquatic Center
Alameda High School
Alameda, California

	Statistical Return Period	Magnitude	PGA
2% in 50 years	2,475 years	7.0	0.92 g
10% in 50 years	475 years	6.9	0.57 g

Notes:
1. Reference: USGS Unified Hazard Tool accessed on August 17, 2023. Site Class D = 260 (ft/sec)

The potential for strong seismic shaking at the project site is high. Due to its close proximity, the Hayward Fault (approximately 6.2 kilometers northeast of the site) presents the highest potential for strong ground shaking. The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements.

Evaluation: *Less than significant with mitigation.*
Recommendations: *Minimum mitigation measures should include designing the structures and foundations in accordance with the most recent version of the California Building Code. Recommended seismic coefficients are provided in Section 5.2 of this report.*

4.3 Liquefaction Potential and Related Impacts

Liquefaction refers to the sudden, temporary loss of soil shear strength during strong ground shaking. Liquefaction-related phenomena include liquefaction-induced settlement, flow failure, and lateral spreading. These phenomena can occur where there are saturated, loose, granular deposits. Recent advances in liquefaction studies indicate that liquefaction can occur in granular materials with a high, 35 to 50%, fines content (soil particles that pass the #200 sieve), provided the fines exhibit a plasticity less than 7. Saturated granular layers were observed during our subsurface exploration. Additionally, regional mapping indicates the site lies in a zone of "moderate liquefaction susceptibility," as shown on Figure 7.

4.3.1 Liquefaction Evaluation

To evaluate soil liquefaction, the seismic energy from an earthquake is compared with the ability of the soil to resist pore pressure generation. The earthquake energy is termed the cyclic stress ratio (CSR) and is a function of the maximum credible earthquake peak ground acceleration (PGA) and depth. The soil resistance to liquefaction is based on the relative density, and the amount and plasticity of the fines (silts and clays). The relative density of cohesionless soil is correlated with Cone Penetration Test data measured in the field.

We analyzed the potential for liquefaction utilizing the CPT Liquefaction Assessment software program CLiq (2006, ver. 2.3.1.15), and the procedures outlined by Idriss and Boulanger (2014). The design seismic conditions consisted of a magnitude 7.58 earthquake producing a PGA of 0.71 g, which corresponds to the PGA_M per ASCE 7-16 Section 11.8.3, and assuming groundwater at the ground surface. The results of our liquefaction analyses are presented on Figures 8 through 13 and indicate granular soil layers observed between roughly the ground surface and ten feet, and discontinuous lenses between roughly 18 and 50 feet below the ground surface classify as liquefiable during the design seismic event. Therefore, we judge the risk of liquefaction at the site is moderate to high.

4.3.2 Post Liquefaction Settlement and Lateral Spread

We have estimated the amount of post liquefaction settlement utilizing the procedures outlined by Idriss and Boulanger (2008, 2010 & 2014), which indicate post liquefaction settlement can occur in soils that exhibit a factor of safety against liquefaction of 2.0 or less. Potential liquefaction of sandy layers between zero and ten feet below the ground surface may result in ground surface settlement of between roughly 1.5-inches to 2.0-inches, based on the liquefaction analyses discussed above. Potential liquefaction induced differential ground surface settlement over a horizontal distance of 30 feet is estimated to be approximately one half of the total settlement (approximately 0.75 to 1.0-inch).

Due to potential liquefaction of the soil between the ground surface and a depth of ten feet, there is a potential to lose bearing capacity for shallow footings that do not extend below a depth of ten feet. The anticipated settlement associated with temporary loss of bearing capacity during a seismic event is relatively large, perhaps several inches.

Based on procedures outlined by Idriss and Boulanger, 2014, the discontinuous and relatively thin layers of potentially liquefiable soil observed 18-feet to 50-feet below the ground surface in the CPT's may experience 0.25-inch to 0.75-inch of post-liquefaction settlement. Potential liquefaction induced differential ground surface settlement over a horizontal distance of 30 feet is estimated to be approximately 0.50-inch or less due to liquefaction of layers below 18 feet.

Evaluation: *Less than significant with mitigation.*

Recommendations: *Foundations should consist of helical piles that carry building loads to the dense sand beneath the loose sand in the upper ten feet. The foundation system should be designed to resist down drag loading to account for liquefaction induced settlement from the upper 10-feet of surficial soils. Alternatively, the loose sandy soil can be overexcavated beneath proposed improvements to expose medium dense to dense soil at a depth of about 10-feet, and be replaced with compacted, engineered fill. Foundation design criteria to mitigate the effects of liquefaction as provided in Section 5.3 should be followed.*

4.4 Seismically Induced Ground Settlement

Seismic ground shaking can induce settlement of unsaturated, loose, granular soils. Settlement occurs as the loose soil particles rearrange into a denser configuration when subjected to seismic ground shaking. Varying degrees of settlement can occur throughout a deposit, resulting in differential settlement of structures founded on such deposits. We did encounter loose granular soils above the water table during our subsurface exploration, and seismically induced ground settlement is therefore considered to present a moderate risk to the project.

Evaluation: *Less than significant with mitigation.*
Recommendations: *Foundations should consist of helical piles that carry building loads to the dense sand beneath the loose sand in the upper ten feet. Alternatively, the upper ten feet of loose sand can be overexcavated and replaced with compacted, engineered fill.*

4.5 Cyclic Softening and Related Impacts

Cyclic softening refers to a loss of shear strength within a sensitive, cohesive, fine-grained soil (silt and clay) during a seismic event. The effects of cyclic softening can result in a reduction of the soil undrained shear strength that subsequently can cause a significant loss of bearing capacity or slope failures. Soft clay soils were not encountered during our exploration, therefore the risk of cyclic softening at the project site is low.

Evaluation: *No significant impact.*
Recommendations: *No special engineering measures are required.*

4.6 Lurching and Ground Cracking

Lurching and associated ground cracking can occur during strong ground shaking. The ground cracking generally occurs along the tops of slopes where stiff soils are underlain by soft deposits or along steep slopes or channel banks. These conditions do not exist at or near the site. Therefore, the potential of lurching and ground cracking is not considered a significant risk to the project improvements.

Evaluation: *No significant impact.*
Recommendations: *No special engineering measures are required.*

4.7 Erosion

Sandy soils on moderate slopes or clayey soils on steep slopes are susceptible to erosion when exposed to concentrated water runoff. These conditions do not exist at the site. Additionally, we did not observe any evidence of excessive erosion during our site reconnaissance. However, there is always some potential for localized erosion due to concentrated surface water flows.

Evaluation: *Less than significant with mitigation.*
Recommendations: *Mitigation measures include designing a site drainage system to collect surface water and discharging it into an established storm drainage system. The project Civil Engineer of Architect is responsible for designing the site drainage system and, an erosion control plan could be developed prior to construction per the current guidelines of the California Stormwater Quality Association's Best Management Practice Handbook.*

4.8 Seiche and Tsunami

Seiche and tsunamis are short duration, earthquake-generated water waves in large, enclosed bodies of water and the open ocean, respectively. The extent and severity of a seiche or tsunami would be dependent upon ground motions and fault offset from nearby active faults.

According to data from the National Oceanic and Atmospheric Administration (NOAA), approximately 77 credible seiche or tsunami have been recorded or observed within the San Francisco Bay area since 1700. Of these, only 14 resulted in recorded wave run-up at Alameda, with the 1964 Alaska earthquake (Magnitude 9.2) producing a maximum wave height of 0.80-meters (NOAA 2015).

There have been eight credible local seiche events observed in San Francisco Bay between 1854 and 1906, six of which are attributed to earthquake activity and two to landslides. The Mare Island earthquake caused the largest seiche with 0.6-meter amplitude waves near Benicia and is attributed to slip on the Rodgers Creek fault. No confirmed seiche have been recorded in San Francisco Bay since 1906. In light of the recorded history of seiche in San Francisco Bay, we judge that the risk of seiche or tsunami in excess of the height observed in 1964 (approximately 2.6-feet) is low.

The site is not mapped within a tsunami inundation zone (Figure 14). Therefore, the risk of damage to the proposed structures due to seiche or tsunami is judged to be low.

Evaluation: *No significant Impact.*
Recommendations: *No special engineering measures are required.*

4.9 Flooding

The project site is not mapped within a FEMA 100-year or 500-year flood zone (ABAG, 2023); therefore, large scale flooding does not present a significant hazard to the project. However, as with all site developments that modify existing grades, localized flooding may occur if not considered when developing the grading plans. The project Civil Engineer is responsible for site drainage and should evaluate localized flooding potential and provide appropriate mitigation.

Evaluation: *Less than significant with mitigation.*
Recommendations: *The project Civil Engineer should evaluate the risk of localized flooding and provide an appropriate storm drain design.*

4.10 Dam Failure Inundation

The Association of Bay Area Governments (ABAG) does not map the project site within a dam inundation zone, and no significant dams exist in close proximity to the site. Therefore, the threat of inundation of the site from dam failure is low.

Evaluation: *No significant Impact.*
Recommendations: *No special engineering measures are required.*

4.11 Expansive Soil

Expansive soils will shrink and swell with fluctuations in moisture content and are capable of exerting significant expansion pressures on building foundations, interior floor slabs, and exterior flatwork. Distress from expansive soil movement can include cracking of brittle wall coverings (stucco, plaster, drywall, etc.), racked door and/or window frames, and uneven floors and cracked slabs. Flatwork, pavements, and concrete slabs-on-grade are particularly vulnerable to distress due to their low bearing pressures. Based on our subsurface exploration and laboratory testing, the surficial soils consist generally of sandy fill soils with a low expansive potential. Therefore, we judge the risk of expansive soil affecting the proposed improvements is low.

Evaluation: *No significant impact.*
Recommendations: *No special engineering measures are required.*

4.12 Settlement/Subsidence

Significant settlement can occur when new loads are placed at sites due to consolidation of soft compressible clays (i.e., Bay Mud) or compression of loose soils. Soft compressible materials that have a significant potential for and consolidation settlement with an applied surface load were not observed during our subsurface exploration. Loose sandy soil with a potential for compression settlement under foundation loading was encountered between the ground surface and a depth of about ten feet. Therefore, the risk of compression settlement to the project improvements is moderate.

Evaluation: *Less than significant with mitigation.*
Recommendations: *Foundations should consist of helical piles that carry building loads to the dense sand beneath the loose sand in the upper ten feet.*

4.13 Slope Instability/Landsliding

Slope instability generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The campus lies on nearly level terrain and we did not observe evidence of ongoing or historic slope instability during our site reconnaissance, therefore, slope instability/landsliding is not considered a significant geologic hazard at the project site.

Evaluation: *No significant impact.*
Recommendations: *No special engineering measures are required.*

4.14 Soil Corrosion

Corrosive soil can damage buried metallic structures, cause concrete spalling, and deteriorate rebar reinforcement. Laboratory testing was performed on a representative sample of the near-surface site soils to evaluate pH, electrical resistivity, chloride, and sulfate contents. These laboratory test results are presented in Appendix D.

The results of our corrosivity testing indicate the upper soil layer has a pH of about 5.25, a chloride concentration of 27 parts per million (ppm), and a sulfate concentration of 1,665 ppm. Per Caltrans Corrosion Guidelines (2003), a soil is considered corrosive if the pH level is less than 5.5, the

chloride concentration is greater than 500 ppm, and/or the sulfate concentration is 2,000 ppm or greater. Therefore, based on the results of the corrosion testing, corrosive soil is considered a moderate risk to existing site improvements.

Evaluation: *Less than significant with mitigation.*
Recommendations: *A qualified corrosion engineering specialist should be consulted to provide design details for corrosion protection of site improvements, as required.*

4.15 Radon-222 Gas

Radon-222 is a product of the radioactive decay of uranium-238 and radium-226, which occur naturally in a variety of rock types, mainly phosphatic shales, but also in other igneous, metamorphic, and sedimentary rocks. While low levels of radon gas are common, very high levels, which are typically caused by a combination of poor ventilation and high concentrations of uranium and radium in the underlying geologic materials, can be hazardous to human health.

The project site is located in Alameda County, California, which is mapped in radon gas Zone 2 by the United States Environmental Protection Agency (USEPA, 2019). Zone 2 is classified by the EPA as exhibiting a "moderate" potential for Radon-222 gas with average predicted indoor screening levels between 2 and 4 pCi/L. Therefore, the potential for hazardous levels of radon at the project site is moderate.

Evaluation: *Less than significant with mitigation.*
Recommendations: *The use of a vapor barrier beneath any new buildings is recommended to reduce the potential radon exposure risk.*

4.16 Volcanic Eruption

Several active volcanoes with the potential for future eruptions exist within northern California, including Mount Shasta, Lassen Peak, and Medicine Lake in extreme northern California, the Mono Lake-Long Valley Caldera complex in east-central California, and the Clear Lake Volcanic Field, located in Lake County approximately 88 miles north of the project site. The most recent volcanic eruption in northern California was at Lassen Peak in 1917, while the most recent eruption at the nearest volcanic center to the project site, the Clear Lake Volcanic Field, was about 10,000 years ago. All of northern California's volcanic centers are currently listed under "normal" volcanic alert levels by the USGS California Volcano Observatory (USGS, 2019a). While the aforementioned volcanic centers are considered "active" by the USGS, the likelihood of damage to the proposed improvements due to volcanic eruption is generally low.

Evaluation: *No significant impact.*
Recommendations: *No special engineering measures are required.*

4.17 Naturally Occurring Asbestos (NOA)

Naturally occurring asbestos is commonly found in association with serpentinite and associated ultramafic rock types. These rocks are a major constituent of the Franciscan Complex, which underlies vast portions of the greater San Francisco Bay Area. The site is underlain by relatively thick native alluvial soils, and while it lies in a region dominated in part by Franciscan Complex

bedrock, no evidence suggesting the presence of serpentinite or related rock types was observed during our exploration. Therefore, the likelihood that significant deposits of naturally occurring asbestos will be encountered at the site is low.

Evaluation: *No significant impact.*
Recommendations: *No special engineering measures are required.*

4.18 Hazardous Materials

Hazardous materials were not physically observed during our subsurface exploration. While environmental testing for hazardous materials was beyond the scope of our services, we did observe enclosures that contain HVAC units and other industrial equipment that has the potential for creating hazardous materials. Therefore, we judge the potential for hazardous materials being present on the project site, currently or in the future, is moderate.

Evaluation: *Less than significant with mitigation.*
Recommendations: *The campus should comply with all local, state, and federal guidelines to minimize the exposure to hazardous materials. If a possible hazardous material spill occurs on campus, a qualified environmental specialist should be consulted.*

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our experience with similar projects in the Alameda area, we conclude that, from a geotechnical standpoint, the site is feasible for the planned improvements. The primary geotechnical issues to address in design of the project are strong seismic ground shaking, liquefaction, and both static and liquefaction induced settlement. Specific recommendations and design criteria to address these and other geotechnical project facets are presented in the following sections.

5.1 Seismic Design

The project site is located in a seismically active area. Therefore, structures should be designed in conformance to the seismic provisions of the most recent (2022) California Building Code (CBC). However, since the goal of the building code is protection of life safety, some structural damage may still occur during strong ground shaking.

Due to the presence of sandy soil layers beneath the building site that may be prone to liquefaction, we judge the site should be classified as “Site Class F” per the 2022 California Building Code. However, per section 20.3.1 of the ASCE 7-16, a site-specific seismic response analysis (i.e., SHAKE, DeepSoil, etc.) is not required if the proposed structure has a fundamental period less than 0.5 seconds. We anticipate the proposed structure will have a fundamental period of less than 0.5-seconds; therefore, we recommend classifying the site as a “Site Class D”.

Per ASCE 7-16 Section. 11.4.8, a Site-Specific Ground Motion Hazard Analysis shall be performed in accordance with ASCE 7-16 Section 21.2 on sites classified as a “Site Class D” if the S_S value is greater than or equal to 1.0 g or S_1 values greater than 0.2 g. The S_s and S_1 for the site conditions and location are 1.68 g and 0.64 g, respectively; therefore, we performed a Site-Specific Ground Motion Hazard Analysis as presented in Appendix C, and results are presented below in Table C

TABLE C
ASCE 7-16 / 2022 CBC FACTORS
Emma Hood Aquatic Center
Alameda High School
Alameda, California

Factor Name	Coefficient	ASCE 7-16 Site Specific Value
Site Class[1]	$S_{A,B,C,D,E, or F}$	S_D
Spectral Response (short)	SM_S	1.86 g
Spectral Response (1-sec)	SM_1	2.30 g
Design Spectral Response (short)	SD_S	1.24 g
Design Spectral Response (1-sec)	SD_1	1.53 g
MCE_G[2] PGA adjusted for Site Class	PGA_M	0.71 g

Notes:
1. Site Class D Description: Stiff soil profile with shear wave velocities between 600 and 1,200 ft/sec, standard blow counts between 15 and 50 blows per foot, and undrained shear strength between 1,000 and 2,000 psf.
2. Maximum Considered Earthquake Geometric Mean.

However, per ASCE 7-16; Supplement 3; Section 11.4.8, a Site-Specific Ground Motion Hazard Analysis is not required if the Project Structural Engineer increases the S_{M1}, as determined per ASCE 7-16 Equation 11.4-2, by 50%. If the Project Structural Engineer utilizes this exception the seismic design values summarized on Table D below should be utilized.

TABLE D
ASCE 7-16 / 2022 CBC FACTORS
Emma Hood Aquatic Center
Alameda High School
Alameda, California

Factor Name	Coefficient	2022 CBC Site Specific Value
Site Class[1]	$S_{A,B,C,D,E, or F}$	S_D
Spectral Acc. (short)	S_S	1.68 g
Spectral Acc. (1-sec)	S_1	0.64 g
Site Amplification Factor at 0.2 sec.	F_a	1.0
Site Amplification Factor at 1.0 sec.	F_v	1.7
Spectral Response (short)	S_{MS}	1.68 g
Spectral Response (1-sec)[2]	S_{M1}	1.09 g
Design Spectral Response (short)	S_{DS}	1.12 g
Design Spectral Response (1-sec)	S_{D1}	0.79 g
MCE_G[3] PGA adjusted for Site Class	PGA_M	0.85 g

Notes:

1. Site Class D Description: Stiff soil profile with shear wave velocities between 600 and 1,200 ft/sec (180 to 365 m/s), standard blow counts between 15 and 50 blows per foot, and undrained shear strength between 1,000 and 2,000 psf.
2. S_{M1} and S_{D1}value includes a 50% increase to the value determined by ASCE 7-16 Equations 11.4-2 and 11.4-3.
3. Maximum Considered Earthquake Geometric Mean.

5.2 Site Preparation and Grading

The grading recommendations presented below are appropriate for construction in the late spring through fall months. From winter through the early spring months, on-site soils may be saturated due to rainfall and may be difficult to compact without drying by aeration or the addition of lime and/or cement (or a similar product) to dry the soils. Site preparation and grading should conform to the recommendations and criteria outlined below. General recommendations for wintertime construction are provided later in this report.

5.2.1 Surface Preparation

Clear all trees, brush, roots, over-sized debris, and organic material from areas to be graded. Trees that will be removed (in structural areas) must also include removal of stumps and roots larger than two inches in diameter. Excavated areas should be restored with properly moisture conditioned and compacted fill as described in the following sections. Debris, rocks larger than four inches, and vegetation are not suitable for structural fill and should be removed from the site. Alternatively, vegetation strippings may be used in landscape areas.

The subgrade surface should then be scarified to a depth of about eight inches, moisture conditioned to within 2% of the optimum moisture content and compacted to at least 90% relative compaction (ASTM D-1557).

Relative compaction should be increased to a minimum of 95% where new asphalt pavements are planned. Relative compaction, maximum dry density, and optimum moisture content of fill materials should be determined in accordance with ASTM Test Method D 1557, "Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using a 10-lb. Rammer and 18-in. Drop." If soft, wet, or otherwise unsuitable materials are encountered at the subgrade elevation during construction, we will provide supplemental recommendations/field directives to address the specific condition.

5.2.2 Excavations

Site excavations for underground utilities, and other improvements will generally encounter loose silty sand soil ten feet or more below the ground surface. Based on our subsurface exploration, we judge the majority of site excavations can be reasonably performed with “traditional” grading equipment, such as medium-size dozers, excavators, and backhoes. Excavations are likely to yield silty to sandy mixtures which may be suitable for re-use as fill, provided they can be processed to meet the requirements in Section 5.3.3.

All excavations in excess of 5-feet deep will need to be sloped or braced in accordance with Cal/OSHA regulations. Based on our exploration, onsite soils will be prone to sloughing, raveling and collapse in open excavations and should be considered “Type C.” The project Contractor should anticipate caving conditions and, where needed, provide a shoring system capable of providing immediate support to the walls of the excavation to reduce the risk of caving and collapse. Dewatering of excavations may also be necessary.

To protect existing footings from settlement/movement, we recommend that temporary excavations should be sloped no steeper than 3 horizontal to 1 vertical, measured from the bottom of the existing footing to the bottom of the adjacent temporary excavation. In all cases, the groundwater level must be maintained below the bottom of the temporary excavation. It is expected that dewatering will be required, particularly for excavations extending deeper than five feet below the existing site grades. Temporary excavations should be closely monitored, and excavation shoring should be provided, as necessary, to protect existing structures/footings.

5.2.3 Materials

If imported fill is required, the material shall consist of soil and rock mixtures that: (1) are free of organic material, (2) have a Liquid Limit less than 40 and a Plasticity Index of less than 12, (3) have a maximum particle size of 4 inches, and (4) have more than 50% retained on the No. 200 sieve. Any imported fill material shall be tested and inspected by the project geotechnical engineer to determine its suitability for use as fill material.

5.2.4 Compacted Fill

On-site fill, backfill, and scarified subgrades should be conditioned to within 2% of the optimum moisture content. Properly moisture conditioned and cured on-site materials should subsequently be placed in loose horizontal lifts of eight inches thick or less, and uniformly compacted to a minimum of 90% R.C. Relative compaction, maximum dry density, and optimum moisture content of fill materials should be determined in accordance with ASTM Test Method D 1557, "Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using a 10-lb. Rammer and 18-in. Drop".

5.3 Foundation Underpinning Design

Due to the anticipated loss of bearing capacity for shallow foundations during liquefaction, and the estimated liquefaction induced differential settlement that could occur during a large seismic event, we recommend that existing shallow foundations should be underpinned using helical piles. Alternatively, new foundations supported on helical piles could be utilized to support the renovated aquatic center and canopy structure, including beneath new gravity columns. Grade beams should be designed to span between the helical piles and not rely on the soil between the piles for vertical support.

Because helical piles generally do not provide significant lateral resistance, grade beams may be utilized to provide resistance to lateral loads within the surficial sandy soil, if necessary. A lateral passive resistance of 200 pcf can be used to resist lateral loading, and the passive resistance can be increased by one third for total design loads, including wind and seismic. The upper 12-inches of soil should be neglected in passive support unless the soil is confined by asphalt or concrete. The weight of the concrete grade beams should be included in the design loads to be carried by the helical piers.

Based on the soil conditions encountered during our investigation, and based on experience gained during the seismic retrofit project of the historic buildings located just north of the Emma Hood Aquatic Center, we anticipate that helical piles consisting of 2 inch square shafts with a 10 inch helix, 12 inch helix, and 14 inch helix on the lead section of shaft, extending to a depth of 20 to 30 feet below the ground surface will develop an ultimate load capacity of between about 50 kips (about 20 feet) and 100 kips (about 30 feet). In the case that the new loading is lighter than 50 kips, helical piles can consist of fewer helices on the lead section of shaft, and helical piles can be terminated at shallower depths. In all cases, helical piles will need to gain support in the medium dense to dense sand below the upper 10 feet of loose sand. The specific design of helical piles should be based on the required load capacity at each portion of the foundation system.

5.4 Swimming Pool and Below Grade Pool Equipment Vault Design Criteria

We anticipate new pool walls up to about ten feet in height will be required to accommodate the swimming pools. New retaining walls up to about six feet in height will be required for the proposed below grade pool equipment vault. The bottom of the new pools and equipment vault should be supported on dense silty sand below a depth of about ten feet, or gravel placed over dense silty sand. All loose sand above a depth of ten feet should be overexcavated beneath the new pool footprint areas and beneath the pool equipment vault to expose dense sand. A separation/filter fabric should be placed over the dense sand at the bottom of the overexcavation.

Clean, ¾ inch angular gravel can then be placed to form the bottom of the pools and pool equipment vault. The pools and below grade vaults should be designed utilizing the design criteria presented below in Table E.

To protect adjacent existing footings from settlement/movement, we recommend that temporary excavations should be sloped no steeper than 3 horizontal to 1 vertical, measured from the bottom of the existing footing to the bottom of the adjacent temporary excavation. In all cases, the groundwater level must be maintained below the bottom of the temporary excavation. It is expected that dewatering will be required, particularly for excavations extending deeper than five feet below the existing site grades. Temporary excavations should be closely monitored, and excavation shoring should be provided, as necessary, to protect existing structures/footings.

TABLE E
POOL AND EQUIPMENT VAULT DESIGN CRITERIA
Emma Hood Aquatic Center
Alameda High School
Alameda, California

Lateral Active Soil Pressure[1]:	85 pcf
Allowable Bearing Capacity[2]:	1,500 psf
Soil Friction:	0.35
Lateral Passive Soil Pressure[1]:	200 pcf

Notes:
1. Equivalent fluid pressure (assumes level surface at least ten feet back from pool or vault).
2. Assumes bottom of pool or vault supported on dense sand or gravel over dense sand. May increase by 1/3 for total design loads, including wind and seismic.

Pressure relief valves in the bottom of the pool shell/vault or an outlet pipe leading from the gravel layer beneath the pool shell/vault by gravity (min 1% slope) to daylight or to a pump, should also be considered to control hydrostatic uplift pressure on the pool shell in case the pool is ever emptied during a period of high groundwater. Finally, although we will defer to the pool designer, we generally recommend against a structural connection between the pool coping and adjacent flatwork (if any) since the pool gains support from deeper soil and small differential settlements could occur between the pool shell and surficial flatwork. It is anticipated that ground water may be encountered above a depth of ten feet in excavations for the proposed new swimming pools. Dewatering of the excavations should be anticipated and planned.

The below grade equipment vault should also be designed to resist hydrostatic uplift pressure. A thickened floor slab and/or helical hold-downs may be considered to resist uplift pressure.

5.5 Musco Lighting Foundation Design Criteria

The typical Musco Lighting pole foundation consists of a round precast, pre-stressed concrete bottom pole section centered in a minimum 30-inch diameter drilled pier excavation. Recommendations for drilled pier design criteria are presented in Table F.

It is anticipated that groundwater will be encountered in drilled pier excavations below a depth of about five to ten feet relative to the existing site grade. The upper ten feet of soil below the existing grade consists of loose silty sand, which grades to medium dense to dense silty sand below about ten feet. Both the loose and dense silty sand will be subject to sloughing/caving in drilled pier excavations, even potentially above the groundwater level. It should be anticipated that the drilled pier excavations will not be stable long enough to place steel and concrete without the use of a drilling fluid, casing the excavations, or other construction methods to stabilize the drilled excavations. The need to dewater the drilled pier excavations should be anticipated.

TABLE F
MUSCO LIGHTING FOUNDATION DESIGN CRITERIA
Emma Hood Aquatic Center
Alameda High School
Alameda, California

Drilled Piers:

Minimum diameter:	30 inches
Minimum penetration into medium dense/dense sand:	10 feet
Minimum total depth below rough pad grade:	20 feet
Skin Friction (dead plus live loads) [1,2,3]:	
Upper 10 feet	Discount
Medium dense/dense sand below 10 feet	600 psf
Lateral passive resistance [1, 4, 5]	
Upper 10 feet	Discount
Medium dense/dense sand below 10 feet	300 pcf

Notes:

1. May increase design values by 1/3 for total design loads, including wind and seismic.
2. Uniform pressure distribution. Discount end bearing resistance.
3. Uplift resistance is equal to 60% of downward skin friction.
4. Equivalent fluid pressure. Not to exceed 3,000 psf.
5. Apply values over effective width of 1.5 pier diameters.

5.6 Site and Foundation Drainage

The site is relatively flat and there is a possibility that new grading could result in adverse drainage patterns and water ponding around buildings. Careful consideration should therefore be given to the design of finished grades at the site. We recommend that landscaped areas adjoining new structures be sloped downward at least 0.25 feet for five feet (5%) from the perimeter of building foundations. Where hard surfaces, such as concrete or asphalt adjoin foundations, slope these surfaces at least 0.10 feet in the first five feet (2%). Roof gutter downspouts may discharge onto the pavements but should not discharge onto any landscaped areas. Provide area drains for landscape

planters adjacent to buildings and parking areas and collect downspout discharges into a nonperforated pipe collection system. Site drainage improvements should be connected into the existing campus storm drainage system. Specific design details for site drainage should be provided by the project civil engineer.

5.7 Concrete Slabs-On-Grade

To improve interior moisture conditions, a 4-inch layer of clean, free draining, 3/4-inch angular gravel should be placed beneath interior concrete slabs to form a capillary moisture break. The rock must be placed on a properly moisture-conditioned and compacted subgrade that has been approved by the Geotechnical Engineer. A plastic membrane vapor barrier, 15 mils or thicker and meeting the requirements of ASTM E-1745 Class A, should be placed over the rock layer and be installed per ASTM 1643. Eliminating the capillary moisture break and/or plastic vapor barrier may result in excess moisture intrusion through the floor slab resulting in mold growth or other adverse conditions.

It should be noted that where the gravel capillary break layer is placed beneath floor slabs (especially a below-grade mat slab), there is a chance that water will collect in the gravel layer and become trapped. If this condition occurs, the potential for moisture problems at the surface of the slab will be increased. One method of minimizing the potential for this to occur would be to construct a subdrain trench through and just below the gravel layer so that water collected in this area can escape. The subdrain should extend at least 12 inches below the base of the slab and six inches below the bottom of the gravel layer, and would consist of a four-inch diameter, perforated pipe (Schedule 40 PVC) surrounded by gravel. The subdrain would connect to the gravel layer beneath the slab, and the pipe should lead (at a minimum one percent slope) to a storm drain or another suitable outlet point. The outlet pipe should transition to a nonperforated pipe at a point three feet inside the perimeter footing of the structure. A compacted clayey soil plug or other type of moisture barrier should be placed around the pipe at the point where the outlet pipe leaves the building footprint to prevent seepage from backflowing into the underslab gravel layer.

The industry standard approach to floor slab moisture control, as discussed above, does not assure that floor slab moisture transmission rates will meet the building use requirements or that indoor humidity levels will be low enough to inhibit mold growth. Building design, construction, and intended use have a significant role in moisture problems and should be carefully evaluated by the owner, designer, and builder in order to meet the project requirements.

We recommend that exterior concrete slabs be at least 5-inches thick and reinforced with steel bars (not wire mesh). Additionally, contraction joints should be incorporated in the concrete slab in both directions, no greater than ten feet on center and the reinforcing bars should extend through these control joints. Some movement should be expected due to potential differential settlement of the sandy soil that underlies the site. Exterior concrete slabs should be underlain with at least 4-inches of Caltrans Class 2 Aggregate Base compacted to at least 92% relative compaction. The Structural Engineer should provide the design details for concrete flatwork.

5.8 Utility Trench Excavations and Backfills

Excavations for utilities will extend into loose to medium dense silty sand soils. Trench excavations having a depth of five feet or more that will be entered by workers must be sloped, braced, or shored in accordance with current Cal/OSHA regulations. On-site soils appear to be Type C. All

excavations where collapse of excavation sidewall, slope or bottom could result in injury or death of workers, should be evaluated by the contractor's safety officer and designated competent person prior to entering in accordance with current Cal/OSHA regulations.

Bedding materials for utility pipes should be well graded sand with 90 to 100% of particles passing the No. 4 sieve and no more than 5% finer than the No. 200 sieve. Provide the minimum bedding beneath the pipe in accordance with the manufacturer's recommendation, typically 3 to 6 inches. Trench backfill may consist of on-site soils, moisture conditioned to within 2% of the optimum moisture content, placed in thin lifts and compacted to a minimum of 90% relative compaction. Backfill for trenches within pavement areas should consist of non-expansive granular fill. Use equipment and methods that are suitable for work in confined areas without damaging utility conduits. Where utility lines cross under or through perimeter footings, they should be sealed to reduce moisture intrusion into the areas under the slabs and/or footings.

5.9 Wintertime Construction

Wintertime/wet weather site work is feasible during the construction phase of this project, provided that weather conditions do not adversely impact the planned grading and proper erosion control measures are implemented to prevent excessive silt from entering the storm drain system. High soil moisture contents and muddy site conditions may impact placing fills, compacting subgrades, and excavating foundation trenches. Several alternatives may be considered to improve the site conditions to allow site work to proceed in rainy conditions:

- Prior to the onset of winter rains, maintain a drier site by covering the work area and any stockpiled materials with plastic sheeting or other impermeable membrane. Where asphalt pavements, other hardscape or drainage improvements currently exist in work areas, consider leaving these improvements in place until the last possible moment to maintain a drier subgrade condition.

- Lime or cement treat the subgrade soils when site work commences to "weatherproof" the site. The disadvantage to this alternative is that future landscaping will likely require excavation and replacement of the treated soils for acceptable plant growth.

- Finally, imported drier fill materials could be used to stabilize the site. Soft or wet on-site materials could be excavated to firm materials and drier (preferably granular) soils with good drainage characteristics would be imported to restore site grades. This alternative might also require future excavation and replacement of landscaping soils.

If construction occurs relatively early in the winter, we judge the first option (covering the site prior to winter rains) could be an effective method of maintaining a workable site. When the construction schedule and weather conditions are known, we can meet with the project team to further discuss alternatives to continuing wintertime construction.

6.0 SUPPLEMENTAL GEOTECHNICAL SERVICES

We must review the plans and specifications for the project when they are nearing completion to confirm that the intent of our geotechnical recommendations has been incorporated and provide supplemental recommendations, if needed. During construction, we must observe and test site

grading, foundation excavations, helical pile installation and load testing, and other geotechnical related aspects of the project, to confirm that the soil conditions encountered during construction are consistent with the design criteria.

7.0 LIMITATIONS

This report has been prepared in accordance with generally accepted geotechnical engineering practices in the San Francisco Bay Area at the time the report was prepared. This report has been prepared for the exclusive use of Alameda Unified School District and/or its assignees specifically for this project. No other warranty, expressed or implied, is made. Our evaluations and recommendations are based on the data obtained during our subsurface exploration program and our experience with soils in this geographic area.

Our approved scope of work did not include an environmental assessment of the site. Consequently, this report does not contain information regarding the presence or absence of toxic or hazardous wastes.

The evaluations and recommendations do not reflect variations in subsurface conditions that may exist between CPT locations or in unexplored portions of the site. Should such variations become apparent during construction, the general recommendations contained within this report will not be considered valid unless MPEG is given the opportunity to review such variations and revise or modify our recommendations accordingly. No changes may be made to the general recommendations contained herein without the written consent of MPEG.

We recommend that this report, in its entirety, be made available to project team members, contractors, and subcontractors for informational purposes and discussion. We intend that the information presented within this report be interpreted only within the context of the report as a whole. No portion of this report should be separated from the rest of the information presented herein. No single portion of this report shall be considered valid unless it is presented with and as an integral part of the entire report.

8.0 LIST OF REFERENCES

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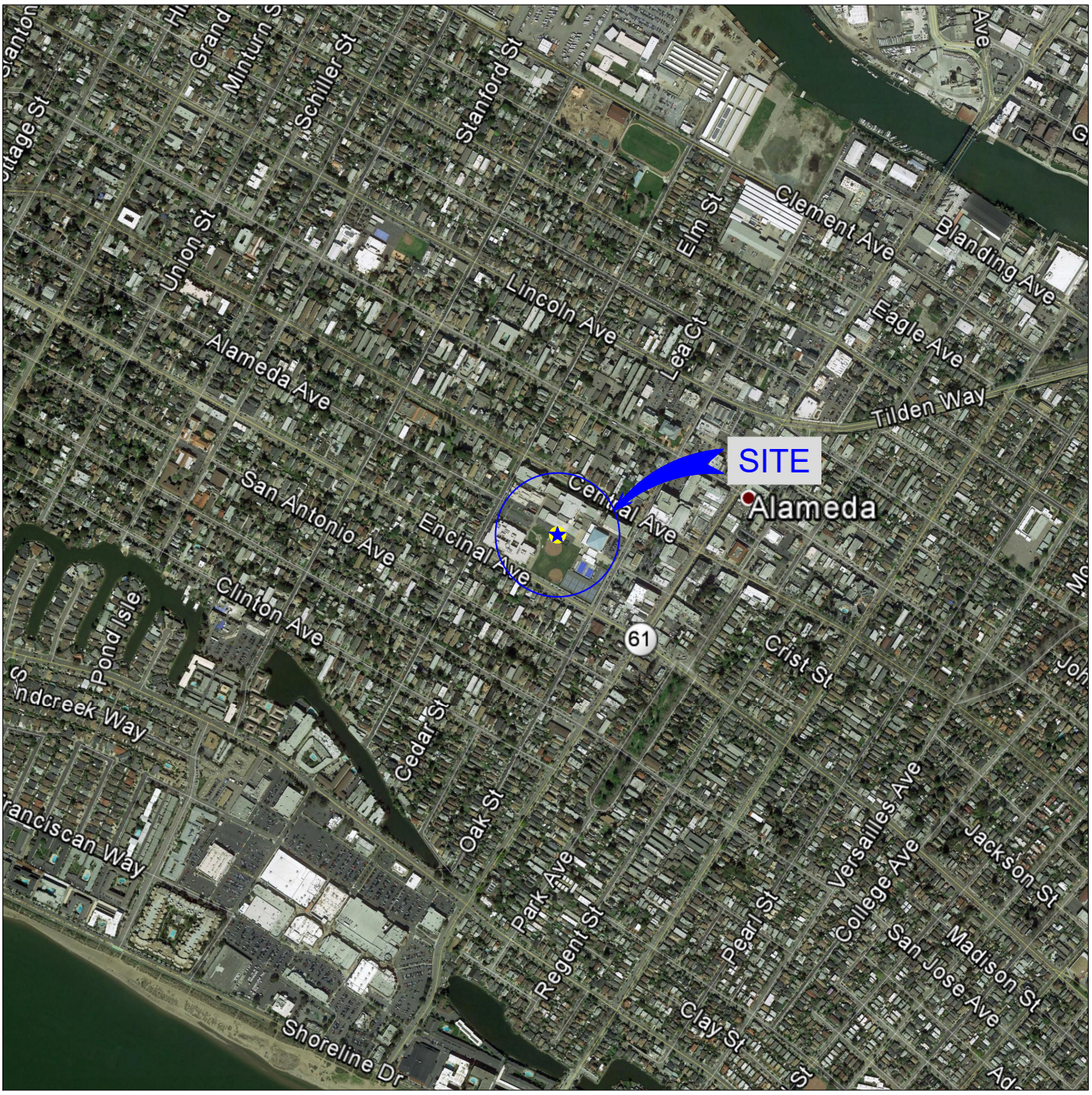
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SITE: LATITUDE, 37.7640°
LONGITUDE, -122.2455°

SITE LOCATION

N.T.S.

NORTH

REFERENCE: Google Earth, 2022

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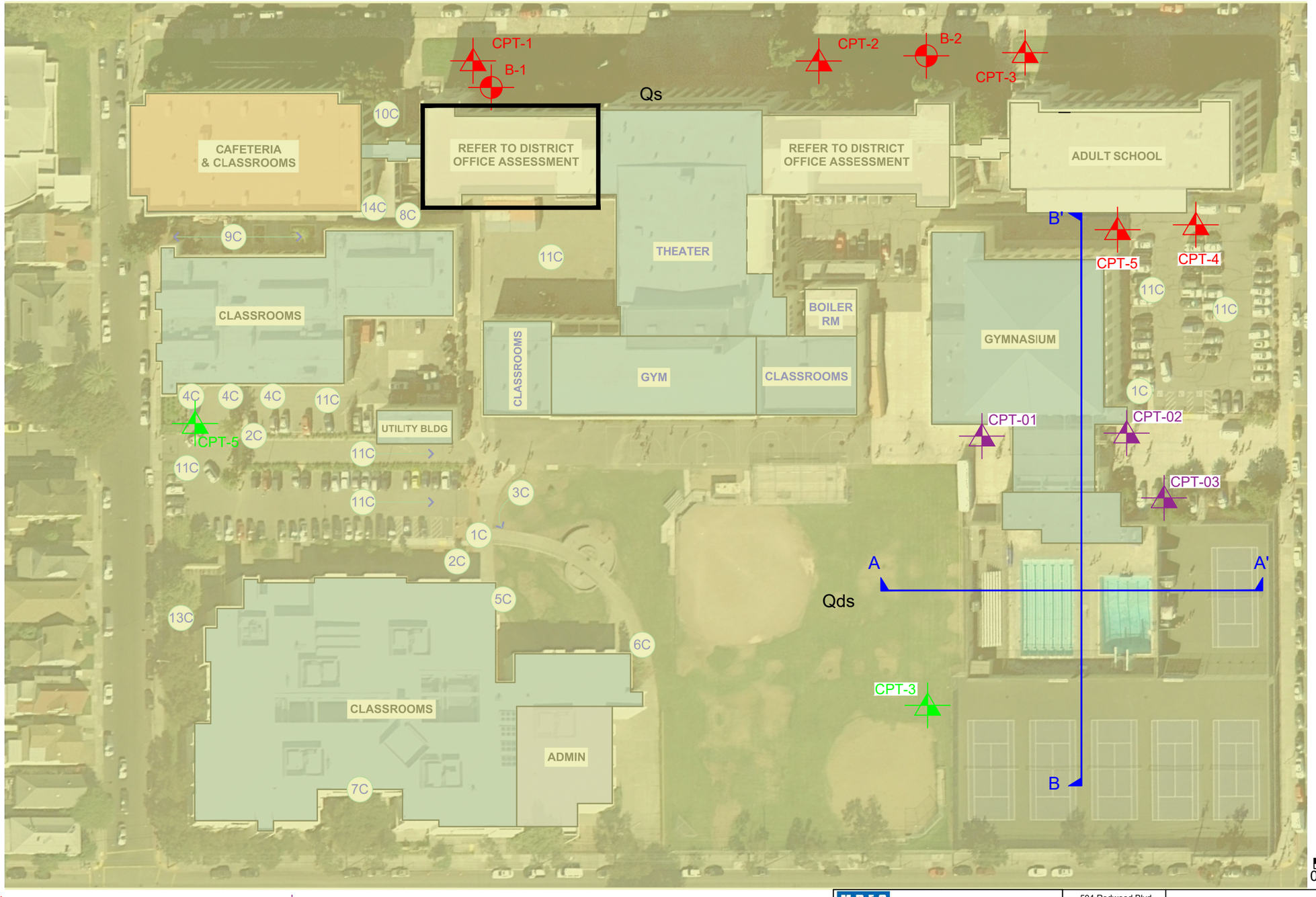
SITE LOCATION MAP

Alameda High School
Emma Hood Aquatic Center
Alameda, California

Project No. 1911.021 Date: 9/15/2022

Drawn MMC
Checked

1
FIGURE



MPEG CPT LOCATION, MAY 2014

MPEG CPT LOCATION, AUGUST 2022

MPEG CPT LOCATION, MAY 2017

MPEG BORING LOCATION, MAY 2014

REFERENCE: Site Plan Provided by QKA

GEOLOGIC CROSS SECTION, SEE FIGURE 4

Geologic Legend:

Qds Dune Sand

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SITE PLAN AND GEOLOGIC MAP

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Drawn MMC
Checked

FIGURE 2



REGIONAL GEOLOGIC MAP

(NOT TO SCALE)

NORTH

LEGEND

af — ARTIFICIAL FILL (HOLOCENE)
Man made deposit of various materials and ages. Some are compacted and quite firm, but fills made before 1865 are nearly everywhere not compacted and consist simply of dumped materials.

Qds — DUNE SAND (HOLOCENE AND PLEISTOCENE)
Fine-grained, very well sorted, well-drained, eolian deposits.They occur mainly in large sheets, as well as many small hills, most displaying Barchan morphology.Dunes display as much as 30 m of erosional relief and are presently being buried by basin deposits (Qhb) and bay mud (Qhbm). They probably began accumulating after the last interglacial high stand of sea level began to recede about 71 ka, continued to form when sea level dropped to its Wisconsin minimum about 18 ka, and probably ceased to accumulate after sea level reached its present elevation (about 6 ka). Atwater (1982) recognized buried paleosols in the dunes, indicating periods of nondeposition

REFERENCE: Graymer, R.W. (2000), "Geologic Map of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California", United States Geological Survey Miscellaneous Field Studies Map MF-2342, Version 1.0, Map Scale 1:50,000.

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REGIONAL GEOLOGIC MAP

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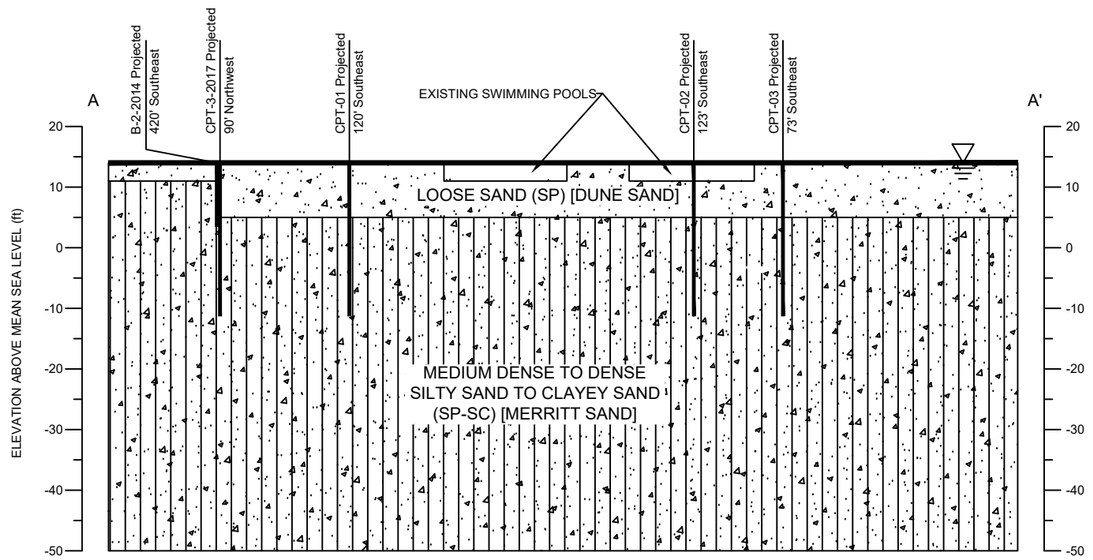
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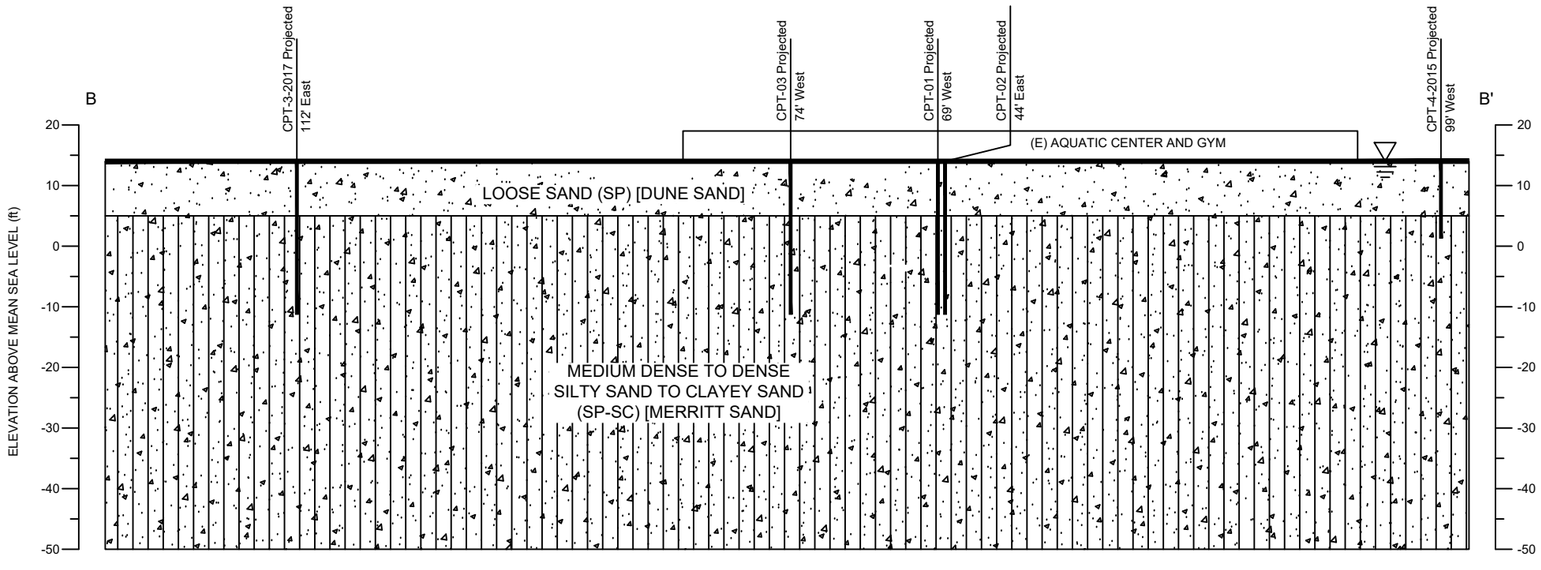
Drawn MMC
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3
FIGURE

LEGEND:

▽ ASSUMED HIGHEST
⏚ HISTORIC GROUNDWATER





SCALE

0 25 50 100 FEET

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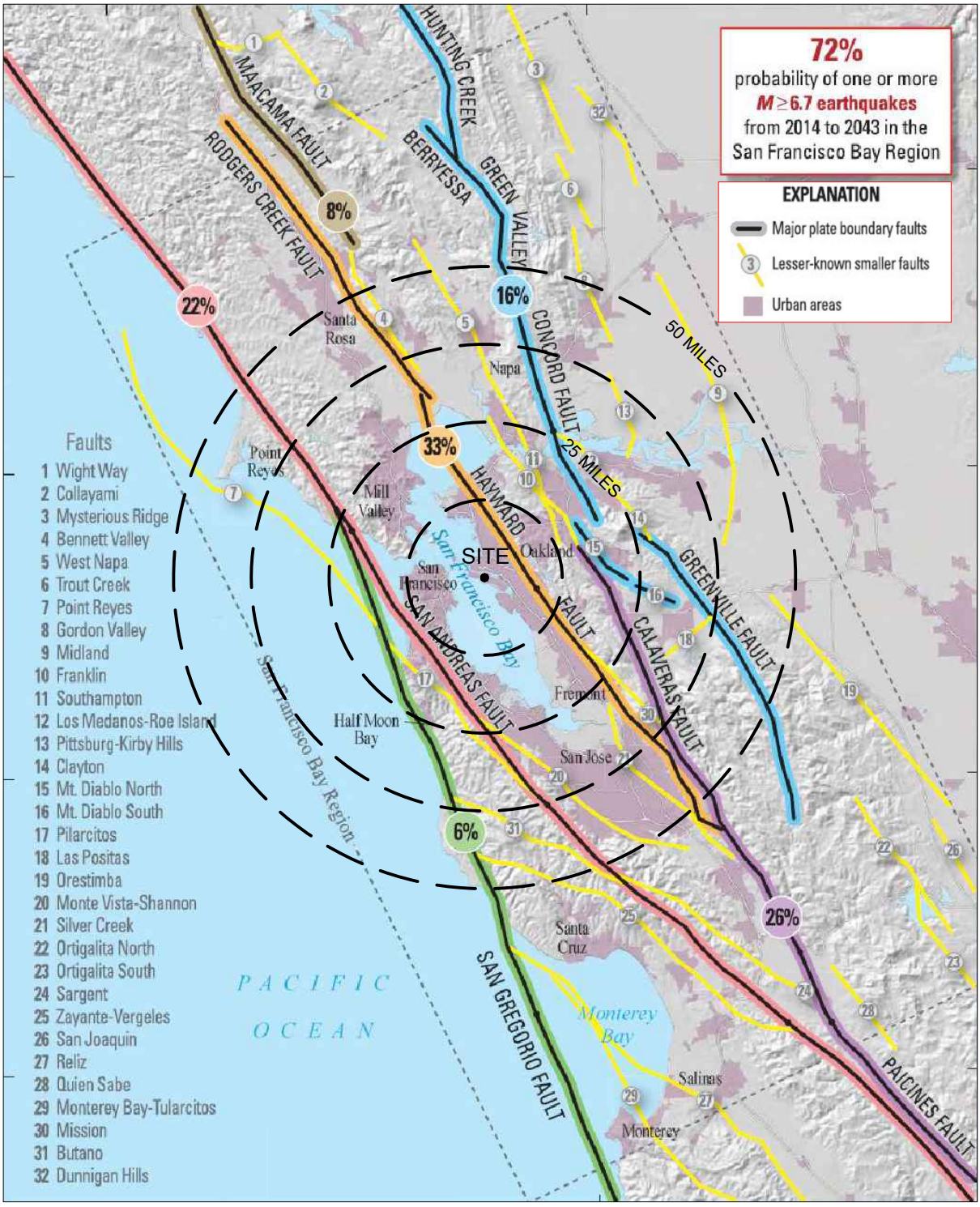
SIMPLIFIED GEOLOGIC CROSS SECTIONS

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Designed DSC
Drawn MMC
Checked

4
FIGURE



SITE COORDINATES
LAT. 37.7640°
LON. -122.2455°

SCALE
0 12.5 25 50 MILES

NORTH

DATA SOURCE:
1) U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1).

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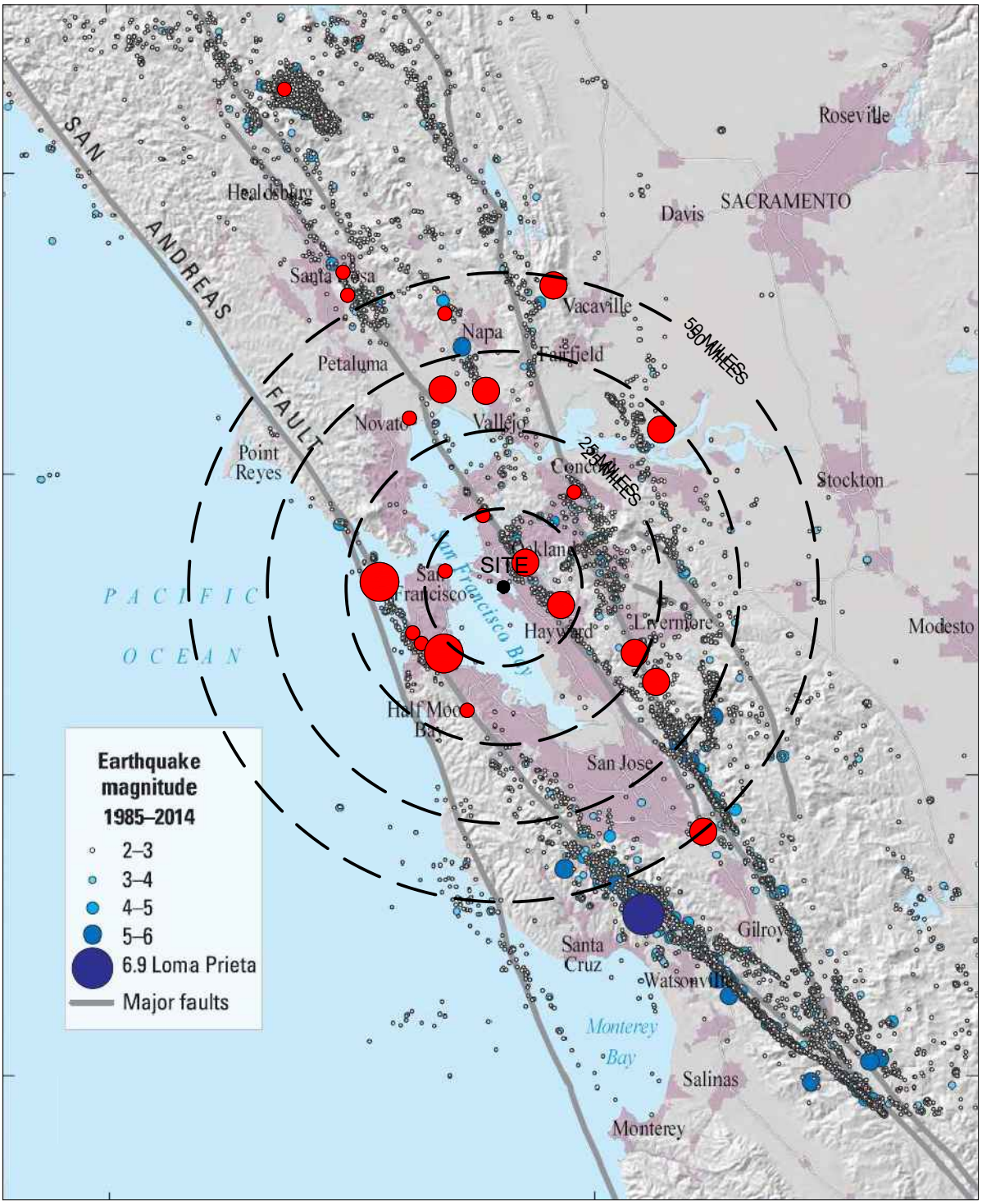
ACTIVE FAULT MAP

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Drawn MMC
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5
FIGURE



SITE COORDINATES
LAT. 37.7640°
LON. -122.2455°

SCALE

0 12.5 25 50 MILES

NORTH

LEGEND & DATA SOURCE:

See legend above. U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1). Large circles indicate earthquakes M>7.0, medium circles indicate 6.0<M<7.0 and small circles indicate 5.0<M<6.0 .U.S. Geological Survey, Earthquake Catalog Search, https://earthquake.usgs.gov/earthquakes/search/. Earthquakes between 1830 and 2021.

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HISTORIC EARTHQUAKE MAP

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6
FIGURE



Susceptibility Level:

Very High | Moderate | Very Low

High | Low

NORTH

Reference: ABAG Hazard Map Viewer.

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LIQUEFACTION SUSCEPTIBILITY MAP

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FIGURE 7

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CPT-01 LIQUEFACTION ANALYSIS

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8
FIGURE

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CPT-02 LIQUEFACTION ANALYSIS

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FIGURE

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CPT-03 LIQUEFACTION ANALYSIS

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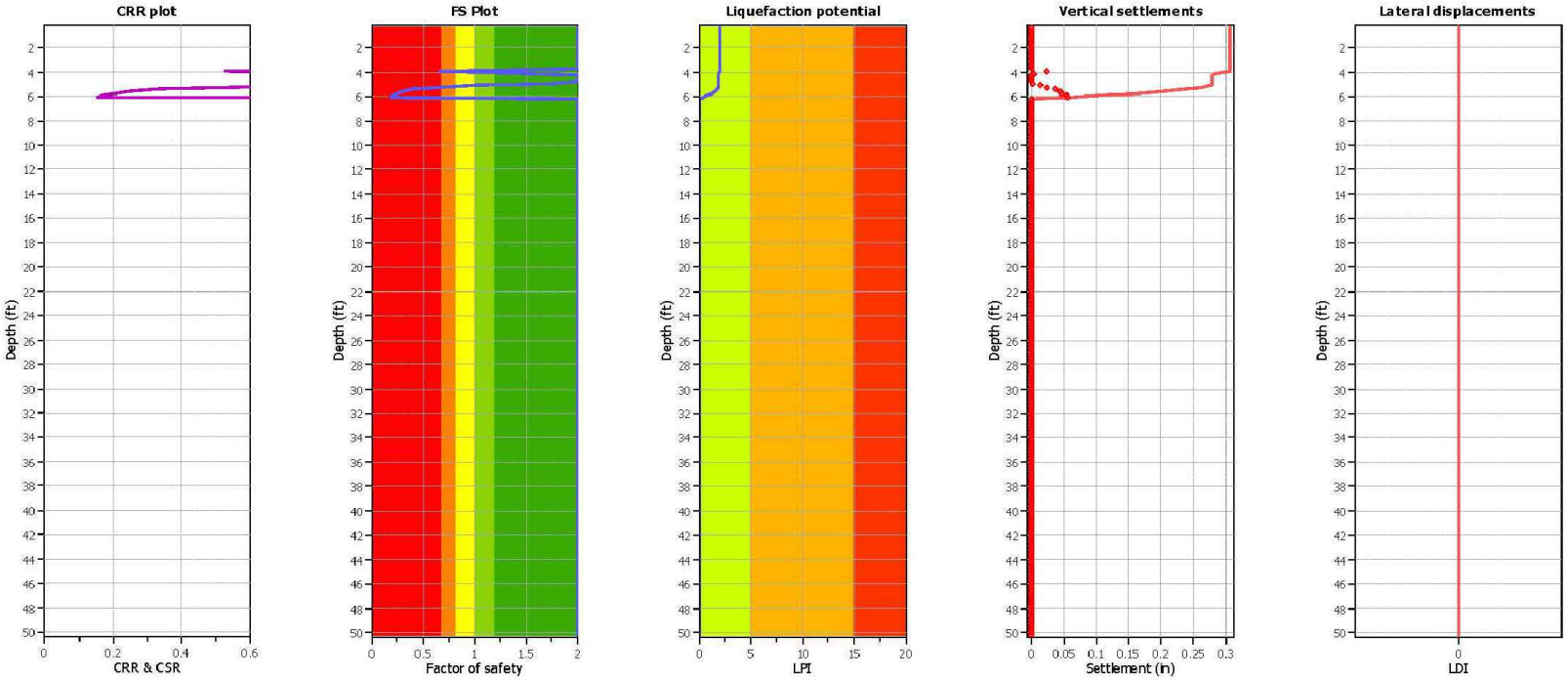
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CPT-03-2017 LIQUEFACTION ANALYSIS

Drawn: MMC
Checked:

FIGURE 11

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	0.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.50	K_σ applied:	Yes
Earthquake magnitude M_w:	7.58	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	8.50 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

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CPT-04-2014 LIQUEFACTION ANALYSIS

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Drawn MMC
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12
FIGURE

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Checked:

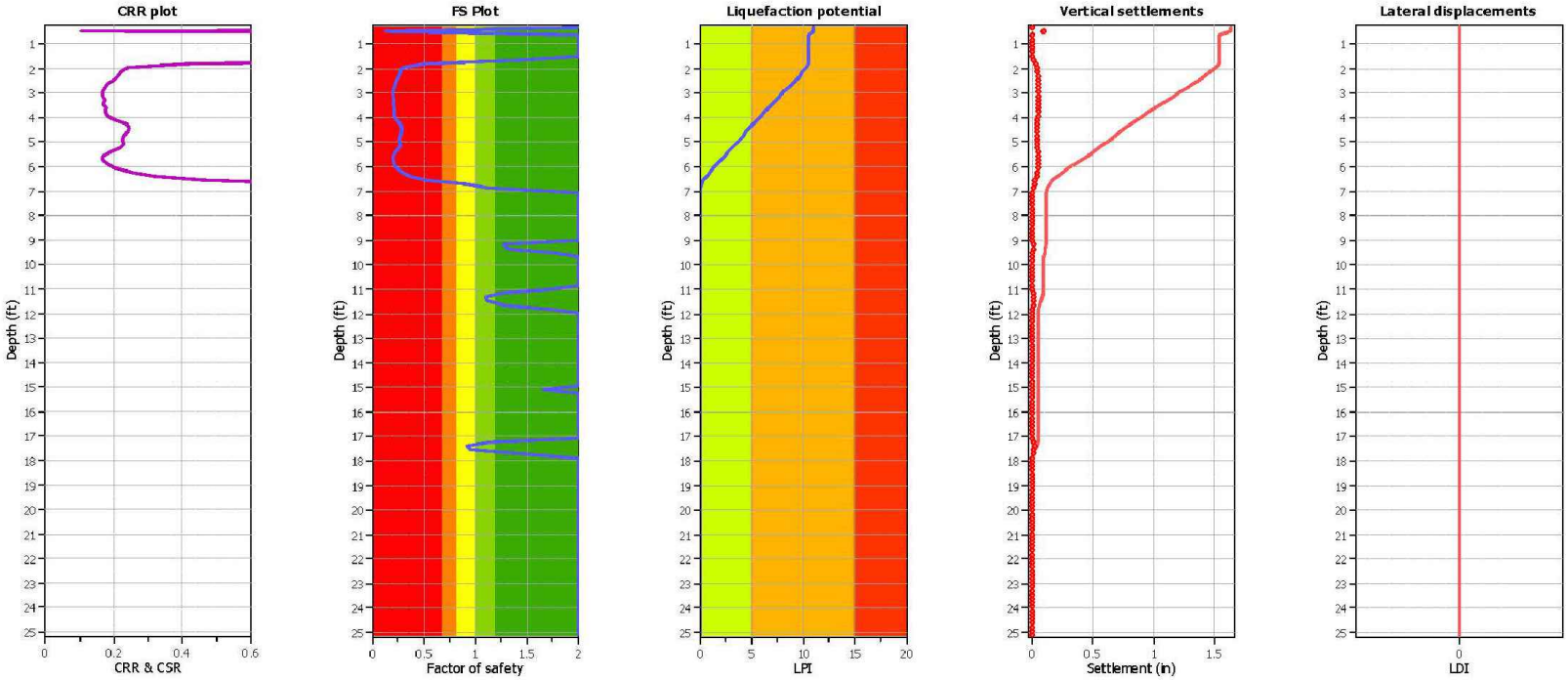
CPT-05-2014 LIQUEFACTION ANALYSIS

13
FIGURE

This software is licensed to: Miller Pacific Engineering Group

CPT name: CPT-04-2014

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	0.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.50	K_σ applied:	Yes
Earthquake magnitude M_w:	7.58	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.71	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	20.00 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme
- Very high risk
- High risk
- Low risk



Tsunami Inundation Zone

NORTH

Reference: ABAG Hazard Map Viewer.

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TSUNAMI INUNDATION MAP

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Drawn MMC
Checked

14
FIGURE

APPENDIX A
SUBSURFACE EXPLORATION (CPTs)

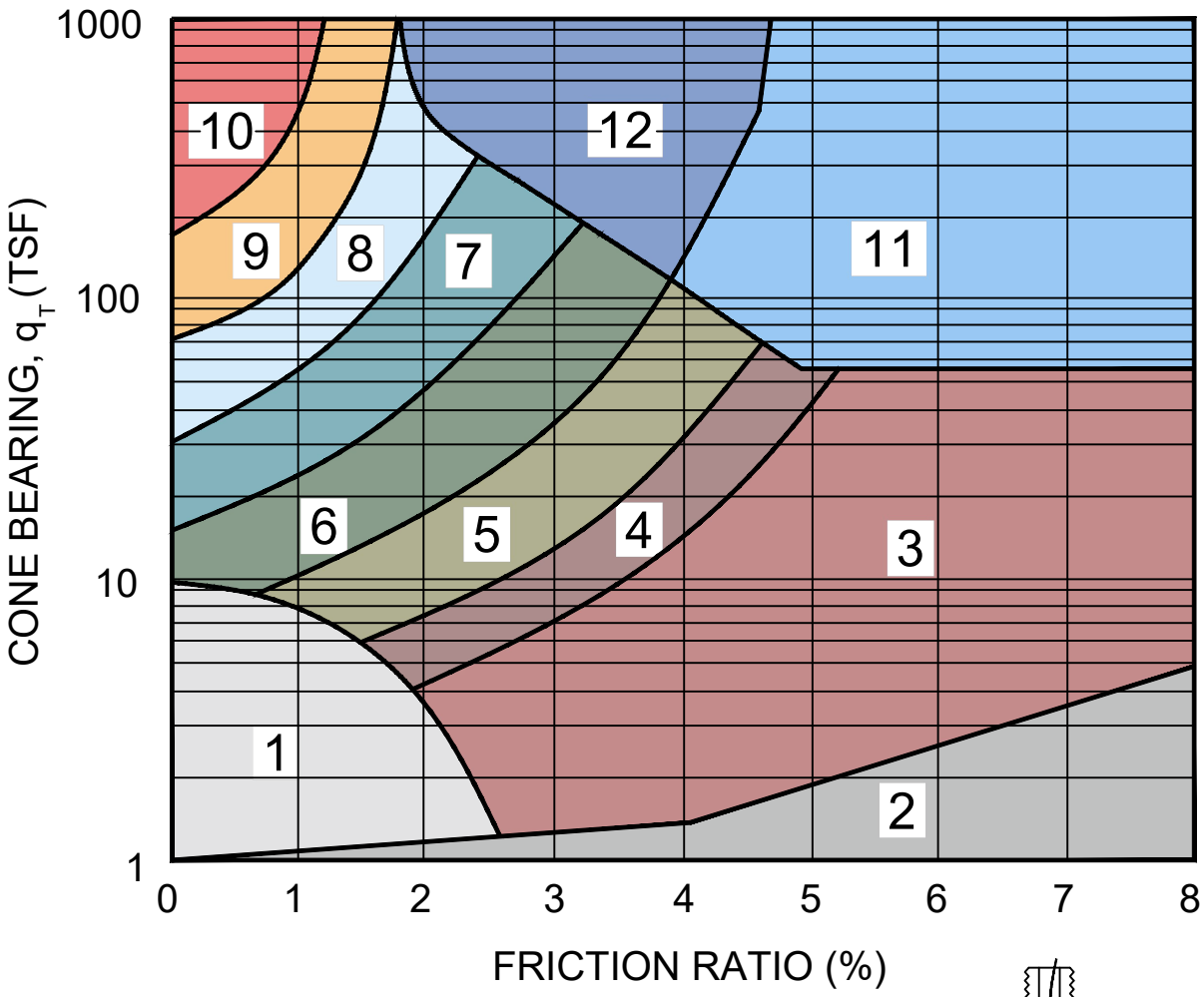
1.0 Cone Penetration Testing

We performed three Cone Penetration Tests (CPT) on August 9, 2022, at the approximate locations shown on the Site Plan, Figure 2. The CPT is a special exploration technique that provides a continuous profile of data throughout the depth of exploration. It is particularly useful in defining stratigraphy, relative soil strength and in assessing liquefaction potential.

The CPT is a cylindrical probe, 35 mm in diameter, which is pushed into the ground at a constant rate of 2 cm/sec. The device is illustrated on Figure A-1. It is instrumented to obtain continuous measurements of cone bearing (tip resistance), sleeve friction and pore water pressure. The data is sensed by strain gages and load cells inside the instrument. Electronic signals from the instrument are continuously recorded by an on-board computer at the surface, which permits an initial evaluation of subsurface conditions during the exploration.

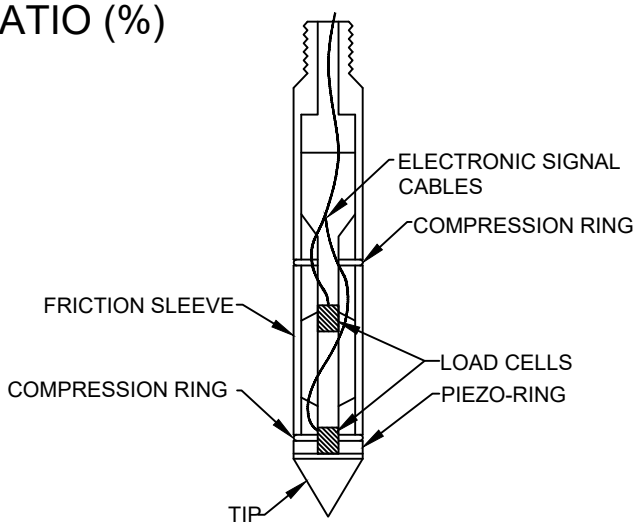
The recorded data is transferred to an in-office computer for reduction and analysis. The analysis of cone bearing and sleeve friction (i.e., friction ratio) indicates the soil type, the cone bearing alone indicates soil density or strength, and the pore pressure indicates the presence of clay. Variations in the data profile indicate changes in stratigraphy. This test method has been standardized and is described in detail by the ASTM Standard Test Method D3441 "Deep, Quasi-Static Cone and Friction Cone Penetration Tests of Soil." The interpretation of CPT data is illustrated on Figure A-1, and the CPT data logs are presented on Figures A-2 through A-4.

The exploratory CPT logs, description of soils encountered, and the laboratory test data reflect conditions only at the location of the boring at the time they were excavated or retrieved. Conditions may differ at other locations and may change with the passage of time due to a variety of causes including natural weathering, climate, and changes in surface and subsurface drainage.



Zone:	Qc/N	Soil Behavior Type:
1)	2	Sensitive Fine Grained
2)	1	Organic Material
3)	1	Clay
4)	1.5	Silty Clay to Clay
5)	2	Clayey Silt to Silty Clay
6)	2.5	Sandy Silt to Clayey Silt
7)	3	Silty Sand to Sandy Silt
8)	4	Sand to Silty Sand
9)	5	Sand
10)	6	Gravelly Sand to Sand
11)	1	Very Stiff Fine Grained (*)
12)	2	Sand to Clayey Sand (*)

(*) Overconsolidated or Cemented



CONE PENETROMETER

(NO SCALE)

Reference: Robertson, P.K. (1986), "In-Situ Testing and Its Application to Geotechnical Engineering," Canadian Geotechnical Journal, Vol. 23; No. 23; No. 4, pp. 573-594

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FILENAME: 1911.021 CPTs.dwg

CPT SOIL INTERPRETATION CHART

Alameda High School
Emma Hood Aquatic Center
Alameda, California

Project No. 1911.021 Date: 9/15/2022

Drawn MMC
Checked

A-1
FIGURE

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CPT-01 DATA

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A-2
FIGURE

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MPEG
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Alameda High School
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Project No. 1911.021

Date: 9/15/2022

Drawn MMC
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CPT-02 DATA

A-3
FIGURE

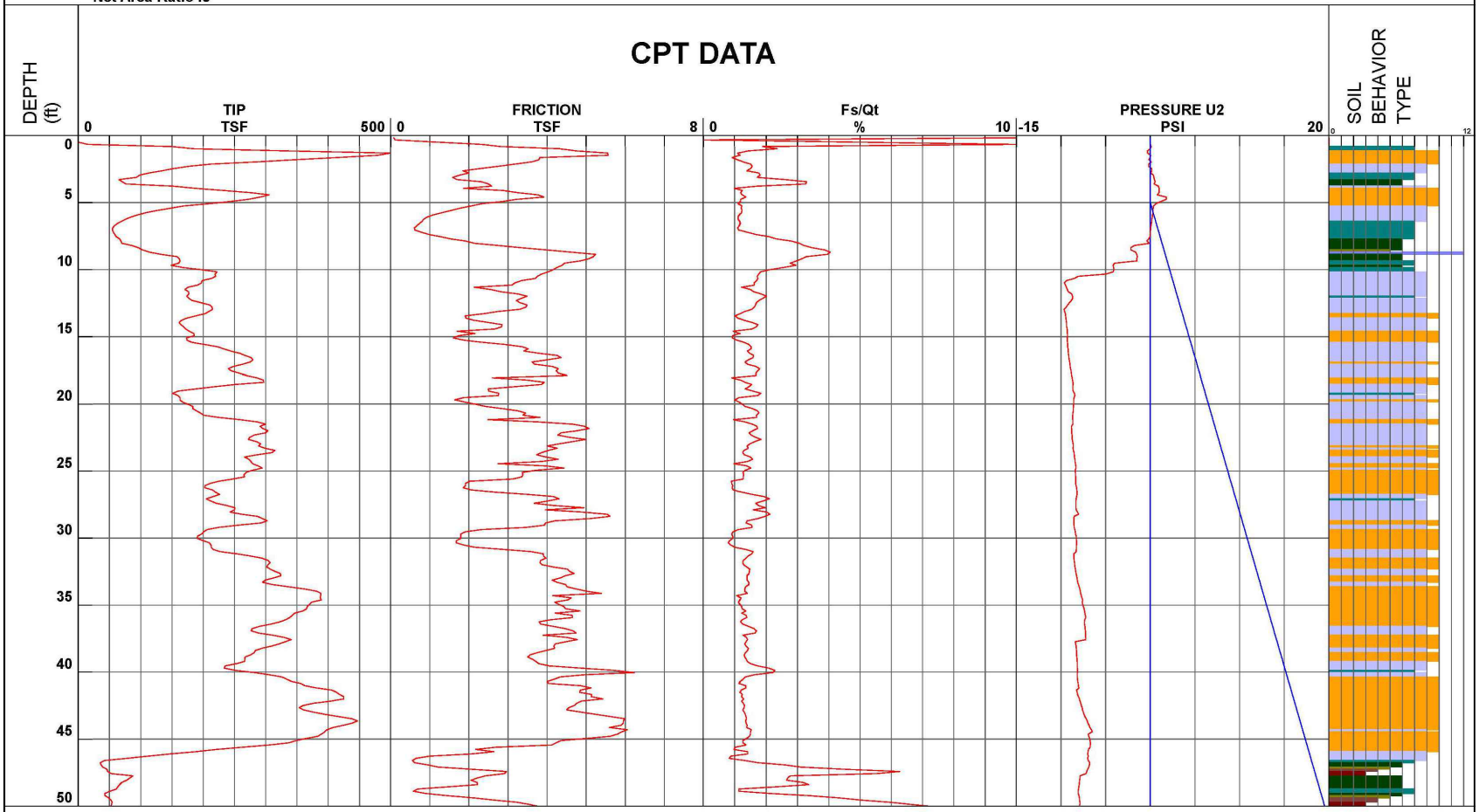
Miller Pacific Engineering

Middle Earth Geo Testing Inc.

Project	Alameda High School pool	Operator	AJ-IM	Filename	SDF(031).cpt
Job Number	1911.021	Cone Number	DPG1556	GPS	
Hole Number	CPT-02	Date and Time	8/9/2022 11:17:39 AM	Maximum Depth	50.52 ft
EST GW Depth During Test		5.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained
2 - organic material
3 - clay
4 - silty clay to clay
5 - clayey silt to silty clay
6 - sandy silt to clayey silt
7 - silty sand to sandy silt
8 - sand to silty sand
9 - sand
10 - gravelly sand to sand
11 - very stiff fine grained (*)
12 - sand to clayey sand (*)

Cone Size 15cm squared

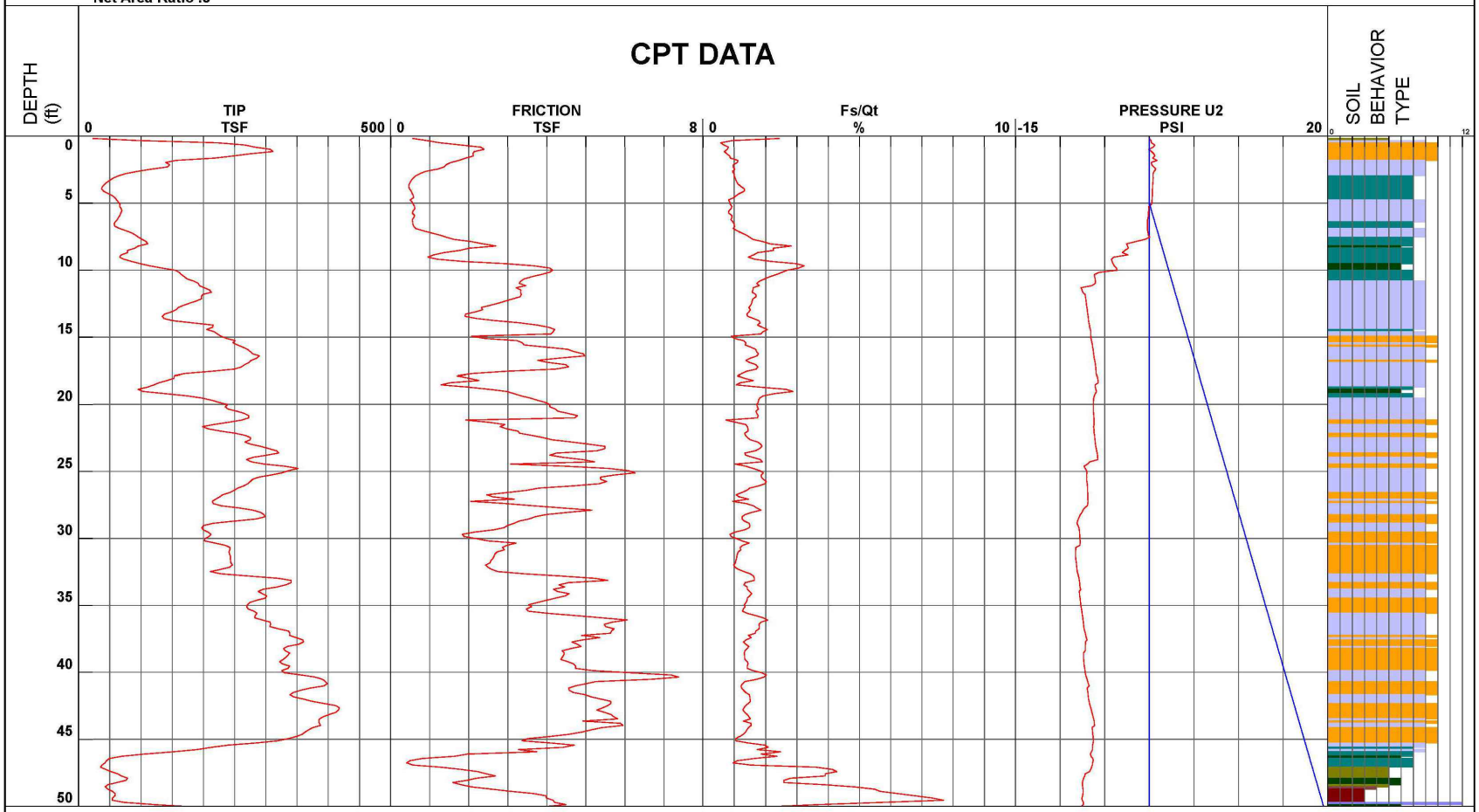
S*Soil behavior type and SPT based on data from UBC-1983

Miller Pacific Engineering

Project	Alameda High School pool	Operator	AJ-IM	Filename	SDF(032).cpt
Job Number	1911.021	Cone Number	DPG1556	GPS	
Hole Number	CPT-03	Date and Time	8/9/2022 12:12:55 PM	Maximum Depth	50.52 ft
EST GW Depth During Test		5.00 ft			

Net Area Ratio .8

CPT DATA



1 - sensitive fine grained	4 - silty clay to clay	7 - silty sand to sandy silt	10 - gravelly sand to sand
2 - organic material	5 - clayey silt to silty clay	8 - sand to silty sand	11 - very stiff fine grained (*)
3 - clay	6 - sandy silt to clayey silt	9 - sand	12 - sand to clayey sand (*)

Cone Size 15cm squared

S*Soil behavior type and SPT based on data from UBC-1983

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Project No. 1911.021

Date: 9/15/2022

Drawn MMC
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CPT-03 DATA

FIGURE A-4

APPENDIX B
REFERENCE SUBSURFACE EXPLORATION

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CPT-3-2017 PLOT

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Project No. 1911.021 Date: 9/15/2022

Drawn MMC
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B-1
FIGURE

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CPT-4-2014 PLOT

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Project No. 1911.021 Date: 9/15/2022

Drawn MMC
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B-2
FIGURE

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CPT-5-2014 PLOT

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Alameda, California

Project No. 1911.021 Date: 9/15/2022

Drawn MMC
Checked

B-3
FIGURE

BORING 1

EQUIPMENT: Truck-Mounted Mobile B-53 with 6 inch hollow stem augers

DATE: 5/20/14

ELEVATION: 14-Feet*

*REFERENCE: Google Earth, 2013

OTHER TEST DATA	OTHER TEST DATA	UNDRAINED SHEAR STRENGTH psf (1)	BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT pcf (2)	DEPTH meters	DEPTH feet	SAMPLE	SYMBOL (3)
			2			0	0		
			5			1	5		
	P200 17.2%		21			2			
	P200 15.2%		23			3	10		
			20			4	15		
						5			
						6	20		

SAND (SP)
Medium brown, moist, very loose to loose, fine to medium sand, trace fines. [Dune Sand]

Silty SAND (SM)
Light to medium brown, wet to saturated, medium dense to dense, fine to medium sand, ~10-20% low plasticity silt. [Merritt Sand]

NOTES: (1) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m^3= 0.1571 x DRY UNIT WEIGHT (pcf)
(3) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

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BORING LOG

Alameda Unified School Dist.
Alameda High School
Alameda, California

Project No. 1911.021 Date: 6-23-14

Drawn NGK
Checked

B-4
FIGURE

BORING 1 (CONTINUED)

OTHER TEST DATA	OTHER TEST DATA	UNDRAINED SHEAR STRENGTH psf (1)	BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT pcf (2)	DEPTH meters / feet	SAMPLE	SYMBOL (3)	
PI=9 LL=26	P200 10.9%		27			20			Silty SAND (SM) Light to medium brown, wet to saturated, medium dense to dense, fine to medium sand, ~10-20% low plasticity silt. [Merritt Sand]
						7			
			29			25			
						8			Bottom of boring at 25.5 feet. Groundwater observed at 11.0 feet.
						9			
						30			
						10			
						35			
						11			
						12			
						40			

NOTES: (1) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m^3= 0.1571 x DRY UNIT WEIGHT (pcf)
(3) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

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BORING LOG

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Alameda High School
Alameda, California
Project No. 1911.021 Date: 6-23-14

Drawn NGK
Checked

B-5
FIGURE

BORING 2

EQUIPMENT: Truck-Mounted Mobile B-53 with 6 inch hollow stem augers

DATE: 5/20/14

ELEVATION: 14-Feet*

*REFERENCE: Google Earth, 2013

OTHER TEST DATA	OTHER TEST DATA	UNDRAINED SHEAR STRENGTH psf (1)	BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT pcf (2)	DEPTH meters	DEPTH feet	SAMPLE	SYMBOL (3)	
						0	0			SAND (SP) Medium to dark brown, moist, very loose to loose, fine to medium sand, trace fines. [Dune Sand]
			1.5			1				
							5			
	P200 20.2%		10			2				Clayey SAND (SC) Medium brown, wet to saturated, medium dense, fine to medium sand, ~10-20% low plasticity clay. [Merritt Sand]
	P200 11.5%		24			3	10			
						4				
							15			
			27			5				
			28			6	20			Bottom of boring at 21.0 feet. Groundwater observed at 10.5 feet.

NOTES:
(1) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m^3 = 0.1571 x DRY UNIT WEIGHT (pcf)
(3) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

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BORING LOG

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Alameda, California

Project No. 1911.021 Date: 6-23-14

Drawn NGK
Checked

B-6
FIGURE

BORING 3

EQUIPMENT: Truck-Mounted Mobile B-53 with 6 inch hollow stem augers

DATE: 5/20/14

ELEVATION: 14-Feet*

*REFERENCE: Google Earth, 2013

OTHER TEST DATA	OTHER TEST DATA	UNDRAINED SHEAR STRENGTH psf (1)	BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT pcf (2)	DEPTH meters	DEPTH feet	SAMPLE	SYMBOL (3)	
						0	0			4-Inches ASPHALT CONCRETE
										14-Inches AGGREGATE BASEROCK
			3			1				SAND (SP) Medium to dark brown, moist, very loose to loose, fine to medium sand, trace fines. [Dune Sand]
			3				5			
						2				
	P200 12.6%		8			3	10			SAND with Clay (SP-SC) Medium brown, wet to saturated, loose to medium dense, fine to medium sand, ~5-15% low plasticity clay. [Merritt Sand]
						4				
			22			5	15			
	P200 7.7%		18			6	20			Bottom of boring at 21.5 feet. Groundwater observed at 19.5 feet.

NOTES:
(1) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m^3 = 0.1571 x DRY UNIT WEIGHT (pcf)
(3) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

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BORING LOG

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Project No. 1911.021 Date: 6-23-14

Drawn NGK
Checked

B-7
FIGURE

BORING 4

EQUIPMENT: Truck-Mounted Mobile B-53 with 6 inch hollow stem augers

DATE: 5/20/14

ELEVATION: 14-Feet*

*REFERENCE: Google Earth, 2013

OTHER TEST DATA	OTHER TEST DATA	UNDRAINED SHEAR STRENGTH psf (1)	BLOWS PER FOOT	MOISTURE CONTENT (%)	DRY UNIT WEIGHT pcf (2)	DEPTH meters	DEPTH feet	SAMPLE	SYMBOL (3)	
						0	0			4-Inches ASPHALT CONCRETE
										14-Inches AGGREGATE BASEROCK
			8			1				SAND (SP-SC) Medium to dark brown, moist, loose to medium dense, fine to medium sand, ~10% fines. [Dune Sand]
			5				5			
	P200 10.1%		21			2				
	P200 10.6%		28			3	10			Clayey SAND (SC) Medium brown, wet to saturated, medium dense to dense, fine to medium sand, ~10-20% low plasticity clay. [Merritt Sand]
			28			4	15			
						5				
			32			6	20			Bottom of boring at 20.5 feet. Groundwater observed at 18.0 feet.

NOTES:
(1) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m^3 = 0.1571 x DRY UNIT WEIGHT (pcf)
(3) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

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BORING LOG

Alameda Unified School Dist.
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Alameda, California

Project No. 1911.021 Date: 6-23-14

Drawn NGK
Checked

B-8
FIGURE

APPENDIX C
RISK TARGETED MAXIMUM CONSIDERED
EARTHQUAKE (MCE_R) GROUND MOTION HAZARD ANALYSIS

Due to the presence of sandy soil layers beneath the building site that are prone to liquefaction, we judge the site should be classified as "Site Class F" per the 2022 California Building Code. However, per section 20.3.1 of the ASCE 7-16, an equivalent linear site-specific response analysis (i.e., SHAKE, DeepSoil, etc.) is not required if the proposed structure has a fundamental period of less than 0.5 seconds. We anticipate the proposed structures will have fundamental periods less than 0.5-seconds; therefore, based on the harmonic mean of the blow counts we recommend classifying the site as a "Site Class D."

The ASCE 7-16 mapped spectral acceleration parameters at a period of 0.2-second, S_S, and 1.0-second, S_1, at the project site are 1.68 g and 0.64 g, respectively. Per ASCE 7-16 Table 11.4-1 a Site-Specific Ground Motion shall be developed per Section 11.4.8 for S_S values greater than 1.0 g for Site Class E sites and all cases for Site Class F sites. Additionally, a Site-Specific Ground Motion Hazard Analysis shall be performed per ASCE 7-16 Section 11.4.8 if the S_1 value is greater than 0.2 g for Site Class D, greater than 1.0 g for Site Class E, and all cases for Site Class F. Therefore, per ASCE 7-16 Section 11.4.8, we performed a Site-Specific Ground Motion Hazard Analysis per ASCE 7-16 Section 21.2, as described in the sections below.

Probabilistic (MCE_R) Ground Motions: Method 1

A probabilistic acceleration response spectrum, corresponding to a 2% chance of exceedance in 50-years (2,475 return period) was generated utilizing the United States Geologic Survey (USGS) online Unified Hazard Tool (https://earthquake.usgs.gov/hazards/interactive/, accessed 2022) for a Site Class D soil profile (V_{S30} = 260 m/s) and the Dynamic: Conterminous U.S. 2014 (v4.2.0) model. The accelerations given were modified by the risk coefficients C_{RS} and C_{R1}, 0.93 and 0.91, respectively. The accelerations were further converted to the probabilistic spectral response acceleration in the maximum horizontal response utilizing the procedures outlined by Shahi and Baker, 2013. These modifications to the probabilistic spectra correspond to a response with a risk targeted level of 1% probability of collapse within a 50-year period. The resulting probabilistic MCE_R values and spectra are presented on Figures C-1 and C-2, respectively.

Deterministic (MCE_R) Ground Motions

A deterministic acceleration response spectrum was generated utilizing the NGA attenuation models outlined by Abrahamson, Silva & Kamai (2014); Boore, Stewart, Seyhan & Atkinson (2014); Campbell & Borzognia (2014); and Chiou & Youngs (2014) NGA2 West models for a Site Class D (V_{S30} = 260 m/s). The geometric average of the 84th percentile spectral accelerations from the aforementioned attenuation relationships were modified for the probabilistic spectral response acceleration in the maximum horizontal direction, utilizing the procedures outlined by Shahi and Baker, 2013. The resulting deterministic MCER values and spectra are shown on Figures C-1 and C-2, respectively. The deterministic MCE_R spectra shall not be less than the Lower Limit Deterministic MCE_R Response Spectrum, as described in ASCE 7-16 Figure 21.2-1 which is tabulated and plotted on Figures C-1 and C-2, respectively.

Site Specific MCE_R

The site specific MCE_R spectral response acceleration at any period shall be taken as the lesser of the response accelerations from the probabilistic ground motions and the deterministic ground motions and is presented on Figure C-3. Additionally, per ASCE 7-16 Section 21.3, the design spectral response acceleration at any period is equal to 2/3^{rds} the MCE_R Response Spectrum, as shown on Figure C-3.

Per ASCE 7-16 Section 21.4, the MCE_R spectral response acceleration parameters shall be taken from the Site-Specific Spectrum defined as follows and are presented on Figure C-3:

- S_{DS} – The S_{DS} parameter shall be taken as 90% of the maximum spectral acceleration, S_a, obtained from the site-specific spectrum, at any period between 0.2 and 5.0-seconds. However, the values obtained shall not be less than 80% of the values determined in accordance with ASCE 7-16 Section 11.4.5.
- S_{D1} – The S_{D1} parameter shall be taken as the maximum value of the product, TS_a, for periods between 1.0 and 2.0-seconds for Site Class C and B sites; and periods between 1.0 and 5.0-seconds for Site Class D, E & F sites. However, the values obtained shall not be less than 80% of the values determined in accordance with ASCE 7-16 Section 11.4.5.
- S_{MS} – The S_{MS} parameter is equal to 1.5 times the S_{DS} value, but not less than 80% of the values determined in accordance with ASCE 7-16 Section 11.4.4.
- S_{M1} – The S_{M1} parameter is equal to 1.5 times the S_{D1} value, but not less than 80% of the values determined in accordance with ASCE 7-16 Section 11.4.4.

ASCE 7-16
SITE SPECIFIC RISK-TARGETED
MAXIMUM CONSIDERED EARTHQUAKE (MCE_R)

Project Name: 1055 Monticello Road
Project Numb: 2959.001

Latitude: 38.3625
Longitude: -122.2716

General Seismic Parameters
ASCE 7-16 Section 11.4

Site Class:	D
S_S (g):	1.67
S_1 (g):	0.60
F_a:	1.00
F_v:	N/A
T_L (sec):	8.0
C_{RS}:	0.91
C_{R1}:	0.91

Minimum Deterministic Spectra Paramameters
ASCE 7-16 Section 21.2.2

S_S (g):	1.67
S_1 (g):	0.60
F_a:	1.00
F_v:	2.50

Minimum Design Spectra Parameters
ASCE 7-16 Section 21.3

S_S (g):	1.67	S_{MS} (g):	1.67
S_1 (g):	0.60	S_{M1} (g):	1.50
F_a:	1.00	S_{DS} (g):	1.11
F_v:	2.50	S_{D1} (g):	1.00
		T_0 (sec):	0.18
		T_S (sec):	0.90

Probabilistic Spectra
ASCE 7-16 Section 21.2.1 - Method 1

Period (sec)	Sa_{RotD50} (g)	$Sa_{RotD100}$ / Sa_{RotD50}	$Sa_{RotD100}$ (g)	C_R	Sa (g)
0.01	0.87	1.0	0.87	0.913	0.80
0.10	1.47	1.1	1.66	0.913	1.51
0.20	1.96	1.2	2.29	0.913	2.09
0.30	2.23	1.2	2.68	0.913	2.44
0.50	2.17	1.2	2.68	0.913	2.44
0.75	1.74	1.3	2.20	0.913	2.01
1.00	1.47	1.3	1.89	0.913	1.72
2.00	0.76	1.3	1.01	0.913	0.92
3.00	0.47	1.4	0.64	0.913	0.59
4.00	0.32	1.4	0.45	0.913	0.41
5.00	0.24	1.4	0.33	0.913	0.30

Deterministic Spectra
NGA West2 2014 - 84th Percentile

Period (sec)	Sa_{RotD50} (g)	$Sa_{RotD100}$ / Sa_{RotD50}	$Sa_{RotD100}$ (g)
0.01	0.63	1.0	0.63
0.02	0.64	1.0	0.66
0.03	0.64	1.1	0.68
0.05	0.71	1.1	0.77
0.08	0.85	1.1	0.95
0.10	0.99	1.1	1.12
0.15	1.21	1.2	1.40
0.20	1.36	1.2	1.60
0.25	1.48	1.2	1.75
0.30	1.55	1.2	1.86
0.40	1.57	1.2	1.92
0.50	1.51	1.2	1.86
0.75	1.23	1.3	1.55
1.00	1.02	1.3	1.31
1.50	0.70	1.3	0.92
2.00	0.51	1.3	0.68
3.00	0.31	1.4	0.43
4.00	0.20	1.4	0.28
5.00	0.14	1.4	0.19
7.50	0.06	1.4	0.09
10.00	0.03	1.5	0.05

Min. Deterministic Spectra
ASCE 7-16 Section 21.2.2

Period (sec)	Sa (g)
0.00	0.60
0.20	1.50
1.00	1.50
1.22	1.23
1.44	1.04
1.67	0.90
1.89	0.79
2.11	0.71
2.33	0.64
2.56	0.59
2.78	0.54
3.00	0.50
3.22	0.47
3.44	0.44
3.67	0.41
3.89	0.39
4.11	0.36
4.33	0.35
4.56	0.33
4.78	0.31
5.00	0.30

Site Specific MCE_R
ASCE 7-16 Section 21.2.3

Period (sec)	Sa (g)
0.01	0.63
0.02	0.66
0.03	0.68
0.05	0.77
0.08	0.95
0.10	1.12
0.15	1.40
0.20	1.60
0.25	1.75
0.30	1.86
0.40	1.92
0.50	1.86
0.75	1.55
0.80	1.50
1.00	1.50
1.22	1.23
1.44	1.04
1.67	0.90
1.89	0.79
2.11	0.71
2.33	0.64
2.56	0.59
2.78	0.54
3.00	0.50
3.22	0.47
3.44	0.44
3.67	0.41
3.89	0.39
4.11	0.36
4.33	0.35
4.56	0.33
4.78	0.31
5.00	0.30

Design Response Spectrum
ASCE 7-16 Section 21.3

Period (sec)	Sa (g)
0.01	0.42
0.02	0.44
0.03	0.45
0.05	0.52
0.08	0.63
0.10	0.75
0.15	0.93
0.20	1.07
0.25	1.17
0.30	1.24
0.40	1.28
0.50	1.24
0.75	1.03
0.80	1.00
1.00	1.00
1.22	0.82
1.44	0.69
1.67	0.60
1.89	0.53
2.11	0.47
2.33	0.43
2.56	0.39
2.78	0.36
3.00	0.33
3.22	0.31
3.44	0.29
3.67	0.27
3.89	0.26
4.11	0.24
4.33	0.23
4.56	0.22
4.78	0.21
5.00	0.20

80% General Response Spectrum
ASCE 7-16 Section 21.3

	Period (sec)	Sa (g)	80% Sa (g)
	0.01	0.48	0.39
	0.04	0.59	0.47
	0.07	0.69	0.55
	0.09	0.80	0.64
	0.12	0.90	0.72
	0.15	1.01	0.81
T_O =	0.18	1.11	0.89
T_S =	0.90	1.11	0.89
	1.21	0.82	0.66
	1.53	0.65	0.52
	1.84	0.54	0.43
	2.16	0.46	0.37
	2.48	0.40	0.32
	2.79	0.36	0.29
	3.11	0.32	0.26
	3.42	0.29	0.23
	3.74	0.27	0.21
	4.05	0.25	0.20
	4.37	0.23	0.18
	4.68	0.21	0.17
	5.00	0.20	0.16

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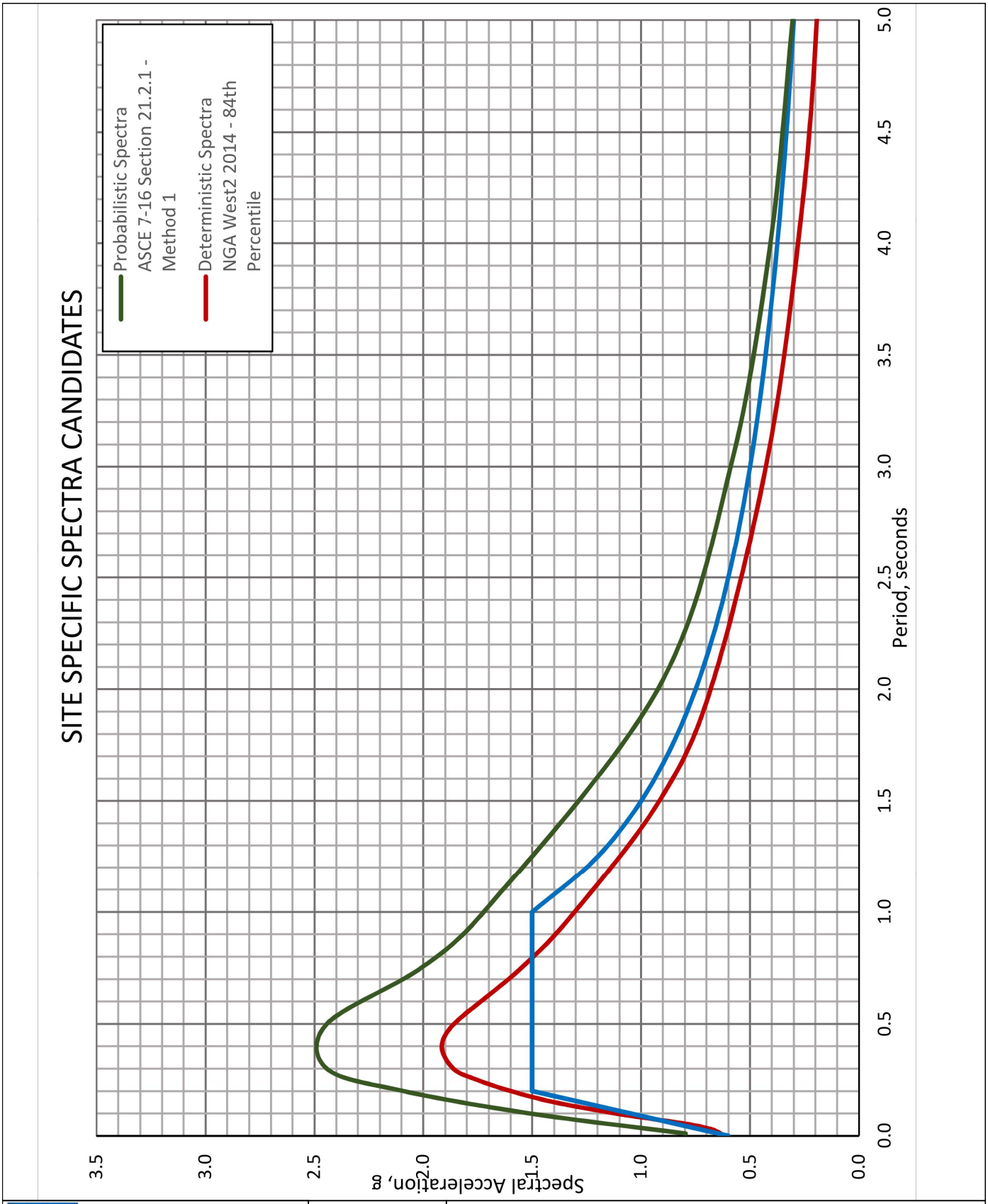
FILE: 1911.021 Site Specific.dwg

ASCE 7-16 MCEr CALCULATIONS

Alameda High School
Emma Hood Aquatic Center
Alameda, California
Project No. 1911.021 Date: 9/15/2022

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C-1
FIGURE



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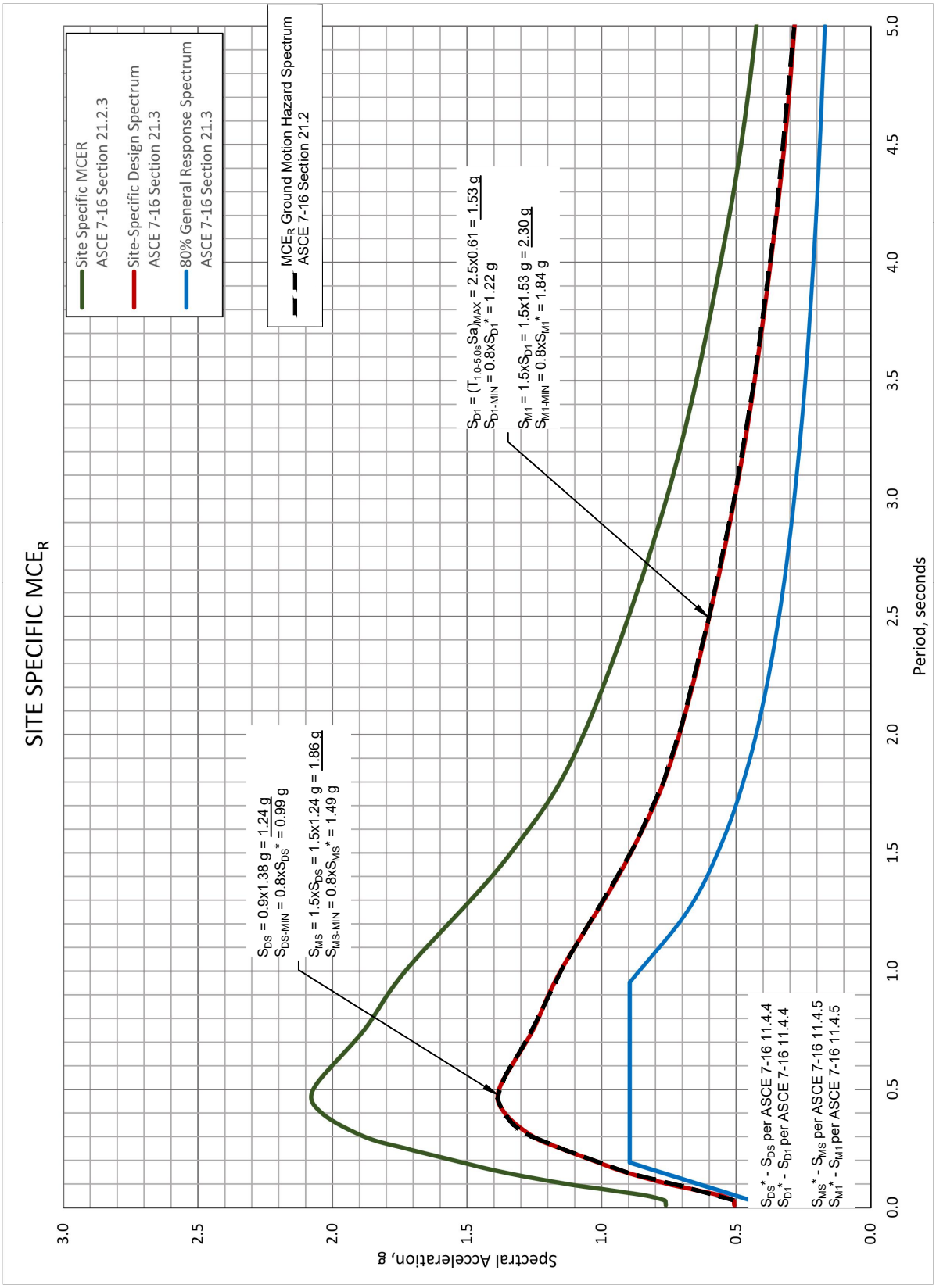
ASCE 7-16 MCEr CANDIDATE SPECTRA

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C-2
FIGURE



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ASCE 7-16 MCEr DESIGN SPECTRUM

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Alameda, California

Project No. 1911.021 Date: 9/15/2022

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Checked

C-3
FIGURE

APPENDIX D
CORROSION TESTING RESULTS

E T S

Environmental Technical Services

975 Transport Way, Suite 2
Petaluma, CA 94954
(707) 778-9605/FAX 778-9612
e-mail: *entech@pacbell.net*

-Soil, Water & Air Testing & Monitoring
-Analytical Labs
-Technical Support

Serving people and the environment so that both benefit.

COMPANY:	Miller Pacific Engineering Group, 1333 McDowell Blvd. N, Ste. C, Petaluma, CA 94954			ANALYST(S)	SUPERVISOR
ATTN:	Dan Caldwell		DATE of COMPLETION	D. Salinas	D. Jacobson
JOB & SITE:	Historic Alameda High School, Walnut Street,	DATE RECEIVED		S. Santos	LAB DIRECTOR
PROJ.NUM.:	1911.021 Alameda, California	10/19/2015	10/28/2015		G.S. Conrad PhD

LAB SAMPLE NUMBER	SAMPLE ID	DESCRIPTION of SOIL and/or SEDIMENT	SOIL pH -log[H+]	NOMINAL MIN. RESISTIVITY ohm-cm	ELECTRICAL CONDUCTIVITY µmhos/cm	SULFATE SO4 ppm	CHLORIDE Cl ppm
06614-1	AHHS1/A	Bulk @ 1'	**5.25**	**1,400**	**[714]**	**1665**	**27**
Method	Detection	Limits --->	---	1	0.1	1	1

LAB SAMPLE NUMBER	SAMPLE ID	DESCRIPTION of SOIL and/or SEDIMENT	SALINITY ECe mmhos/cm	SOLUBLE SULFIDES (S=) ppm	SOLUBLE CYANIDES (CN=) ppm	REDOX mV	PERCENT MOISTURE %
06614-1	AHHS1/A	Bulk @ 1'				**+169.1**	
Method	Detection	Limits --->	---	0.1	0.1	1	0.1

********** COMMENTS **********

Resistivity is under 1,500 ohm-cm which is low (assign 2-10 pts, depending on specs), and soil reaction (i.e., pH) is moderately acidic (assign Ø pts); chloride is low (Cl @ >100 ppm, assign Ø pts), but sulfate is moderately high (SO4 @ >1,000 ppm, assign 3 pts); redox is moderate (assign Ø-4 pts, depending on specs). Standard CalTrans times to perforation for 18 ga galvanized steel in this soil are ≈8 yrs, and >17 yrs for 12 ga; and calculated average pitting rate (following Uhlig) is ≈0.31 mm/yr, thus pitting to a 2 mm depth is at ≈6.5 yrs. Chloride is not high enough to have an adverse impact on concrete reinforcement and steel; but sulfate is high enough to have a moderate adverse impact on cement, concrete, grout or mortar. Lime or mild cement treatment in principle, could be of benefit in that raising soil pH to the 7.5-8.5 range would increase 18 ga time to perforation to >28 yrs; and pitting rate would decline to ≈0.095 mm/yr, thus increasing the 2 mm depth time to ≈21 yrs. But lime treatment only last a few years in the open environment, i.e., it is only effective in protected installations; and while cement treatment has greater longevity, it is often not practical, and has an effective lifetime as well, *albeit* much longer. Otherwise, steel longevity could be improved by such things as upgrading, e.g. increased gauge or more resistant steels, etc.; or by taking other actions such as use of cathodic protection of wrapped assets; or use of increased or special engineering fill, use of a polymer coating or use of bonded plastic coated steels, or use of plastic, fiberglass or concrete assets, etc. Total point value for this soil would be in the range of 5-17 pts, depending on specifications. Last based on elevated sulfate, concrete should be upgraded (i.e., to ASTM Type II or equal).

\\\\NOTES: Methods are from following sources: extractions by Cal Trans protocols as per Cal Test 417 (SO4), 422 (Cl), and 532/643 (pH & resistivity); &/or by ASTM Vol. 4.08 & ASTM Vol. 11.01 (=EPA Methods of Chemical Analysis, or Standard Methods); pH - ASTM G 51; Spec. Cond. - ASTM D 1125; resistivity - ASTM G 57; redox - Pt probe/ISE; sulfate - extraction Title 22, detection ASTM D 516 (=EPA 375.4); chloride - extraction Title 22, detection ASTM D 512 (=EPA 325.3); sulfides - extraction by Title 22, and detection EPA 376.2 (= SMEWW 4500-S D); cyanides - extraction by Title 22, and detection by ASTM D 4374 (=EPA 335.2).

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FILENAME: 1911.021 Figures.dwg

CORROSION TEST RESULTS

Alameda High School
Emma Hood Aquatic Center
Alameda, California

Project No. 1911.021 Date: 9/15/2022

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Checked

D-1
FIGURE

SOIL MANAGEMENT PLAN

ALAMEDA HIGH SCHOOL SWIM CENTER MODERNIZATION
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNIA, 94501
DSA APPLICATION 01-121651

PREPARED FOR:

ALTEN CONSTRUCTION
1141 MARINA WAY SOUTH
RICHMOND, CALIFORNIA, 94804

OWNER:

ALAMEDA UNIFIED SCHOOL DISTRICT
2060 CHALLENGER DRIVE
ALAMEDA CALIFORNIA, 94501

KLEINFELDER PROJECT # 25002610.001A
NOVEMBER 21, 2024

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ONLY THE CLIENT OR ITS DESIGNATED REPRESENTATIVES MAY USE THIS DOCUMENT AND ONLY FOR THE SPECIFIC PROJECT FOR WHICH THIS REPORT WAS PREPARED.

Report Prepared for:

Robert Alten
President, CEO
Alten Construction
1141 Marina Way So
Richmond, CA 94804

SOIL MANAGEMENT PLAN
ALAMEDA HIGH SCHOOL SWIM CENTER MODERNIZATION
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNIA

Prepared by:

Curtis Conti
Project Manager

Reviewed by:



Jeremy Scott, P.E.
Client Account Manager

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Phone: 925.478.8530

November 21, 2024
Kleinfelder Project No: 25002610.001A

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Appendices

Appendix A – Injury Illness and Prevention Plan and site specific Health and Safety Plan
Appendix B – Professional Asbestos and Lead Services, Inc Soil Health and Safety Plan
Appendix C – Alten's Site Logistic Plan
Appendix D – Alameda HS Swim Center - OX Cut/Fill Map
Appendix E – Clean Harbors Waste Material Profile Sheet
Appendix F – East Bay Municipal Utility District – Special Discharge Permit
Appendix G – Soil Management Plan Monitoring Forms

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1 INTRODUCTION

This Soil Management Plan (SMP or Plan) has been prepared at the request of Alten Construction (Alten) and Alameda Unified School District (AUSD). The SMP provides guidelines for managing soils that will be handled during construction activities at Alameda High School located at 2200 Central Avenue, Alameda, California (Site) shown in Figures 1 and 2. The project includes demolition of an existing pool facility, excavation and grading, and construction of a new pool facility which includes an exterior flatwork pool deck, a pool house, site utilities, and a new tennis court. The project is expected to require shoring with cuts up to approximately 10 feet in depth. Soils generated during earth disturbing activities are expected to be off-hauled during construction. Shallow groundwater will likely be encountered during construction; accordingly, this SMP also addresses handling of groundwater during construction.

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2 BACKGROUND

This Soil Management Plan provides guidelines for managing soils that will be handled during construction activities at the Alameda Unified School District's (AUSD) Alameda High School at 2200 Central Avenue, Alameda, California (Site), per the request of Alten Construction (Alten) and AUSD. This document provides additional soil and groundwater handling requirements to supplement the following documents from Alten and their subcontractors:

- Alten Construction's Site Specific Injury Illness and Prevention Plan (IIPP); included as Appendix A.
- Professional Asbestos and Lead Services, Inc (PALS) *Soil Health and Safety Plan For the Alameda High School – Swim Center Modernization Project Located at 2200 Central Avenue Alameda, CA 94501*, dated November 5, 2024, included as Appendix B.

2.1 SITE SOIL CONDITIONS

AUSD has started a swim center modernization project that encompasses approximately 1 acre of the school grounds. During this project soil samples were collected to characterize waste soil generated during the project. Activity by ACC Environmental Consultants, Inc. (ACC) noted that 1 to 3 feet of non-native imported fill was observed at the Site and may potentially extend deeper in other areas (ACC, 2024a). ACC described the fill as grey-brown silty sand with gravel and debris, readily distinguishable from the brown-light brown fine grained well sorted native clay. ACC stated that fill was likely imported in 1954 from an unknown source during the original construction of the Emma Hood pools.

In August 2024, four soil samples were collected in the proposed construction area. Three samples were collected from shallow soil and one sample was collected at 6 feet below ground surface (bgs), below the base of swimming pool that was recently demolished. A professional Geologist (PG) from ACC observed that the deep sample appeared to be similar to shallow fill and may not be representative of native soil. Soil samples were tested for a variety of compounds. Samples were composited prior to testing for Title 22 metals, asbestos, total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-d), TPH as motor oil (TPH-mo), organochlorine pesticides (OCPs), and polychlorinated biphenyls (PCBs). Discrete samples were tested for Semi-volatile Organic Compounds (SVOCs) and Volatile Organic Compounds (VOCs). Lead was detected in this composite sample at 280 milligram per kilogram (mg/kg), which is greater than 50 mg/kg trigger level for soluble lead testing (via soluble

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threshold limit concentration [STLC]) and 100 mg/kg for Total Concentration Leaching Potential (TCLP) testing (ACC, 2024a).

Additional sampling was conducted in September 2024 that consisted of collection of 16 additional soil samples on September 4, 2024, and 21 samples on September 26, 2024, to further characterize the lead impacts in soil prior to disposal. Soil sample results were compared to San Francisco Bay Regional Water Quality Control (SFRWQCB) Environmental Screening Levels (ESLs) for direct exposure to construction workers (SFRWQCB, 2019) and State and Federal hazardous waste criteria. (ACC, 2024b)

Concentrations of TPH-g, TPH-d, TPH-mo, OCPs, PCBs, SVOCs, VOCs do not exceed corresponding soil ESLs for construction/industrial workers. Asbestos was not detected.

Detected metals concentrations were generally consistent with background levels, except for lead which was detected in multiple samples. Lead was detected in Sample ACC-SS-1 (a,b,c,d) at 280 mg/kg and soluble lead (via STLC) was detected at 50 milligrams per liter (mg/L) in this composite sample. Soluble lead levels (via STLC) are above the California Hazardous Waste level of 5 mg/L; TCLP lead was detected at 1.3 mg/L in the composite Sample ACC-SS-1 (a,b,c,d). (ACC, 2024b)

During the September sampling, lead was also detected above the soluble lead trigger levels of 50 mg/kg at samples TP1-1', TP3-1', TP4-1', TP1-2', TP4-2', TP4-3', TC2, DV-1(1'), DV-6(7'), DV-8(1') and SP-1(AB). Other samples contained lead below 50 mg/kg. STLC analysis for lead was conducted on samples that exceeded the 50 mg/kg trigger level; results at TP4-3', DV-1(1'), DV-8(1') and SP-1(AB) indicated that these samples contain lead above California hazardous waste threshold of 5.0 mg/L. TCLP lead was requested on TP4-3, TC2 and the samples collected on September 26, 2024. Both of these sample results were below 0.5 mg/L, which is below the Federal Resource Conservation and Recovery Act (RCRA) hazardous waste limit of 5.0 mg/L. (ACC, 2024b).

The existing stockpile on the eastern portion of the Site originated from aggregate base excavated during demolition of the pool deck and eastern tennis court. Soils generated during rough grading of the softball field where the new tennis court is proposed to be constructed are stockpiled on the west side of the site.

To better assess the consistency of soil conditions across the site, two of the discrete samples from composite Sample ACC-SS-1 (a,b,c,d) were submitted for analysis for total lead and leachable lead via STLC and TCLP. Leachable lead via TCLP was detected at 5.5 mg/L in Sample ACC-SS-1a, and 0.18 mg/L in Sample ACC-SS-1d. Though discrete sample ACC-SS-1a exceeds the Federal RCRA hazardous waste limit

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of 5 mg/L (ACC, 2024b), this material had already been disturbed and stockpiled. Composite Sample ACC-SS-1 (a,b,c,d) is sufficiently representative of the soil characteristics for off-haul and disposal of these stockpiled soils. This material is designated as California Hazardous for the purpose of disposal, similar to the other non-native fill material observed at the site.

The presence of California non-RCRA hazardous waste at the Site presents a health and safety concern for the project. Soil classified as California non-RCRA hazardous waste appears to be associated with the non-native fill material brought in during building construction in the 1950s. As such, this material will be segregated visually whenever encountered, and disposed of according to waste transportation and disposal regulations.

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3 KEY ROLES AND RESPONSIBILITIES

The following is a list of key roles involved with preparation and execution of this SMP:

- Owner: Alameda Unified School District (Site Lessor). Responsible for selecting and engaging the General Contractor (Site Lessee). Responsible for selecting and engaging Owner's environmental consultant. Involved with the Site construction activities and implementation of the SMP. Responsible for review and approval of this SMP and associated health and safety activities.
- General Contractor: Alten Construction (GC Lessee). Responsible for executing and overseeing the Site construction activities and managing the associated subcontractors and personnel. Responsible for implementation, oversight, compliance, and enforcement of this SMP and associated health and safety activities, as outlined in the site specific IIPP.
- Owner's Environmental Consultant: ACC Environmental. Responsible for sampling, monitoring, assistance and oversight of this SMP and associated health and safety activities, as outlined in the site specific IIPP.
- GC Lessee's Environmental Consultant: Kleinfelder. Responsible for preparation of this SMP and the SMP Compliance Report.

Alten Construction has identified the following subcontractors and the point-of-contact (POC) who are scheduled to perform work on-Site during the project. Additional subcontractors working on site shall be added, as necessary.

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Company Name	License No.	POC Name	Role	Office or Mobile Phone
Alten Construction	705713	Harry Torrano	Superintendent	415-559-6063
Professional Abatement & Lead Services, LLC	700658	Steve Whittington	Hazardous Soil Management	510-750-7543
Duran and Venables	375068	Mike Garca	Site Grading	408-590-2924
Case Pacific	259827	Charlie Bower	Shoring and Drilled Piers	925-449-2590
Western Water Features	710366	Kooper Parkes	Pool Contractor	916-939-1058
AAA Fence	522762	Rex Yates	Perimeter Fence Footings	408-426-6539
McGuire and Hester	95879	Ivan Vega	Irrigation	510-632-7676
Con J Franke	288366	Antonio Zuniga	Site Utilities	209-479-2489
Cal Pacific	924244	David Chang	Site Utilities	650-733-8158
WR Forde	1025853	Tony Perez	Site Utilities	510-778-0811

3.1 WORK AREA CONTROL

Access to the Site and the soil handling areas shall be controlled using barricades, cones, flagging tape, and/or perimeter fencing, or other appropriate precautionary methods, as needed. Control of the work area will be the responsibility of the GC. In general, the work area should be secured as to limit access only to the personnel qualified and authorized to be on-site.

3.2 HEALTH AND SAFETY

Alten's Injury Illness and Prevention Plan (IIPP) is appended to this plan in Appendix A. The HASP contains emergency directions, emergency contact information, as well as personal protective equipment (PPE) recommendations.

Alten's site-specific HASP has been amended to incorporate the dust monitoring and soil handling procedures outlined in this SMP. Alten's specialty subcontractor, PALS, provided additional health and safety procedures required when working with lead in soils in their *Soil Health and Safety Plan For The*

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Alameda High School – Swim Center Modernization Project Located at 2200 Central Avenue Alameda, CA 94501 dated November 5, 2024; this plan is attached as Appendix B. The PALS guidance is intended to be used in conjunction with this SMP to provide guidance and best practices for worker safety during handling of the California non-RCRA hazardous waste at the Site. Collectively, these safety and monitoring guidelines establish the procedures to control or minimize exposure to hazards from lead in soil and the appropriate levels of PPE.

Tailboard safety meetings should be conducted daily to address planned activities and should include a sign-in sheet for any staff working at the Site each day.

3.3 EMERGENCY RESPONSE PLAN

If an emergency arises involving hazardous soils or other hazardous materials, all personnel will evacuate to a pre-determined area located upwind and a safe distance from the location of the concern. If appropriate based on the type of emergency, summon outside assistance, via calling emergency response personnel by dialing 911, to deal with the emergency.

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4 HAZARDOUS AND NON-HAZARDOUS WASTE DEFINITIONS

4.1 HAZARDOUS WASTE REGULATIONS

The following section provides a general overview of current regulations for the classification of hazardous wastes in California.

The term “hazardous waste,” as defined in the California Health and Safety Code (State of California, 2015), Section 25124, is a waste that, because of its concentration, quantity, or physical, infectious, or chemical characteristics, may cause or contribute to increased mortality or illness or pose a present or potential hazard to human health or the environment. There are two categories of hazardous waste in California, with such waste classified as either “RCRA Hazardous” waste (Federally regulated under the Resource, Conservation, and Recovery Act [RCRA]) or “non-RCRA Hazardous” waste (regulated by the State of California).

Sampling and classification of a waste, if and when required, must be performed in satisfaction of the following procedures/requirements:

- Representative sampling (including collection of multiple samples, if appropriate) of the material must be performed in accordance with procedures specified in the current version of the document published by the United States Environmental Protection Agency (US EPA) entitled Test Methods for Evaluating Solid Waste, Physical/Chemical Methods and also known as SW-846 (US EPA, 2015).
- The samples must be delivered to a laboratory accompanied by a “chain-of-custody” document that indicates the sample type, date/time sample was taken, sample size, sample source, quantity of the waste, type of sample container, place and address of collection, and the names and signatures of the person who collected the sample and person(s) subsequently in possession of the samples until they are received by the laboratory.
- A laboratory, following the analytical procedures outlined in California Code of Regulations (CCR) Title 22, Division 4.5 (State of California, 2015a), must perform the analysis. The laboratory must be accredited by the State of California to perform the specific waste analysis.

4.2 HAZARDOUS WASTE CLASSIFICATIONS

For pre-profiling soils planned for disposal, the testing sequence is as follows:

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- Collect in situ samples of soils in the planned cut or planned disposal area. Analyze in situ samples as discrete samples.
- Compare analytical results to transportation and disposal criteria for appropriately permitted landfills or disposal facilities. Where necessary, test for leachability of specific constituents in the soils.
- Identify any soils that exceed CCR Title 22 Total Threshold Limit Concentration (TTLC) values, CCR Title 22 STLC values, and/or US EPA TCLP values.

Depending on the level of chemical impacts observed in the soils, classifications include:

- Unrestricted re-use: for soils with chemical constituents below applicable screening levels.
- Non-Hazardous: for soils with chemical constituents above applicable screening levels, but below TTLC values. Also referred to as "Class II Soils".
- Non-RCRA Hazardous: for soils with chemical constituents above applicable screening levels and leachability test results above California-specific hazardous waste STLC values. Also referred to as "Class I Soils".
- RCRA Hazardous: for soils with chemical constituents above applicable screening levels and leachability test results above the Federal RCRA Hazardous waste TCLP values. Also considered "Class I Soils".

At this Site, as discussed in the Site Soil Conditions section above, lead was observed in soils under each of the above classifications except RCRA Hazardous. For consistency, these classifications will generally be referred to as "Non-RCRA Hazardous (i.e., Class I soils)" and "non-hazardous (i.e., Class II soils)". See Figures 3A through 3B for the results of the waste characterization sampling at this Site.

Re-use of soils or delineation of impacts in existing soils are not discussed in this SMP.

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5 SOIL MANAGEMENT

5.1 INTENDED USE

The primary purpose of this SMP is to provide guidance and procedures for soil management during construction activities at the Site that will involve handling and removal of soils that are or may be impacted by environmental contaminants. This SMP has been prepared to accommodate performance of project excavation work in an environmentally and technically sound manner with minimal delay. The procedures contained in this SMP are intended to reduce risk to receptors in the surrounding community, including students and faculty at Alameda High School and the public.

This SMP applies only to those construction activities that involve removal and handling of known or potential contaminant-impacted soil during excavation phases of work (i.e., earthwork activities including grading, new utility construction or repairs, shoring, dewatering, etc.). This SMP also establishes basic human health protection and safety guidance and provides contingencies for situations that may arise while excavation-related activities are being performed at the Site. However, this SMP is not intended to replace standard operating procedures, safety procedures, or programmatic and project-specific mitigation plans and Health and Safety Plans (HASPs). Kleinfelder notes it is not responsible for Site safety.

This SMP is intended to be incorporated into construction documents used by Alten to perform Site construction activities.

5.2 APPLICABLE REGULATIONS

Construction activities at the Site must comply with applicable regulations, including, but not limited to:

- Construction stormwater requirements, including the National Pollutant Discharge Elimination System 2022 Construction General Permit (where applicable).
- Division of State Architects code requirements (including grading, and/or erosion control requirements, where applicable)
- Bay Area Air Quality Management District (BAAQMD) Air Quality Guidelines (BAAQMD, 2017).
- Applicable health and safety precautions (CalOSHA).
- Alten Construction Site-Specific IIPP.
- Special Discharge Permit from East Bay Municipal Utility District (EBMUD).

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5.3 PRE-CONSTRUCTION MEETING

Prior to grading/development/construction activities, representatives of the Owner, the GC, and the Owner's Environmental Consultant shall meet to review and discuss the procedures outlined in this SMP, roles and responsibilities, and the excavation and grading schedule.

5.4 SOIL HANDLING

Onsite soils shall be managed according to the protocols outlined in this SMP. Site soils include any materials disturbed during utility excavation, grading, materials hauling, footing/foundation excavation, shoring installation, or other ground-disturbing activities at the Site.

For clarity on training and certification requirements, an exclusion zone has been defined for soil handling work at the Site. The exclusion zone is defined as areas where active soil handling is occurring for soils identified during waste characterization activities as non-RCRA Hazardous (i.e., Class I soils). After removal of soils characterized as non-RCRA Hazardous, training and certification requirements may not apply.

5.5 TRAINING REQUIREMENTS

The following training requirements apply; the required certifications must be provided to Alten and Owner or Owner's Environmental Consultant prior to the start of work:

- Personnel entering an exclusion zone shall be required to participate in a Site-specific orientation briefing and sign an acknowledgment prior to entry.
- For personnel entering the exclusion zone or handling Class I soils, the following requirements shall be completed:
    - Attend orientation meetings, be familiar with the project specific HASP, and sign acknowledgment thereof.
    - Possess Certified 40-hour Federal Occupational Safety and Health Administration (OSHA) Health and Safety/Hazardous Waste Operations training (pursuant to 29 CFR 1910.120) and have attended 8-hour refresher class within the last year.
    - Lead in Construction Standards training, and medical surveillance program as required per CCR 8 1532.1.

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5.6 SITE CONTROLS AND ACCESS RESTRICTIONS

Access to the Site and the soil handling areas shall be controlled using barricades, cones, flagging tape, and/or perimeter fencing, or other appropriate precautionary methods, as needed. See Alten's Site Logistics Plan in Appendix C. Additionally, delineation and traffic control to manage inadvertent entry to the Site should be implemented throughout the duration of the project.

Where soil contamination is encountered, an exclusion zone shall be established that includes and surrounds the affected area. Unauthorized personnel and unqualified visitors shall not be allowed access to the exclusion zone. Only personnel with specific operational duties and the required training and monitoring shall be permitted to be present in the exclusion zone.

To avoid track-out of soils, during excavation and removal of the non-RCRA Hazardous (i.e., Class I Soils), trucks will be loaded while parked on steel plates. Contractor will take precautions to not spill soil while transporting soils from excavation to stockpile staging areas or from stockpiles to loading trucks.

Truck tire and boot wash-out will be used as vehicles and staff that come into contact with known hazardous soils leave the site at contractor designated wheel wash. The contractor proposed wash-out area is located on the southeast corner of the site adjacent to Oak Street. Truck tire washing is intended to be implemented if other sediment control measures such as rumble plates and street sweeping are not effective. If truck tire washing is performed, it will be within a contained basin and the truck tire wash water will be collected, containerized, and disposed of appropriately.

5.7 EXCAVATION MONITORING

Excavation and loading of Class I soils will be observed by ACC, the Owner's Environmental Consultant, to confirm conformance with this SMP.

Additionally, workers on Site during excavation or grading activities will observe for indications of potential contamination, such as staining, discoloration, or the presence of a hydrocarbon or other chemical odor, during such work. Should soil having such indications of contamination be encountered during the excavation and grading activities, trained personnel with appropriate equipment will monitor the soils for signs of contamination, and collect soil samples for laboratory analysis if needed. The Contractor will stockpile and sample soil with indications of contaminant impact as described in the following sections.

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During ground disturbing activities, if Site construction personnel identify previously undocumented contamination, unexpected underground storage tanks or drums, or soils that exhibit characteristics of chemical impacts such as staining, sheens, or chemical odors, the Site Owner shall be notified, and work shall be suspended within 50 feet of that area. Suspected impacted soils shall be evaluated by an environmental consultant to determine the appropriate characterization needs and develop proper handling and best management practices (BMPs) for these soils prior to continuing construction activities. Additional laboratory testing may be required.

5.8 SOIL SEGREGATION

Based on the *Alameda HS Swim Center - OX Cut/Fill* map dated August 22, 2024 provided by Alten, Kleinfelder understands the site will have cuts up to approximately 10 feet in depth and minor fills around the site. A copy of the above referenced cut/fill map can be found in Appendix D

Segregation of known contaminant-impacted soil from non-impacted soil is necessary to facilitate its proper handling and disposal; as the non-native fill material is visually distinguishable from the native soils, segregation of this soil can be performed with oversight from the Owner's Environmental Consultant. Excavated soil that is known to be not appropriate for use as backfill at the Site may need to be stored temporarily at the Site in stockpiles.

Regulations pertain to the construction of stockpiles, placement of wastes with respect to surface water bodies, security, and labeling. Stockpiled soil should be placed on polyethylene sheeting; polyethylene sheeting will be used to cover the stockpiles If drums are utilized for limited temporary staging of impacted soils, drums will be labeled with the following information at a minimum:

- Project Site name.
- Emergency contact name and phone number.
- Type of waste.
- Date waste was generated.

5.9 SOIL STOCKPILE MANAGEMENT

To mitigate dust generation and contact with storm water, soil that is temporarily stockpiled pending receipt of analytical results will be placed on and securely covered with plastic sheeting that has a minimum 10-mil thickness. Stockpiled soil will be sampled and analyzed to establish a profile specific to each stockpile, prior to its reuse on Site or disposal off-Site as appropriate based on the profile for the soils. Soils with reported contaminant concentrations exceeding CCR Title 22 TTLC values, CCR Title 22

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STLC values, and/or US EPA TCLP values, as well as soils emitting total volatile organic vapor concentrations equal to or greater than 50 ppmv (as measured during field screening with the PID), will be segregated and stockpiled on Site separately from other stockpiled soils that do not exceed these criteria. The soil profiling sampling will be performed as discussed in the Soil Monitoring and Sampling Program section of this SMP.

Additionally, when stockpiling is needed, the following best management practices (BMPs) shall be followed:

- If stockpiling soils is required, soils should be seregated based on their waste classification.
- Stockpiles shall be located greater than 10 feet from any catch basin or drainage feature.
- Storm water catch basins in proximity to stockpiles shall be protected from erosion/runoff.
- Stockpiles should be placed on flat surface to prevent erosion and sloughing.
- If stockpiling non-RCRA Hazardous soils, material should be placed on 10-millimeter thick polyethylene sheeting, or equivalent.
- Stockpiles shall remain covered with plastic sheeting when not being actively disturbed and plastic sheeting should be weighted down with sandbags or other weighted devices.
- At the end of the work day, stockpiles shall be covered and secured from wind and precipitation.
- Uncovered stockpiles shall be watered two times per day (BAAQMD, 2017).

Alten proposes to use the future tennis court area as a stockpile management area as identified on Figure 2.

5.10 DUST MANAGEMENT AND MONITORING PLAN

During ground-disturbing or dust-generating activities on Site such as excavation and soil handling, drilling, shoring, vehicle traffic, high winds, unprotected stockpiles, or dust monitor exceedances, additional measures will be employed to minimize fugitive dust. If visible dust is observed, work must be stopped immediately, and additional dust control measures must be employed. Potential additional measures include:

- Full time monitoring for dust during ground disturbance activity by personnel equipped with a charged water hose.
- More frequent application of water for dust control relative to the standard construction sites as necessary to maintain soils in a damp condition (i.e., visibly moist).
- Use of a temporary surface soil stabilizer such as Durasoil® or similar product.

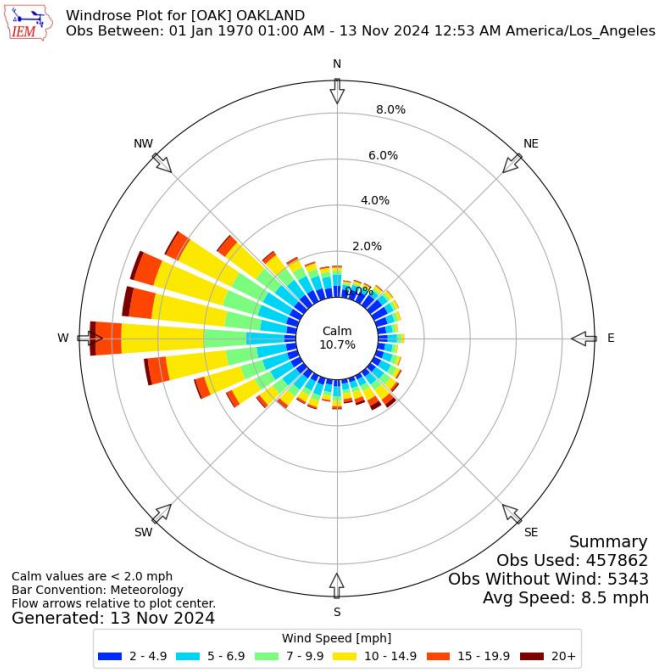
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- Addition of clean soil/aggregate to provide a separation layer between the site workers and the lead impacted soils.
- Reduction in vehicle speed limit and temporary suspension of activity during high wind events.
- Any haul trucks transporting soil, sand, or other loose material offsite shall be covered.
- Utilize wet power vacuum street sweepers to remove any visible mud or dirt track-out onto adjacent public roads.
- Stabilization (i.e, paving, placement of concrete, or final landscaping) of roadways, driveways, and sidewalks shall be completed as soon as possible.
- Additional dust monitoring requirements may be listed in the site specific HASP.

The above dust mitigation measures are typical and effective for dust control on local construction sites. In the event the mitigation measures do not suppress dust concerns, work shall be stopped to assess additional dust suppression measures that may be implemented.

The figure below taken from Iowa State University's Environmental Mesonet, shows a wind rose diagram from the Oakland International Airport graphically depicting regional prevailing wind direction and speed. The wind rose diagram shows prevailing winds originating from the W to WNW. It should be noted that windrose plots constrained around November and December timeframe indicate prevailing winds from the SE. Perimeter dust monitoring should be performed for public safety. Perimeter dust monitoring stations shall be placed upwind, downwind, and crosswind of project activities at Site. Exact perimeter dust monitoring locations shall be determined by field staff conducting dust monitoring and documented in the SMP completion report.

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5.11 AIR MONITORING

While general dust monitoring and control measures will be implemented during ground-disturbing or dust-generating site activities during this project, incremental levels of air monitoring and dust mitigation measures will be implemented during work at the Site. Additional worker monitoring and worker protection procedures may be listed in the site-specific HASP. Procedures will be adjusted to site conditions when appropriate.

For the duration of disturbance of Class I soils on the Site, the following air monitoring requirements shall be followed. Note that Tyvek protective coveralls, or equivalent, are required where workers may be exposed to potentially lead-impacted fugitive dust in excess of 50 micrograms per cubic centimeter (µg/cm3), averaged over an 8-hour period, based on a conservative calculation of lead in dust from the Site. This requirement may be relaxed following documentation that onsite work activities do not represent exposure in excess of this monitoring threshold.

- Properly trained workers wearing respirators are required where workers are completing work in the exclusion zone, until air monitoring can show that lead-impacted fugitive dust is below 50 ug/cm^3 while work is on-going. If air monitoring demonstrates that management practices are effective, worked can doff respirators while completing the tasks. Monitoring should be on-

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going and if exposure to lead-impacted fugitive dust in excess of this monitoring threshold is observed, work must be stopped until workers in the exclusion zone don respirators.

- Monitoring for worker exposure to fugitive dust will be accomplished via the following:
    - Dust monitoring in the worker breathing zone will be accomplished using a personal air monitoring device (i.e., a Gilian/GilAir Plus Personal Air Sampling Pump up to 5,000 cc/min or equivalent) for at least the first day of soil handling activities in the exclusion zone or if site conditions change.
    - Dust and air monitoring across the Site will be performed with a hand-held dust monitor (such as a Thermo PDR-1000 Personal Aerosol Dust Monitor, or similar) to measure real time mass concentration of dust in the worker breathing zones and downwind of the soil handling areas at frequent intervals throughout the workday during construction at the Site.
    - Documentation of the results of the dust monitoring will be accomplished using dust monitoring forms (see template in Appendix G) and submitted to the owner at the completion of soil handling activities in the exclusion zone (i.e., at the completion of handling of non-RCRA hazardous soils).

5.12 SOIL DISPOSAL

Any soils that will not be reused on Site will be disposed of at a permitted disposal facility. Sampling and characterization requirements are typically established by the reuse or disposal facility. AUSD representatives or their authorized agent will sign waste manifests for disposal of Non-RCRA Hazardous (Class I) and non-hazardous (Class II) soils. Refer to the Hazardous and Non-Hazardous Waste Definitions section above for more details on the soil classifications at the Site.

Existing analytical laboratory reports were submitted to Clean Harbors for approval of waste soil profiles with under AUSD's California EPA Generator ID CAL000159745. The waste profile from Clean Harbors (profiled as non-RCRA hazardous soils) is presented in Appendix E. Other appropriate facilities may be added based on acceptance and laboratory testing, if disposal sites are to change Alten shall notify AUSD.

Any soils transported offsite must be properly characterized and profiled in accordance with applicable laws and regulations. Any soils transported offsite will be transported with an appropriate waste manifest with the date of transport, quantity, and destination, signed by the generator and the transporter. Weight tickets will be obtained from the appropriate receiving facility, when possible.

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Off-haul trucks will be subject to the City of Alameda's truck routes which can be found in the Site Logistics Plan in Appendix C. The Site Logistics Plan also includes site controls and truck loading traffic control plans.

Additionally, soil segregation boundaries are shown on Figure 3B, showing areas and depths of impacted soils based on available lab testing data performed by others. It is estimated that less than 2,500 cubic yards of non-RCRA hazardous soils are planned for disposal as Class I material. It is estimated between 5 and 12 truck trips will be needed to off-haul the materials. It is estimated that up to 85 cubic yards of non-hazardous soil (i.e., Class II) may need to be disposed of. Estimates for disposal volumes are in this SMP are not exact, as the actual tonnage of disposed soil will depend on the final cut and fill amounts needed during construction.

Note that the off-haul estimate for the non-RCRA hazardous soils (i.e., Class I) are for removal of soils meeting the characteristics of the non-native fill that are expected to be encountered during construction (including utility trenching) in the top one to three feet of soil at the Site. Excavations below this depth are not expected to encounter this non-native fill material and are expected to meet non-hazardous soil (i.e., Class II) or onsite reuse criteria.

5.13 PROJECT SEQUENCING

It is understood that Alten's hazardous soil subcontractor will be responsible for non-RCRA Hazardous (i.e., Class I) soil handling and disposal. Soils disposal sequencing is understood to include the following:

1) Off-haul of non-RCRA hazardous soils that are currently stockpiled on-site, associated with Sample SP-1.
2) Demolition of existing asphalt and off-haul non-RCRA hazardous aggregate base material on western half of the site.
3) Excavate and direct load of the remaining non-RCRA hazardous soils associated with the non-native fill material in the top one to three feet of soil in areas planned for soil disturbance during construction; these areas are designated on Figure 3B.

Following off-haul of the known non-RCRA Hazardous (i.e., Class I) soils, worker dust monitoring, respirator requirements, and lead in construction training/certifications may be relaxed. Dust control measures and perimeter dust monitoring are recommended for the duration of soil handling activities. Off-haul of any soils from this site must follow the procedures outlined in the Soil Monitoring and Sampling Program outlined below and be disposed of at an appropriate disposal facility.

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Additional anticipated soil disturbing activities include the following:

1) Cut site to subgrade at pool deck
2) Installation of temporary shoring and excavation for pools and pool building construction (as needed)
3) Drilled foundations for competition pool
4) Installation of dewatering wells (down to 25 ft bgs)
5) Subgrade utility installation
6) Grading and drainage
7) Fence post installation
8) Stockpiling of spoils from shoring, utility installation, or other site grading activities
9) Import of virgin material for base course or utility trench backfill

This SMP is expected to be in effect until stabilization of the Site via hardscape or stabilized landscaping or until soil disturbing activities are completed.

5.14 SIGNAGE

Publicly post signage with the telephone number and person to contact at the appropriate agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Per AUSD, the signage should also include the following information:

Alameda Unified School District: Construction Department
Alameda High School Swim Center Project
For more information visit www.alamedaunified.org or call 510-337-7020.
This project was paid for by the Measure B Facilities Bond.

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6 SOIL MONITORING AND SAMPLING PROGRAM

An environmental representative should be present on-Site during soil excavation and grading activities to perform monitoring and sampling of known and suspect contaminant-impacted disturbed soil. The monitoring and sampling will be performed as follows:

6.1 SOIL SAMPLING

Representative samples of the disturbed soil will be collected for laboratory analysis, with the sample locations and distribution within the soil mass to be random and uniform or biased toward hot-spot areas based on professional judgment and field screening indications (i.e., simply sampling soil from approximately 6 inches beneath the surface of a stockpile is inappropriate and not acceptable).

6.2 SOIL SAMPLING FREQUENCY

The sampling frequency to be used will be as follows unless the receiving facility requires alternate sampling frequencies:

- Stockpiles of less than 500 cubic yards: Three samples for the first 500 cubic yards (or less).
- Stockpiles of 500 cubic yards to 1,000 cubic yards:1 sample per 250 cubic yards.
- Stockpiles of 1,000 cubic yards to 10,000 cubic yards: 8 samples for the first 1,000 cubic yards plus one sample for each 500 cubic yards.
- Stockpiles of greater than 10,000 cubic yards: 24 samples for the first 10,000 cubic yards plus one sample for each 1,000 cubic yards

6.3 SOIL LABORATORY TESTING

The soil samples will be analyzed at minimum for TPH (speciated as TPH-g, TPH-d, and TPH-mo), VOCs, and CCR Title 22 Metals using appropriate US EPA test methods. The analytical results will then be evaluated, with regulatory approval requested as warranted, to assess whether re-use or off-Site disposal of the soil is appropriate. Depending on the results of the initial testing and on disposal facility requirements, testing for additional contaminants may be necessary.

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6.4 ANALYSIS OF LABORATORY TEST RESULTS

Based on the analytical results, the disturbed soil will be classified Non-RCRA Hazardous waste (i.e., Class I soils), non-hazardous waste not suitable for re-use (i.e., Class II soils), or non-hazardous material suitable for re-use. To do this, the analytical results of the soil samples will be compared to State and Federal screening levels for classification of hazardous waste, outlined in the Hazardous and Non-Hazardous Waste Definitions section above.

Additionally, analytical results of the soil samples may be compared to screening levels required by the disposal, re-use, or receiving facility (but not deterministic of a hazardous waste classification), including the following:

- Current (presently July 2019) SFBRWQCB ESLs for soil. Based on SFBRWQCB ESLs, soils with lead concentrations exceeding 160 mg/kg are identified as a human health risk for construction worker direct exposure in shallow soil.
- Background concentrations of metals in soil, where applicable.
- Alternate soil screening values for soil presented in the current version (presently May 2022) of HHRA Note No. 3 issued by the Cal/EPA DTSC HERO, if such values are published, and if not, to the current (presently November 2023) US EPA RSLs.

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7 GROUNDWATER AND LIQUID WASTE MANAGEMENT

7.1 GROUNDWATER MANAGEMENT

Groundwater was not encountered during prior soil sampling, though it is anticipated to be approximately 10 feet below ground surface based on saturated soils at the base of existing on-Site excavations. It is understood that the pool excavations will extend beneath the water table and that shoring will be necessary.

Note that groundwater at the Site may be tidally influenced; the anticipated level of the tides must be considered when scheduling construction activities that may encounter groundwater.

Alten has obtained a Special Discharge Permit from East Bay Municipal Utility District (EBMUD) which can be found in Appendix F. The permit holder is responsible for complying with all requirements set forth in the permit. Groundwater will be pumped into settling tanks prior to discharge under the EBMUD permit requirements.

7.2 STORM AND SURFACE WATER MANAGEMENT

As required by California's General Permit of Stormwater Discharges Associated with Construction and Land Disturbance Activities (CGP), State Water Resources Control Board (State Water Board), a Stormwater Pollution Prevention Plan (SWPPP) has been developed by a Qualified SWPPP Developer (QSD) for the Site. "Stormwater Pollution Prevention Plan for Alameda High School Swim Center Modernization" prepared by Brelje & Race Consulting Engineers dated May 10, 2024, (WDID 201C404228) was submitted on behalf of the Legally Responsible person (LRP), Alameda Unified School District. The provisions in the SWPPP are intended to effectively manage storm and surface water that enters the Site during construction and is applicable to effective management of the impacted soils on Site.

The SWPPP provides California Storm Water Quality Association (CASQA) Stormwater *Best Management Practice (BMP) Handbook: Construction.* The BMPs included in the SWPPP Section 3 – Best Management Practices include erosion, sediment, wind erosion, tracking, and waste management controls that are to be implemented throughout the project life cycle. The Site Qualified SWPPP Practitioner (QSP) is

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responsible for monitoring and inspection of the BMPs to assess whether or not additional BMPs are needed to control sediment deposition from the site.

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8 SOIL TRANSPORTATION PLAN

8.1 TRANSPORTATION OF LEAD IMPACTED SOILS

Soils with known lead impacts are proposed to be off-hauled from the Site to an appropriate disposal facility. As explained in the Soil Disposal section, existing analytical laboratory reports were submitted to Clean Harbors for a waste soil profile under AUSD's Generator California EPA ID CAL000159745, profiled as non-RCRA hazardous soils (i.e. Class I soils). A copy of the waste profile is presented in Appendix E

The contractor plans to use licensed waste haulers using 12 cubic yard haul trucks under California waste manifesting procedures. The list of waste haulers and the corresponding licenses will be provided to Alten and Owner or Owner's Environmental Consultant for their records.

As each truck is loaded and prior to leaving the Site, each truck will be inspected to ensure material is adequately secured, covered, and wetted as necessary to mitigate dust generation during transportation.

A log of each load leaving the Site will document the date and the time trucks were loaded, the disposal destination, size (approximate volume of the load, and description of contents. The waste will be off-hauled in a manner consistent with Federal, State, and local regulations. Shipments of hazardous waste will be tracked with the appropriate hazardous waste manifests.

All Department of Transportation (DOT) and California Highway Patrol (CHP) safety regulations will be strictly followed by both hazardous and non-hazardous waste haulers. The affected soil will be transported via surface streets to the closest suitable City of Alameda approved trucking route to the freeway. Truck haul routes and traffic control plans are shown in the Site Logistics Plan found in Appendix C.

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9 IMPORT OF FILL MATERIAL

When importing material to backfill excavations, the provisions of the DTSC 2001 Information Advisory – Clean Imported Fill Material guidance shall be followed, where practicable. Imported fill material must be sampled prior to transportation to the Site, and analytical results shall be reviewed by an environmental consultant before import/placement of the fill. This advisory does not apply to construction materials (e.g., aggregates or sand). Import material should also be approved by AUSD, AUSD's environmental consultant, and the geotechnical engineer of record.

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10 DOCUMENTATION OF WORK

Soil handling activities at the Site shall be documented to provide sufficient record-keeping to demonstrate compliance with these procedures. Minimum documentation should include:

- Date of import or disposal of soils
- Date and description of soil disturbing activities performed
- Daily field reports prepared by Alten, environmental consultants, or others as applicable
- Source and analytical results of imported materials
- Waste profiles for each soil classification (Non-RCRA Hazardous [i.e., Class I soils] and non-hazardous [Class II soils])
- Waste disposal manifests and bill of lading (if applicable)
- Landfill disposal tickets
- Soil disposal tonnage for each waste classification
- Soil and water sampling methods and analytical results for samples collected during construction
- Tailboard safety meeting record with sign-in sheet
- Map of dust monitoring locations, results, and other inspection forms (see template list below)
- Site photographs and photographs of monitoring stations, site BMPs, and mitigation measures used.

Any deviations from this Soil Management Plan and associated Site-Specific HASP should be immediately provided to the AUSD and documented in the SMP Compliance Report.

The following template forms are included as Appendix G and may be used by Alten as needed:

- SMP Acknowledgement Page
- Site Dust Monitoring Form
- Import/Export Log

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11 SMP COMPLIANCE REPORT

An SMP Compliance Report will be submitted to AUSD within 60 days of completion of ground disturbing activities at the Site. The SMP Compliance Report shall include the documentation collected during soil handling activities (see Documentation of Work section above) along with the following:

- Project Owner and Site Address
- Project Description
- Project Limits
- US EPA ID numbers utilized during soil disposal
- References to soil sampling completed prior to construction, including the *Summary of Waste Characterization Soil Sampling* (ACC. 2024b*)*
- Any approved deviations from the SMP

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12 LIMITATIONS

This document was prepared in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Kleinfelder's conclusions, opinions, and recommendations are based on a limited number of observations and data. The results presented and discussed herein are believed to be representative of the conditions encountered at the time of the Site activities at the locations and depths sampled by others. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee, or warranty, expressed or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This document may be used only by the Client and the registered professional in responsible charge and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than two years from the date of the document. If the Client makes any changes to the plans and specifications, the Client must obtain written approval from Kleinfelder's engineer that such changes do not affect the recommendations. Failure to do so will vitiate Kleinfelder's recommendations.

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13 REFERENCES

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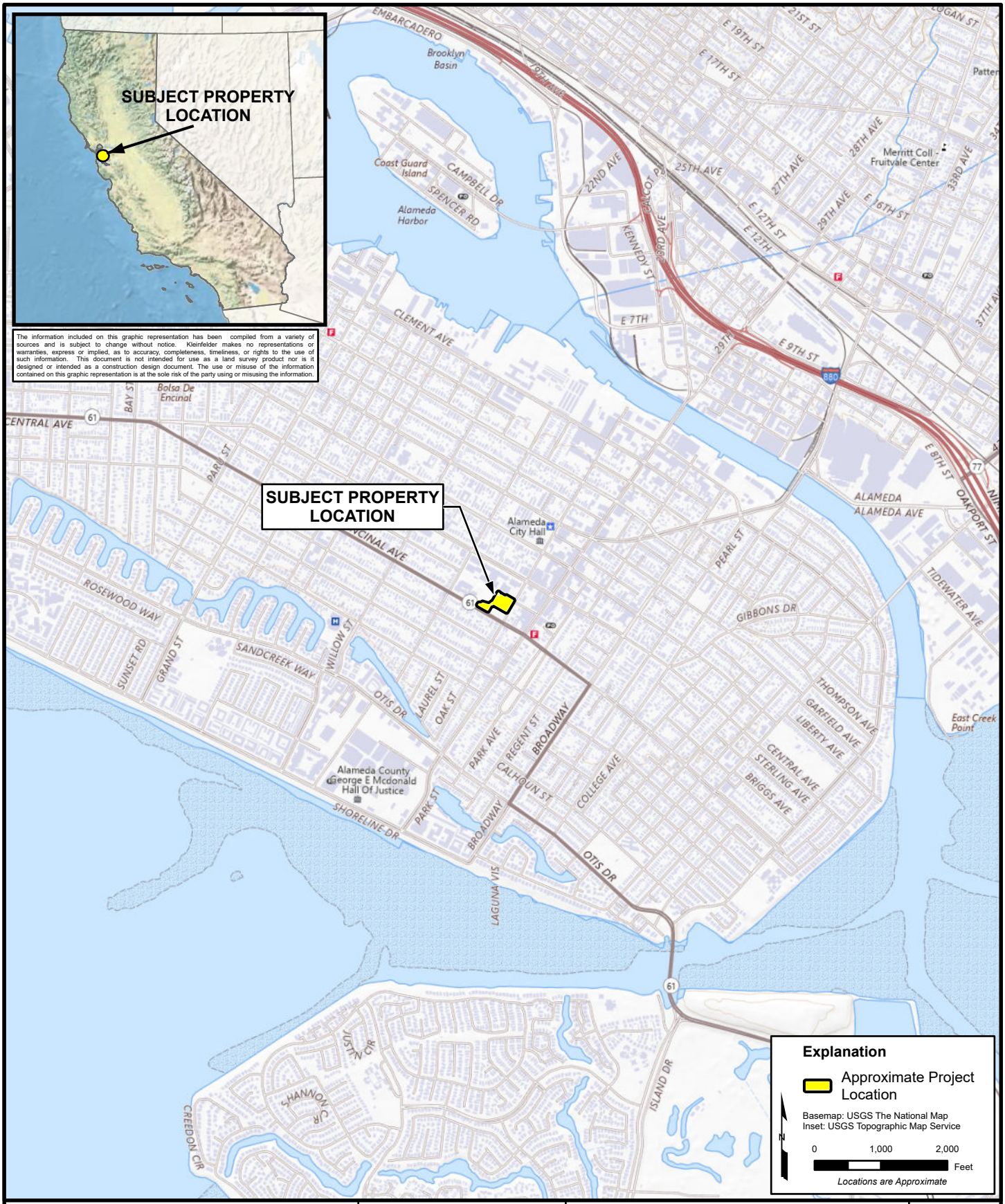
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FIGURES

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PLOTTED: 10/31/2024, KHagan



PROJECT:	25002610.001A
DRAWN:	OCT 2024
DRAWN BY:	K. HAGAN
CHECKED BY:	C. CONTI
FILE NAME:	AlamedaHSPool_F1.pagx

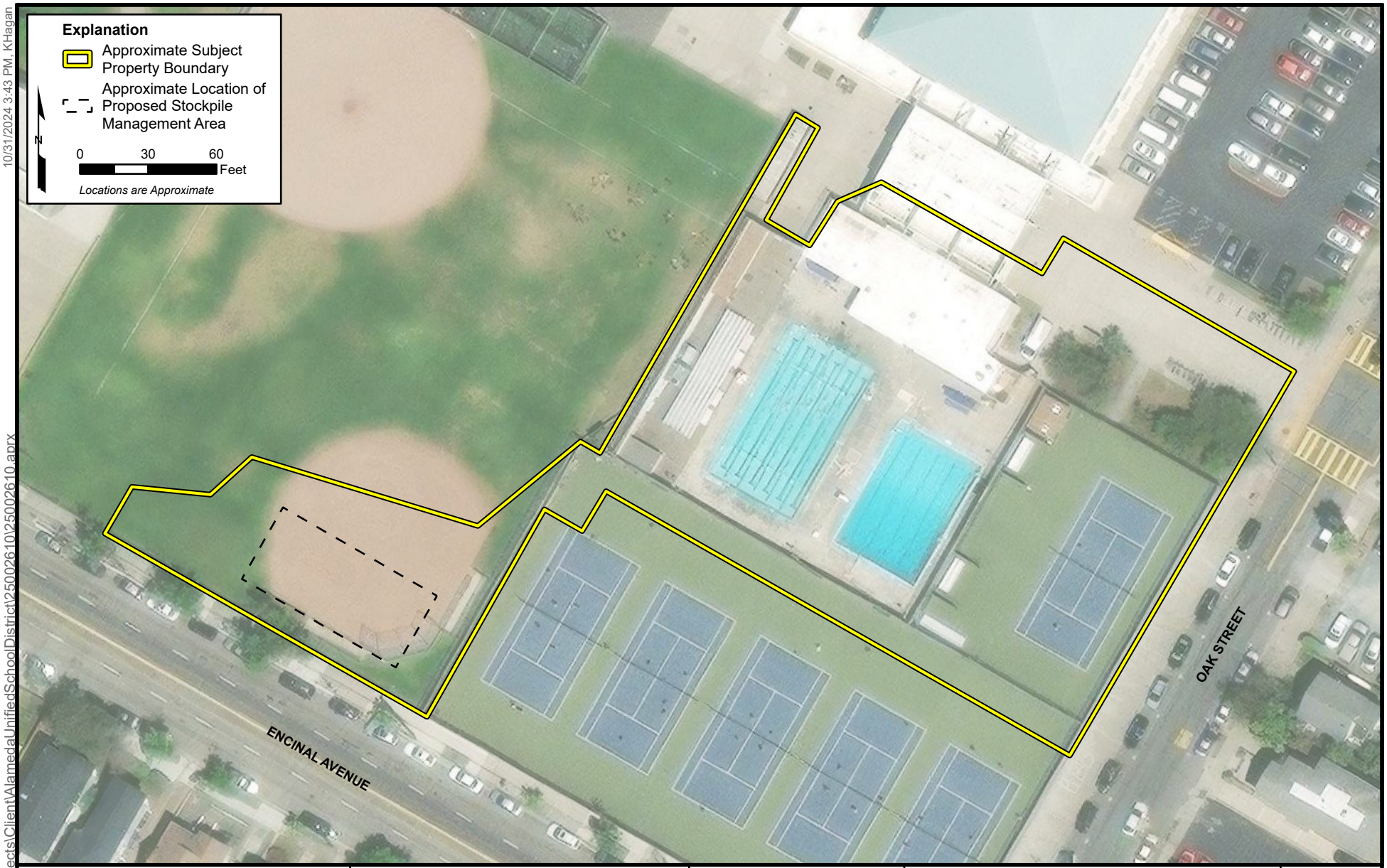
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Bright People. Right Solutions.

SUBJECT PROPERTY VICINITY MAP

ALAMEDA HIGH SCHOOL
SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
1

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PROJECT:	25002610.001A
DRAWN:	OCT 2024
DRAWN BY:	K. HAGAN
CHECKED BY:	C. CONTI
FILE NAME:	AlamedaHSPool_F2.pagx

SUBJECT PROPERTY MAP

ALAMEDA HIGH SCHOOL
SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
2

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11/13/2024

TC2			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Stockpile	110	3.8	<0.5

TC3			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Stockpile	32	---	---

TC4			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Stockpile	23	---	---

SP-2(TS)			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Stockpile	25.1	0.975	<0.050

TC1			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Stockpile	41	---	---

TC2
TC3
TC4
SP2
TC1
PS-1
SP-1
OAK STREET
ALAMEDA AVENUE
ENCINAL AVENUE

PS-1			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Stockpile	<0.10	---	---

SP-1(AB)			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Stockpile	145	5.59	<0.050

NOTES:.
Red = Concentration exceeds SFBRWQCB Direct Exposure Human Health Construction Worker (Any Land Use / Any Depth Soil Exposure) ESL for lead of 160 mg/kg.
Yellow = Concentration exceeds TTLC, STLC, and/or TCLP waste disposal standards.

N

0 20 40
Feet
Locations are Approximate

World Imagery: Maxar, Microsoft; Maxar Vivid Premium image date 5/3/2022.

Explanation
- Test Pit or Shallow Soil Sample
- Stockpile Sample
- Approximate Subject Property Boundary

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STOCKPILE SAMPLING RESULTS

ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
3A

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11/19/2024

ACC-SS-1d			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Surface Grab	330	6.8	0.18

TP3			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
TP3-1'	81	1.7	---
TP3-2'	41	---	---
TP3-3'	<10	---	---

DV-8			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-8(1')	194	11.7	<0.050
DV-8(3')	208	<0.050	<0.050

ACC-SS-1a			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Surface Grab	660	85	5.5

TP4			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
TP4-1'	1,400	81	1.4
TP4-2'	67	---	---
TP4-3'	130	6.6	<0.5

DV-1			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-1(1')	55.3	6.01	<0.050
DV-1(3')	13.3	<0.050	<0.050

DV-5			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-5(1')	11	0.228	<0.050
DV-5(3')	1.81	<0.050	<0.050

DV-2			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-2(1')	30.5	1.15	<0.050
DV-2(3')	12.1	<0.050	<0.050

TP1			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
TP1-1'	220	18	<0.5
TP1-2'	560	19	<0.5
TP1-3'	<10	---	---

ACC-SS-1b			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Surface Grab	43	---	---

TP2			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
TP2-1'	<10	---	---
TP2-2'	<10	---	---
TP2-3'	<9.9	---	---

DV-7			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-7(1')	19.7	1.42	<0.050
DV-7(3')	25.3	<0.050	<0.050

PS-1			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Surface	<0.10	---	---

DV-4			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-4(1')	8.54	0.226	<0.050
DV-4(3')	2.39	<0.050	<0.050

ACC-SS-1c			
Sample Location	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
Surface Grab	37	---	---

ACC-SS-1d
TP3
TP4
DV-1
DV-2
TP1
DV-5
DV-8
ACC-SS-1b
DV-4
PS-1
ACC-SS-1a
DV-7
TP2
ACC-SS-1c
OAK STREET
ENCINAL AVENUE

NOTES:.
Red = Concentration exceeds SFBRWQCB Direct Exposure Human Health Construction Worker (Any Land Use / Any Depth Soil Exposure) ESL for lead of 160 mg/kg.
Yellow = Concentration exceeds TTLC, STLC, and/or TCLP waste disposal standards.

0 20 40
Feet
Locations are Approximate

N

World Imagery: Maxar, Microsoft; Maxar Vivid Premium image date 5/3/2022.

Explanation

- Surface Bulk Sample
- Test Pit or Shallow Soil Sample
- Approximate Subject Property Boundary
- Potential Project Excavation Limits
- 12" Estimated Excavation Depth
- 30" Estimated Excavation Depth
- 36" Estimated Excavation Depth

Potential project excavation limits provided by Alten Construction November 15, 2024.

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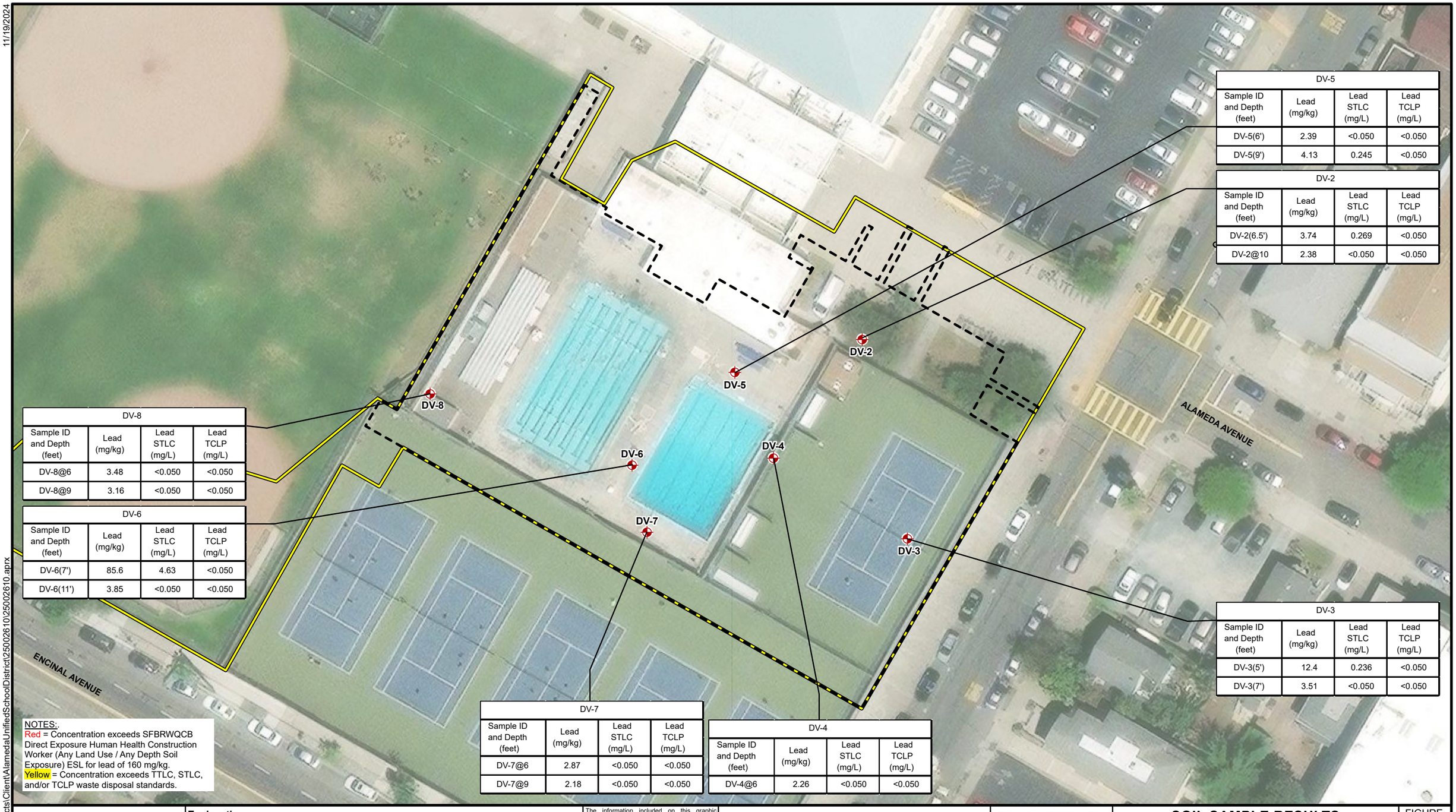
SOIL SAMPLE RESULTS (0" TO 36" RELATIVE TO EXISTING GRADE)

ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
3B

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11/19/2024



DV-8			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-8@6	3.48	<0.050	<0.050
DV-8@9	3.16	<0.050	<0.050

DV-6			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-6(7')	85.6	4.63	<0.050
DV-6(11')	3.85	<0.050	<0.050

DV-7			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-7@6	2.87	<0.050	<0.050
DV-7@9	2.18	<0.050	<0.050

DV-4			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-4@6	2.26	<0.050	<0.050

DV-5			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-5(6')	2.39	<0.050	<0.050
DV-5(9')	4.13	0.245	<0.050

DV-2			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-2(6.5')	3.74	0.269	<0.050
DV-2@10	2.38	<0.050	<0.050

DV-3			
Sample ID and Depth (feet)	Lead (mg/kg)	Lead STLC (mg/L)	Lead TCLP (mg/L)
DV-3(5')	12.4	0.236	<0.050
DV-3(7')	3.51	<0.050	<0.050

NOTES:.
Red = Concentration exceeds SFBRWQCB Direct Exposure Human Health Construction Worker (Any Land Use / Any Depth Soil Exposure) ESL for lead of 160 mg/kg.
Yellow = Concentration exceeds TTLC, STLC, and/or TCLP waste disposal standards.

N

0 20 40
Feet
Locations are Approximate

World Imagery: Maxar, Microsoft; Maxar Vivid Premium image date 5/3/2022.

Explanation
- Test Pit Sample
- Potential Project Excavation Limits
- Approximate Subject Property Boundary

Potential project excavation limits provided by Alten Construction November 15, 2024.

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SOIL SAMPLE RESULTS (36" OR GREATER RELATIVE TO EXISTING GRADE)

ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
3C

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APPENDIX A
Alten's Site Specific IIPP

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Site Specific IIPP

Alameda

High School

Swim Center LLB

Site Specific Injury and Illness Prevention Plan

Project Name: Alameda High School Swim Center LLB
Project Number: 202308
Project Address: 2200 Central Ave Alameda, Ca.94501

Contents:

1. Responsibility / Key Personnel
2. Site Safety Representatives
3. Identification of workplace hazards
4. Scope of Work
5. Job Risk Assessment
6. Site Specific Employee Training
7. Site Specific Emergency Evacuation Plan
8. Site Specific Medical Emergency Plan

1. **Responsibility/ Key Personnel:**

a.	Superintendent	Harry Torrano	(415) 599-6063
b.	Project Manager	Randall Barbour	(415) 916 5818
c.	Project Engineer	Javier Canseco	(415) 652-3755
d.	Safety Manager	Robert Giraudo	(415) 583-6179
e.	Program Administrator	Jackie Torres	(510) 234-4200 x27

2. **Site Safety Representatives**

Harry Torrano will be the overall project "Site Safety Representative" (SSR),and shall be assisted by Bob Giraudo. These two SSR's shall be the main individuals representing Alten Construction's Safety Program on a daily basis for the Independence HS Project. The SSR's have full authority to monitoring construction work for safe conditions and ensuring that these activities comply with the Corporate IIPP, the site specific IIPP, as well as all Cal/OSHA regulations. Any condition that is observed to be unsafe in any way will be stopped and corrected immediately.

3. **Identification of Workplace Hazards**

Mr. Torrano and Mr. Giraudo will be implementing job briefings / weekly tailgate safety meetings for the trades performing the work. This will be a requirement for all construction employees (both Alten and all subcontractors) to sit and discuss potential workplace hazards. It is expected that all trades and all hands will cooperate in the identification of workplace hazards and that they will bring those hazards to the SSR's attention.

Laboratory testing of on-Site soils has shown that concentrations of Lead exceed California (non-RCRA) hazardous levels which presents a human health hazard on the Site. A Soil Management Plan has been prepared to provide guidance and procedures for soil management during construction activities that will involve handling and removal of soils that are or may be impacted by environmental contaminants

All meeting attendees will be required to sign in to ensure they were briefed on the safety briefing. Topics discussed will include but not be limited to specific construction activities occurring on a certain day and general everyday safety requirements (for example minimum standard Alten PPE safety vest, safety glasses, approved work boots and ear protection when needed), housekeeping, public safety etc.). There is an eye wash station in Alten's job site trailer. (JHA) Job Hazard Analysis forms will be filled out by Alten and all subs to identify all hazards to any specific tasks. These job briefings will be utilized to inform and train the workers on any and all restriction zones and engineering controls in place for

hazardous materials and/or silica exposure.

4. **Scope of Work;**
   Build two new swimming pools, new equipment/chem buildings and tennis court.
   a. Reference Alten Construction's Lead Impacted Soil Off-haul Sequence Plan dated 11/6/2024.

5. **Job Risk Assessment**

Alten Construction will perform inspection walkthroughs to ensure the jobsite is safe to work in as well as to make sure that there are no dangers to overall workforce. All hazardous materials will be removed before any other trade will be allowed to commence work. There also exists risk from fall hazards, as well as a risk from moving equipment and materials on and off the site. Specific areas of risk are addressed in more detail below:

a. Hazardous Materials – all hazmat removal will be handled by a licensed subcontractor who will fully comply with CRF and CCR Regulations. Laboratory testing of on-Site soils has shown that concentrations of Lead exceed California (non-RCRA) hazardous levels which presents a human health hazard on the Site. A Soil Management Plan has been prepared to provide guidance and procedures for soil management during construction activities that will involve handling and removal of soils that are or may be impacted by environmental contaminants.
b. Any unforeseen items in found on-site that are not specifically identified by the project plans and specifications will be brought to the owner's attention. If there is a chance that the unforeseen material is hazardous in nature, work will cease. The owner's IH and/or hazardous material competent person will be brought in to determine how the material will be handled. The owner will be kept fully appraised of this process. Any unforeseen hazardous materials found at the site shall be handled in compliance with both CFR and CCR regulations, with time tracked on T&M.
c. Demolition practices shall take into account the potential for silica exposure. Alten will work with the demolition subcontractor to ensure that suitable engineering controls are in place during all silica exposure activities to keep both the trades and the public safe from silica exposure.
d. Heat Injury Illness Protection Program; Alten has a formal Heat IIPP. The Site Safety Representative will be trained to know when to implement Heat IIPP programs, and will be capable of training the trades.
e. All trenching and excavation activities will be performed by trades under the supervision of a shoring and excavation competent person.
f. Concrete construction-all appropriate PPE measures to be used. Hard hat PPE's will be required at all times, trained pump operators will be required, and employees will be prevented from walking under the concrete's boom pump. Carpenters qualified to use both boom lifts, scissor lifts, and forklifts will be utilized for all formwork operations.
g. Vehicular traffic- The location shows narrow and busy access to the site requiring vehicle drivers to use all safe driving techniques. Flaggers will be used to safely move large trucks in and out of the site. All construction vehicles will be maintained and operated in a safe manner with functioning backup alarms.
h. Fall protection – The competent person on the job will determine which type to implement.

6. **Site Specific Employee Training**

This particular project jobsite will require training for the following items. For the most part, training will be accomplished through toolbox training sessions.

Required Training	Required Competent Persons	Required Qualified Persons
Asbestos	Asbestos	Concrete Equipment
First Aid	Excavation	Electrical Work
Ergonomics	Fall Protection	Check Opening Covers
Utility Locator	Utility Locator	Utility Locator
Excavation	Lead	Ladders
Fire Extinguishers		Lasers
Flaggers		Lockout/ Tagout
Forklifts		Scaffolds
Haz Comm/ MSDS		
Heat Illness		
Toolbox Meetings		
Ladders		
Lead /Hazwhoper	Harry Torrano	
Lockout/ Tagout		
Roofing		
Rolling Scaffold		
Silica		
Tools + Equipment		
Powder Actuated Tools		

The Site Safety Representative will have a Safety Meeting with all employees to go over Site Specific Hazards which have been identified in the Job Risk Assessment section and encourage any input from the employees. The Competent and Qualified persons will be identified at this time. The employees will also be trained in the Emergency Evacuation Plan and the Medical Emergency Plan.

The Employee training section found in the Corporate IIPP is specifically included with this Jobsite Specific IIPP. Training is an employer obligation designed to communicate and train the trades in safe work practices. As noted in the Corporate IIPP, all new hires will be trained in the job; all trades will be trained in their specific tasks. Alten Construction has a strong commitment to safety; this commitment must be communicated to all employees so that they understand the commitment and that they understand their own employee responsibilities.

Hazardous Lead Soil Training Requirements:

1. Personnel entering an exclusion zone shall be required to participate in an orientation briefing and sign an acknowledgment prior to entry.
2. For personnel entering the exclusion zone, the following requirements shall be completed:
    a. Attend orientation meetings, be familiar with the project specific HASP, and sign acknowledgment thereof.
    b. At least one site supervisor must possess Certified 40-hour Federal Occupational Safety and Health Administration (OSHA) Health and Safety/Hazardous Waste Operations training (pursuant to 29 CFR 1910.120) and have attended 8-hour refresher class within the last year; this training is recommended for all staff entering the exclusion zone.
    c. It is recommended that all personnel handling soil or entering the exclusion zone participate in the Lead in Construction medical surveillance program, it is assumed the specialty hazardous soils contractor will have this included for their employees. See specialty hazardous soils contractor's soil remediation plan.
3. Specialty Hazardous Soil Contractor Training (PALS)
    a. All PALS employees conducting hazardous materials abatement on this project will have the following:
        i. Lead-awareness training
        ii. Current Medical Evaluation

iii. Current Fit-Test Documentation
iv. Current Blood Test Results.

7. **Site Specific Emergency Evacuation Plan**

In case of a job wide emergency all employees will be instructed to gather at the laydown area @ the northeastern portion of the site. The employees will be directed to walk to the laydown area, to await further instructions. The phased worksite covers two new swimming pools, tennis courts and out buildings, which requires the Site Safety Representative to use multiple modes of communication to convey information directly with every worker. This may require the SSR to walk the entire site as the trades are gathering at the laydown area of the site. Communication will be accomplished through verbal communication, hand signals and or the cell phone. Individual subcontractors may have radios as well. Given the size of the site, the SSR will be required to walk the entire work area to make sure no individuals remain left behind or within individual areas of the jobsite. Once gathered at the common office area located on the northeastern portion of the jobsite, the SSR's will perform a head count to make certain that all parties are accounted for. Once all parties are accounted for, the SSR will then direct the workers to their next location.

8. **Site Specific Medical Emergency Plan**

a. Call 911 in a serious emergency

b. Call the project superintendent and/ or the project engineer AFTER calling 911.

c. Assign a worker to the entrance gate to direct emergency services to the source of the problem.

d. Follow instructions from your superintendent and/or the emergency service workers.

e. The phone numbers, addresses and directions to the nearest medical facilities will be provided by the program administrator and posted on the wall of the trailer. Construction personnel will be trained on where this information is posted as well as the necessary steps needed in these types of situations.

9. **Nearest Hospital**
Alameda Hospital 2070 Clinton Ave. Alameda, CA. 94501.

10. **Nearest Urgent Care**
Concentra Urgent Care 348 Embarcadero West Oakland, CA 94607.

11. **Alameda Fire Department**
Fire Station 1
2401 Encinal Ave, Alameda, CA 94501
(510) 337-2210

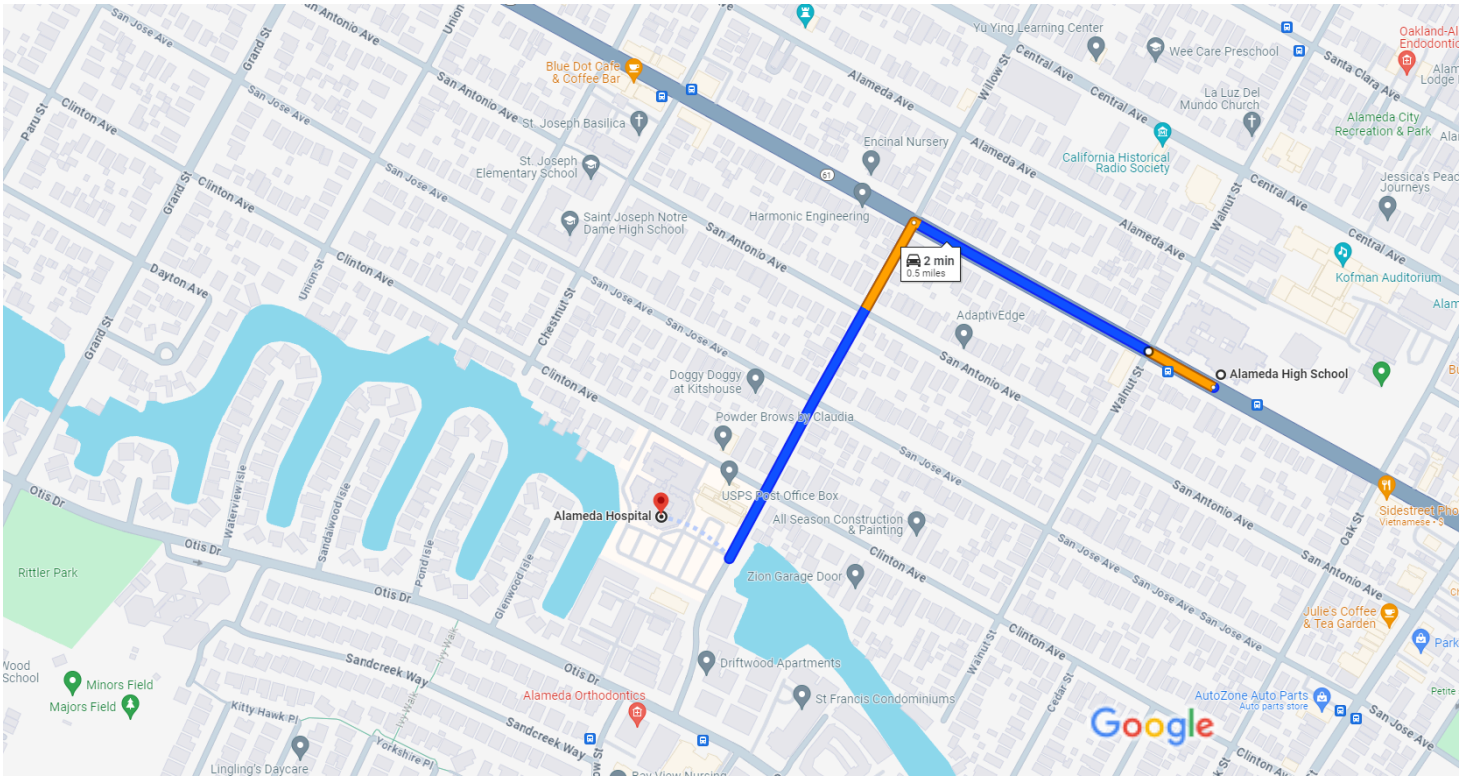
12. **Alameda Fire Department**
1555 Oak St, Alameda, CA 94501
(510) 337-8340

Google Maps

Alameda High School, 2200 Central Ave, Alameda, CA 94501 to Alameda Hospital, 2070 Clinton Ave, Alameda, CA 94501

Drive 0.5 mile, 2 min

ALAMEDA HOSPITAL



Map data ©2024 Google 200 ft

Alameda High School
2200 Central Ave, Alameda, CA 94501

1. Head northwest on Encinal Ave toward Walnut St

0.2 mi

2. Turn left at the 2nd cross street onto Willow St
Destination will be on the right

0.3 mi

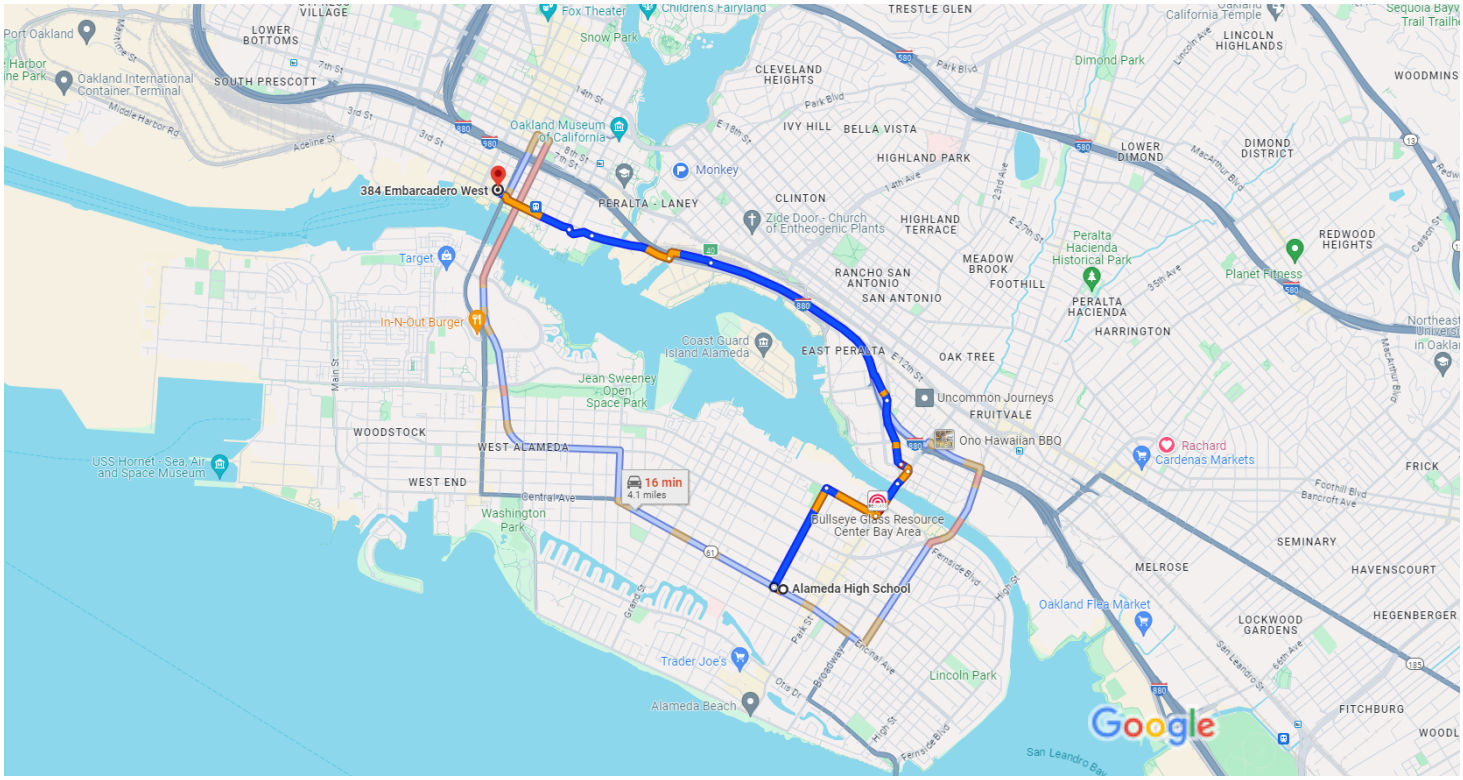
Alameda Hospital
2070 Clinton Ave, Alameda, CA 94501

Google Maps

Alameda High School, 2200 Central Ave, Alameda, CA 94501 to 384 Embarcadero West, Oakland, CA 94607

Drive 4.2 miles, 14 min

CONCENTRA URGENT CARE



Map data ©2024 Google 2000 ft

Alameda High School
2200 Central Ave, Alameda, CA 94501

1. Head northwest on Encinal Ave toward Walnut St
   11 sec (262 ft)

2. Turn right at the 1st cross street onto Walnut St
   3 min (0.6 mi)

Take 23rd Ave, I-880 N and Embarcadero to Embarcadero West in Oakland

10 min (3.6 mi)

3. Turn right onto Clement Ave
   0.3 mi

4. Turn left onto Park St
   0.2 mi

5. Park St turns slightly right and becomes 29th Ave
   Pass by 7-Eleven (on the left)
   459 ft

6. Turn left onto Ford St

322 ft

7. Use the middle lane to turn right onto 23rd Ave

0.4 mi

8. Use the left lane to merge onto I-880 N via the ramp to Downtown/Oakland

1.3 mi

9. Take exit 40 for Embarcadero toward Fifth Ave

0.3 mi

10. Turn right onto Embarcadero

0.4 mi

11. Continue onto Embarcadero West

0.1 mi

12. Turn left to stay on Embarcadero West

Destination will be on the right

0.4 mi

384 Embarcadero West
Oakland, CA 94607

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Illness and Injury Prevention Plan

DocuSign Envelope ID: FF95E58A-56E4-47DE-B7F6-DACF4A9925CF

Alten Construction
Illness & Injury Prevention Program

1141 Marina Way South

Richmond, Ca. 94804

Main 510.234.4200

Fax 510.234.4402

Illness and Injury Prevention Plan
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Management Commitment to Safety in the Workplace

Corporate Safety Mission

In all phases of its endeavors our company, Alten Construction, Inc., is guided by an established Health and Safety Program. This program is based on a sincere desire to eliminate personal injuries, occupational injuries or illnesses and damage to equipment and property, as well as to protect the public whenever and wherever the public is exposed to, in contact with, or is affected by, the Company's work.

All managers and supervisors are charged with the responsibility of identifying and preventing unsafe acts and/or conditions that could lead to occupational injuries or illnesses. While the ultimate success of a health and safety program depends upon the full cooperation of each individual employee, it is management's responsibility to see that health and safety work practices and procedures are not only adequate, but also, enforced. They also ensure that effective training and education programs are employed to the greatest advantage.

Safety shall not be sacrificed for production, but rather considered an integral part of quality control, cost reduction and job efficiency. Every supervisor shall be aware of the safety performance demonstrated by the employees under his/her supervision .

Our company has achieved a high level of safety consciousness and is proud of it's achievement in accident prevention. Nevertheless, as long as the possibility exists for even one person to suffer injury or illness we must continue to stress and strive for improvement.

It is our goal to totally eliminate accidents and illness from our operations for these reasons:

1. No endeavor is worthy if it should bring about human suffering through injury, illness, or loss of life.
2. A good safety record reflects the quality of management, supervision and work force. It also serves to promote business and thereby contributes to the continuing growth and success of the Company.
3. Accidents increase costs and decrease profits.

"Our mission is to accomplish work in the safest possible manner, to be the builder of choice for our customers, the employer of choice for our people, and to achieve a fair balance of safety, responsibility,

DocuSigned by:
Bob Alten
FAD1BDCCF3B54A8...
President

4/28/2020 | 4:51 PM PDT
Date:

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Section 1: Introduction

Introduction

Our Company is committed to providing a safe and healthful working environment for all our employees. As part of this goal, we are pledged to achieving voluntary compliance with OSHA, and other regulatory agencies. This can only be accomplished through cooperation from all employees.

This manual constitutes our Corporate Health and Safety Program Manual. It defines Safety Management systems to effectively implement job site safety programs, and defines individual responsibilities. This manual is not designed to, and no representations are made that it will satisfy all federal, state, local, or client requirements. It is the responsibility of each project management team to have a working knowledge of the standards and regulations necessary to meet all requirements for the assigned project.

This Health and Safety Program Manual has been developed as a guide to:

1. Promote systematic and uniform coordination of our Corporate Health and Safety Program on each project
2. Facilitate and improve communication through all levels of management and to establish responsibility for implementing safety compliance programs and enforcement
3. Encourage voluntary compliance with federal, state, local, and client health and safety requirements
4. Eliminate personal injury, illness, and property damage losses to the Company and our clients

The following Injury and Illness Prevention Program is written to be “Site Specific” for California Projects.

The Company has developed and implemented an injury and illness prevention program (IIPP)

The work performed by our Company is varied, both in nature and location. Under all circumstances, it is the intent of management to comply with the requirements and the spirit of all California codes and regulations, and to provide a safe and healthful work environment for all employees. The information on the following pages shall serve as the **minimum** requirements for all Company employees.

In all phases of its endeavors, our company, Alten Construction, Inc., is guided by an established Health and Safety Program. This program is based on a sincere desire to eliminate personal injuries, occupational injuries or illnesses and damage to equipment and property, as well as to protect the public whenever and wherever the public is exposed to, in contact with, or is affected by, the Company’s work.

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Safety shall not be sacrificed for production, but rather considered an integral part of quality control, cost reduction and job efficiency. Every supervisor shall be aware of the safety performance demonstrated by the employees under his/her supervision.

It is our goal to totally eliminate accidents and illness from our operations for these reasons:

1. No endeavor is worthy if it should bring about human suffering through injury, illness, or loss of life
2. A good safety record reflects the quality of management, supervision and work force. It also serves to promote business and thereby contributes to the continuing growth and success of the Company
3. Accidents increase the cost and decrease profits

Our policy is to accomplish work in the safest possible manner, consistent with superior work practices.

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Section 2: Authority and Responsibility

For the IIPP to be an effective program, clear areas of responsibility must be determined. The following sections outline the authority and responsibilities under this program.

IIPP Program Administrator

The Alten Construction Safety Manager, Bob Giraudo, will serve as the Program Administrator and has the authority to implement all elements of this program and will also be responsible to maintain and update the IIPP.

Human Relations Manager

The Alten Construction Human Relations (HA) Manager, Jackie Torres, sits on the Management/Labor Safety and Health Committee and is also a member of the Alten Construction Incident Review Board. The HR Manager will be responsible for maintaining confidential employee health records, records of disciplinary action and any other confidential record required by the IIPP.

Manager/Project Superintendent

The Project Manager/Project Superintendent has the authority and is responsible for the Company Injury and Illness Prevention Program on this project. The responsibility to implement the IIPP may be delegated to a site safety professional, or a project safety committee made up of management and employee representatives. The site safety professional or project safety committee shall perform weekly, documented inspections and provide corrective actions on identified hazards.

1. The Project Manager/Project Superintendent responsibilities include:
2. Enforcing the safety procedures that apply to the work supervised
3. Providing adequate basic job training and safety instruction to all employees under their supervision
4. Being fully accountable for preventable injuries, collisions, and liabilities caused by their employees
5. Providing continuing safety instruction while issuing daily work assignments to focus attention on potential hazards and changes in work conditions or procedures
6. Ensuring the necessary safety equipment and protective devices, including personal protective equipment for each job are available, used, and maintained properly
7. Continually observing and evaluating work conditions and work procedures to detect and correct unsafe conditions or practices

8. Promptly and properly investigating and reporting incidents, participating in the investigation, developing effective corrective actions, and ensuring that therecommended corrective actions are completed
9. Keeping records of all employee training, corrections of unsafe conditions, dates and results of workplace inspections

Employees

Each employee is required, as a condition of employment, to develop and exercise safe work habits in the course of his/her work to prevent injuries to oneself, his/her fellow workers. Employees have the responsibility of performing their tasks properly and safely. They are to assure themselves they know how to do the job properly, and ask for additional training or assistance when they feel there is a gap in their ability, knowledge, or training. They should never undertake any task, job, or operation unless they are able to perform it safely.

Each employee is responsible for:

1. Promptly reporting to his/her supervisor all incidents occurring within the course of his/her employment, no matter how minor
2. Cooperating with and assisting in the investigation of incidents to identify causesand corrective measures to prevent their recurrence
3. Promptly reporting to his/her supervisor all unsafe actions, equipment, tools, practices, or conditions he/she observes
4. Becoming familiar with and implementing approved safe work procedures during the course of his/her work activities
5. Keeping work areas clean and orderly at alltimes
6. Obeying all safety rules and following workinstructions
7. Inspecting, wearing, and maintaining the appropriate personal protective equipment when required by the Alten Construction's Personnel Protection Equipment (PPE)program

Section 3: Compliance

Documentation and Regulatory Compliance

A. General

Documentation is a basic component of a successful safety program. Documentation is essential for:

- Compliance with federal, state, local, company and client regulations.
- Accountability

B. Procedures

The Company has developed forms for documenting most aspects of the safety program. Use the proper form for the specified function:

- Safety Meetings- Weekly "Tool-Box Safety meeting forms (sent to supers with their paychecks each Friday
- Hazard Communications-HazComm Training Certification
- Safety Training & Orientation Record of Safety meeting form
- Operator Certification-Certification of training and equipment Qualification
- Workers' Compensation- First report of Injury/Seabright WC form
- Accident Reporting- Supervisor Accident Investigation Report Form
- Equipment Damage- Supervisor Accident Investigation Report Form
- Accident Investigation- Supervisor Accident Investigation Report Form

These forms can be found in your Superintendents Forms Manual, or you may ask the Personnel Office for them.

Employee Responsibility

All employees are responsible for using safe work practices, for following directives, policies and procedures, and for assisting in maintaining a safe work environment.

Employees shall be without fear of reprisal for making any safety or health-related complaints, requests, or suggestions to any corporate or project management personnel. We encourage employee input and suggestions to improve safety and health on the project.

Performance Evaluations

- Managers and Supervisors are evaluated on what they have done to ensure a safe workplace for their respective employees as part of their regularperformance evaluations. They are also evaluated on their positive or negative loss results.
- Employees are evaluated on their compliance with safe work practices as part of their regular performance evaluations

Recognition

Department managers, supervisors and employees, who make a significant contribution to the maintenance of a safe workplace, as determined by their superiors, receive written acknowledgment maintained in their personnel files.

Employee Training

New Hire Orientation

A new hire orientation program is given to all new employees and includes a review of the IIPP and a discussion of policies and procedures employees are expected to follow. This program is documented on the New Employee Safety Orientation Checklist provided in Attachment 2

A. New Employee Orientation

1. Employees are to receive and read the Code of Safe Work Practices; supervisors are to ensure that their employees fully understands and acknowledges the receipt of the Code of Safe Work Practices by signing the appropriateforms
2. Employee are to receive training on the followingsubjects:
   a. The potential occupational hazards in general in the workplace area and those associated with their job assignment
   b. General Safety Practice information, which indicates the safe work conditions,safe work practices and personal protective equipment, required for their work
   c. The hazards of any chemicals to which they may be exposed and their right to information contained on Safety Data Sheets (SDS) for those chemicals, and how to understand this information
   d. Employee's right to ask questions, or provide any information to the employer on safety either directly or anonymously without fear of reprisal

B. Employee Training

1. Employees will attend the weekly safety meetings conducted bysupervisors
2. Employees will receive specific safety instructions on any unusual job assignment, which may expose them to unusual risk ofinjury
3. Employees will receive specific training on/about any hazardous materials or situations they may be exposed to
4. Employees will receive additional instruction when they have committed aninfraction/ violation of employee safety rules or those of theproject

C. Formal training may be conducted as follows:

1. Verbally through weekly safety meetings
2. Written information either posted in a conspicuous location that employees will see (bulletin board), or distributed directly to employees
3. Prominent display of safety posters
4. Use of audio/visual training material
5. Review and training on a Critical Task Analysis

Employee Correction

Employees receive appropriate initial and refresher safety training per regulatory requirements.

Employees who fail to follow safe work practices and/or procedures, or who violate organizational rules or directives, are subject to disciplinary action, up to and including termination in accordance with the Alten Construction's personnel policies.

Managers and supervisors are responsible for correcting safety violations and preventing their recurrence.

The following guideline will be followed for correction action:

a. First Offense - The employee is given verbal counseling

b. Second Offense - The employee is given a written warning. The documentation outlines the nature of the offense, what action the employee must take to correct the problem, and warns the employee another violation may result in suspension

c. Third Offense - The employee is given a Notice of Intent to issue disciplinary action, which may include one or more of the following actions: suspension without pay, employee placed on probation or termination

d. Fourth Offense - Termination - When an employee is terminated, specific and documented communication as outlined above must have occurred

Notwithstanding the above, Alten Construction reserves the right to correct in any fashion it deems appropriate, including the right to terminate immediately an employee for a safety violation.

Section 4: Support Systems

Management is responsible for ensuring that all safety and health policies and procedures are clearly communicated and understood by all workers. A statement of support for a safe and healthful workplace is included in Attachment I and distributed to all new employees.

All workers are responsible for using safe work practices, for following all directives, policies and procedures, and for assisting in maintaining a safe work environment. For certain high-risk exposures, Alten Construction management team has developed Task-Specific Standard Safety Procedures. In addition to the Task-Specific Safety Procedures, the following basic rules are provided to promote employee safety. An employee Safety Procedures Manual has been prepared, separate and apart from this IIPP. It includes an expanded Code of Safe Practices and a collection of Standard Safe Operating Procedures.

Whenever a new high risk task is to be performed, a Job Safety Analysis (JSA) will be performed. The JSA will be prepared by the job supervisors and reviewed by the Safety Manager. If the new task is a permanent addition, the results of the JSA will form the basis for a new Standard Safety Procedure.

- All persons shall follow these safe practice rules, render every possible aid to safe operations, and report all unsafe conditions or practices to the appropriate manager
- Managers shall insist on employees observing and obeying every rule, regulation, and order as is necessary for the safe conduct of the work, and shall take such action as is necessary to obtain observance
- Anyone known or suspected to be under the influence of drugs or intoxicating substances that impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition
- Horseplay, scuffling, and other acts that tend to have an adverse influence on the safety or wellbeing of the employees shall be prohibited
- Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment
- No one shall knowingly be permitted or required to work while the employee's ability or alertness is so impaired by fatigue, illness, or other causes that it might unnecessarily expose the employee or others to injury
- Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to the appropriate manager
- Workers shall not handle or tamper with any electrical equipment, machinery, air or water lines in a manner not within the scope of their duties, unless they have received instructions from their manager
- All incidents and injuries shall be reported promptly to the appropriate manager so that arrangements can be made for medical or first aid treatment

- Employees will follow safe lifting practices

Alten Construction systems for supporting employees in their efforts to ensure compliance with this program and promote a safe workplace include:

Alten Construction will take progressive disciplinary action against any employee that works in a manner that results in unnecessary risk to him/her, other employees, or the public. Disciplinary actions will follow the progressive discipline procedures outlined by the Human Resources Department. Depending on the severity of the employee's actions, the discipline process may be accelerated.

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Section 5: Communications Systems

Alten Construction recognizes that open, two-way communication between management and staff on health and safety issues is essential for an incident-free, productive workplace. The following systems for communication are designed to facilitate a continuous flow of safety and health information between management and staff in a form that is readily understandable.

Safety Meetings

Department supervisors or lead personnel conduct monthly safety meetings. During these meetings, each supervisor or lead person shall discuss with the employees under his or her direct supervision issues such as:

- New hazards that have been introduced or discovered in theworkplace;
- Causes of recent incidents or injuries and the methods adopted by Alten Construction to prevent similar incidents in the future; and
- Any health or safety issue deemed by management to requirereinforcement.
- Comments from employees regarding safety issues of concern to them.

All such meetings are documented on the *Employee Meeting & Training Report Form provided in Attachment 3*.

Anonymous Notification Procedures

Employees who wish to inform Alten Construction of workplace hazards may do so anonymously by submitting their report via the Employee Suggestion Box, by reporting the concern to their union representative, or by sending a written notification to the Program Administrator using, “Report of Unsafe Condition or Hazard” form provided in Attachment 4. The Program Administrator shall investigate all such reports in a prompt and thorough manner. No employee shall be retaliated against for reporting hazards or potential hazards, or for making suggestions related to safety.

Postings

Alten Construction has posted safety warning signs throughout the facility to communicate requirements to employees. These signs include items such as the required personal protective equipment, the requirements for reporting safety and health matters, the requirements for traffic flow and speed, and the requirements for fire protection. The Cal/OSHA 300 log of injuries will be posted conspicuously no later than February 1 until April 30 annually.

Training

Alten Construction has training requirements designed to instruct each employee on general safety procedures and those on specific to the employee's job. These training requirements are described in greater detail in Section 9 of this program.

Management/Labor Safety and Health Committee

A. Project Safety Committee (if applicable)

1. Implement the Company Safety Program
2. Establish programs to acquaint each employee with hazards they may be exposed to on the project
3. Implement the Company IIPP as described in this manual
4. Keep Safety bulletin board current
5. Review projects safety performance and correct deficiencies
6. Investigate accidents and institute corrective actions

Section 6: Workplace Evaluations

In order to ensure that our employees have a safe and healthful workplace, Alten Construction representatives will conduct initial and periodic reviews of tasks and work environments

Initial Job Safety Analysis

Prior to the initiation of a new task, a competent individual familiar with the operation will conduct a Job Safety Analysis (JSA) of the task and work environment for potential hazards. Based on this JSA, a list of potential hazards and controls including equipment, work practices, and personal protective equipment will be developed to serve as the basis for development of a new Standard Safety Procedure.

Periodic Safety Inspections

Safety Inspections are conducted on a monthly basis on all work sites. The standardized inspection forms are provided in Attachment 5 and will be used to ensure completeness and documentation of the inspections. Documentation of findings and corrections will be kept in a Safety File at the main office at Alten Construction, Inc. 4

When a deficiency is observed, it must be noted on the inspection form. If the deficiency is immediately corrected, the responsible supervisor or manager can close out the item and sign-off on the inspection form. For deficiencies that require additional time to be corrected, a summary list will be issued with identified Manager responsibly for correction of deficiencies. The Safety Manager will follow-up on all identified items and record completions date of correction.

Evaluations Based on Changes to the Workplace

Workplace hazards will be re-evaluated via the JSA process if there is a significant change in the work environment that results in different or increased hazardous conditions. A new Standard Safety Procedure will be prepared and distributed to all employees. The inspection form will be used if new substances, processes, procedures, or equipment are introduced to the work environment.

Evaluations Based on Reported Hazards

Through the open communication culture at Alten Construction, there is the opportunity for employees to communicate new or unrecognized hazards. In such cases, a competent individual and the reporting employee, if known, will review the inspection form for the particular task or work environment to determine if a JSA is necessary.

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Section 7: Incident Investigations

Alten Construction is committed to maintaining an incident-free work environment. However, in the case of an incident, it is necessary to conduct a timely and thorough incident investigation to determine root causes and appropriate corrective actions, if any, to be taken. An incident, for the purposes of this IIPP, is defined as any event that results in, or could have resulted in, a work-related injury, illness, property damage, fire, or explosion, regardless of severity. This definition requires employees and supervisors to focus on all hazardous acts or conditions, not only on those incidents where the consequence of such acts or conditions was severe.

All accidents resulting in injury or property damage, however slight, including *near-misses/hits*, are investigated to determine the primary and contributing causes within seven working days of the initial report. This information is documented on the *Report of Accident/Incident/Injury* provided in Attachment 6 and is analyzed to assist in obtaining corrective actions to prevent similar accidents from occurring in the future. The responsibility to see this investigation is performed rests with the IIPP Administrator.

Employees' Responsibility

All employees shall promptly report to his/her supervisor all incidents they are directly involved in or are witness to and to cooperate with investigation of incidents to identify causes and corrective measures to prevent their recurrence. If the employee has suffered a minor injury that requires no first aid or that can be treated with onsite first aid he/she must fill out a minor injury report provided by their supervisor. If the employee decides to seek medical attention at a later point in time, his/her supervisor will complete a *Report of Accident/Incident/Injury.*

Immediately after an incident, employees who were involved in the incident or who witnessed the incident shall prepare a witness statement. The witness statements will be collected by the supervisor conducting the incident investigation.

Supervisors Responsibility

Within 24-hours of an incident, the appropriate supervisor will be required to complete a Report of Accident/Incident/Injury form and provide it along with the witness statements to the Safety Manager

The immediate supervisor is responsible for conducting the investigation for incidents occurring in operations under their supervision. To ensure a consistent approach to the investigations, supervisors will be trained on incident investigations and use the Report of Accident/Incident/Injury form. The following elements will be completed for each incident investigated:

- Send Incident Notification (email) to: **1st Notification Team** (mailergroup)

- Must make a phone call to alert the supervisor and safetymanager
- Visiting and securing the incident scene as soon aspossible
- Passing out witness statement forms employees involved in the incident or witness toit
- Interviewing involved employees and any otherwitnesses
- Examining the workplace for factors associated with theincident
- Taking photographs of the incidentscene

Management Responsibility

Every employer shall report immediately by telephone, text, or email to the nearest Alten Construction Safety Department any serious injury or illness, or death, of an employee occurring in a place of employment or in connection with any employment.

Immediately means as soon as practically possible but not longer than 8 hours after the employer knows or with diligent inquiry would have known of the death or serious injury or illness. If the employer can demonstrate that exigent circumstances exist, the time frame for the report may be made no longer than 24 hours after the incident.

Serious injury or illness is defined in section 330(h), Title 8, California Administrative Code.

1. As soon as practical (within 1 hour) after knowledge of an incident, the reporting supervisor shall notify **at any time via phone**:
    - The Safety Manager, Bob Giraudo Phone: (C)415-583-6179
    - Shop Manager, Sam Leow Phone: (C)415-720-0101
    - Administration office: (O) 510-234-4200
        1. Bob Alten (C) 415-559-1097
        2. Shannon Alten (C) 415-559-1199
        3. Jackie Torres (C) 650-533-8524
2. Section 2 of the Accident/Incident Report form requires management appraisal and recommendation. This section is completed as soon as practical but, no later than three working days after the incident occurred making note as to any need for follow-up investigation or actions needed to complete a final report. A Root Cause Analysis shall be performed by the Safety Manager as part of the reviewprocess.
3. The reporting supervisor provides the completed original report to the Administration office for review by the Incident Review Board. The members of this Board shall be the General Manager (or his designee), the Safety Manager and the HR Manager. Incidents be reviewed by the review board will include incidents involving:
    - Fatality
    - Disabling Injury
    - Destruction or severe damage toequipment
    - Shutdown of a facilityoperation

- Employee Lost Time

The findings and corrective actions recommended by the Incident Review Board are a component of the manager's final report in collaboration.

4. The Safety Manager reviews ongoing investigations weekly to assure timely completion of a final report.
5. The General Manager is kept apprised of all significant issues pertaining to incidents within Alten Construction.
6. The Safety Manager retains records of findings and corrective action. Human Resources retains records of employee disciplinary action.

The identified corrective actions will be communicated to employees in order to prevent recurrence. Based on the information gathered during an incident investigation, the appropriate inspection forms will be updated.

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Section 8: Corrective Actions

Any unsafe act or condition must be addressed whether the act or condition was identified through a periodic review, safety inspection, incident investigation, or employee report. The issues will be addressed through the implementation of corrective actions.

Immediate Abatement

Since Alten Construction is committed to providing a safe and healthful work environment, it is imperative that a recognized hazardous act or condition is remedied immediately. Every employee has the authority and the responsibility to stop any task, without fear of discipline, where they feel hazardous acts or conditions exist.

Delayed Abatement

In those cases where it is not feasible to take immediate corrective actions on an imminent hazard, management will ensure that all employees are removed from the area except those necessary to correct the hazardous condition. The remaining employees will be provide with the necessary protection and tools needed to resolve the problem in a safe manner.

Hierarchy of Controls

The hierarchy of controls is the preferred method of preventing and controlling hazards. It should be implemented in this order:

Engineering controls
Elimination/Substitution – eliminate the hazard through an engineering remedy or substitution
Other engineering controls – e.g., installing guards on machinery, ventilation or soundproofing;
Administrative controls – safe work policies and procedures enhancing safety such as rotating job assignments to limit hazard exposures; and
PPE – e.g., respirators, hardhats, personal fall protection or earplugs.

When deciding on the best way to control a hazard, start at the top of the hierarchy of controls. First, investigate to determine if the hazard can be eliminated through an engineering remedy or substitution. If this cannot be achieved, use engineering controls to minimize the hazard to a safe level. Then, if needed, use administrative controls to reduce the exposure further. After all other options have been exhausted; use PPE a as last resort. Sometimes, it will take a combination of these methods to reduce the hazard to a safe level. Hazard control may be applied at three different points: the source, along the path or at the employee. The preferred method of preventing and controlling hazards is at the source.

When an immediate danger to life or health (IDLH) hazard is identified, all exposed employees are removed from the area. It may be necessary for properly trained and equipped employees to go back in and correct the hazardous conditions. All affected employees are informed of the hazard(s), and appropriate protective measures are taken until the hazard(s) are removed or controlled to a safe level.

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Section 9: Training and Instruction

Safety training is an integral part of this program and is required to communicate the applicable policies and procedures to all employees of Alten Construction. A training matrix has been developed. The purpose of this matrix is to identify federal and state mandated training, specific job related training, and health and safety training required for all Alten Construction employees. A copy of the training matrix and a schedule for providing the required training will be distributed to Alten Construction employees.

Employee Training

All employees, supervisors, and managers shall have training and instruction on general and job-specific safety and health practices. Employee training and instruction shall be provided as follows:

- Upon implementation of this program, employees will initially be trained on the following:
  - The content of the IIPP and the Employee Safety Procedures Manual
  - Measures for reporting any unsafe acts, unsafe conditions, and incidents
  - Provisions for medical services and first aid including emergency procedures
- Upon hire, all new employees will be trained on the above items prior to being assigned their regular job function
- Upon assignment to a new job function, employees will be trained on the safe methods for completing that function
- Upon introduction of new substances, procedures, processes, or equipment into the work environment, employees will be trained on any new safety issues, including but, not limited to Hazard Communications and other safety issues
- Upon Alten Construction being made aware of new or previously unrecognized hazards, employees will be trained on any new safety issues

Supervisor Training

Since supervisory involvement is such a key element to the success of this program, supervisors need more in-depth training. Therefore, in addition to the above requirements for all employees, supervisors will be trained on the following:

- The importance of establishing and maintaining safe and healthful working conditions
- The hazards associated with each job; how to recognize them; their potential effects on the employees; and the rules, procedures and work practices for controlling exposure to those hazards
- How to relate this information to employees by setting good examples and instructing them in and making sure that they understand and follow safe procedures

- Proper use and completion of the Incident Reporting Form and the Incident Investigation Form
- Incident investigation techniques so that definitive corrective actions can be identified and implemented
- Techniques for observing and evaluating employee work practices and the workplace
- On-line training as pertaining to safety
- OSHA 10-hour or 30-hour construction safety training

Specific Organization-Wide Safety Training

Safety training specific to Alten Construction will include but, is not limited to the following:

- Emergency Action Plan
- Heat Illness Prevention
- Injury and Illness Prevention Program (IIPP)
- PPE
- Hearing Conservation

Disaster Preparedness

This training includes the organization's disaster preparation structure and how the employee fits into the structure, i.e., what the employee is to do under specific circumstances, such as fire, earthquake, medical emergency, and bomb threat.

First Aid, CPR, and Bloodborne Pathogen Training

Designated employees receive first aid, Cardiopulmonary resuscitation (CPR) and blood borne pathogen training in accordance with the American Red Cross and/or American Heart Association requirements.

Defensive Driver Training

Overview

As an authorized driver of a company vehicle, you have been given certain privileges. You assume the duty of obeying all motor vehicle laws, maintain the vehicle properly at all times and otherwise following the policies and procedures outlined in the following.

Chief Executive Officer, Robert Alten

Fleet Administrator

PROJECT VEHICLE POLICY

- Project vehicles are to be used for Company purposes only.
- Employees are required to sue safety restraints (seat belts) whenever they are operating or riding as a passenger in a company vehicle. This is not only when vehicle is operated on public roads, but when driven on the jobsite.
- No employee is permitted to operate a company vehicle while under the influence of any intoxicants or other illegal substance.
- Intoxicants (alcohol) or other illegal substances are not to be transported in company vehicles.
- No one should operate a company vehicle, if their ability to operate it is impaired by the taking of prescribed or over the counter medication.
- All accidents or incidents resulting in damage to the vehicle are to be reported to the Main Office within 24 hours of occurrence.
- Operators of Company vehicles shall have a valid driver's or operator's license in their possession at all times. They should also have some type of authorization from the company to operate the vehicle, and a copy of the insurance certificate, and a copy of the registration as required by law.
- All moving and parking violations are the responsibility of the vehicle user to pay. The costs of the violations are not to be submitted on expense reports.
- Trucks with a gross vehicle weight of 20,000 lbs or greater are only to be driven with a current Class A drivers license in accordance with the applicable laws.
- Employees may request additional training in the safe operation of Company vehicles at any time.
- It is the responsibility of the vehicle operator to ensure that all the necessary and required lights, turn signals, brakes, wipers, etc., are functioning properly as required by applicable laws and the safe operation of the vehicle.
- NO TEXTING WHILE DRIVING POLICY- Effective Immediately
- To expand on our Vehicle Policy, we have instituted a no texting while driving policy. While our current policy requires you to be responsible for following all driving laws, we have implemented an even stricter no texting policy.
- Did you know…. Insurance carriers are taking a harder look at texting while driving violations. They feel these violations are the largest indicator of future accidents, even more so than DUI's.
- To protect you, your fellow team members and the community we drive in, are not allowed to text or use electronic devices while driving company vehicles. If you need to make a call or use a device such as your ipad, you are to pull over and come to a stop in a safe area before using the device. Failure to comply with this policy will result in disciplinary action, including, but not limited to a three strikes notice and potential suspension without pay.

(Alten Construction)

PUBLIC PROTECTION AND VEHCILE SAFETY PLAN

Alten Construction's planning of construction activities includes procedures to protect the general public from hazards associated with the processes carried out by the company. These operations may include all phases of construction and any other activity that may endanger public safety. This safety plan does not apply to the protection of employers or their employees; it is intended to protect the public and surrounding properties by identifying potential hazards and activities on construction projects.

The Public Protection Plan establishes guidelines to be used by the project staff in evaluating, preventing, or reducing (to a minimum) public hazards. The plan will be reviewed and updated periodically to evaluate new hazards or changes in conditions.

Alten Construction's Supervisors/Risk Manager shall:

1. Develop a site utilization work plan that can ensure separation between construction activities and public areas during working hours and after working hour conditions
2. Develop the necessary traffic control plans

Pedestrian Hazards

1. Public pedestrian traffic pathways will be clearly marked at the construction site at all times.
2. Public pedestrian traffic pathways will be maintained so that slipping, tripping and falling hazards are reduced.
3. Non-level surfaces will be delineated with high visibility markings, signs or notices.
4. The public will be notified of closed pedestrian areas and provided access to safe alternative areas. The pathway(s) to the alternative area(s) will be clearly marked.
5. Any floor openings should be planked and secured or barricaded.
6. Any open excavation, road drop offs, manholes, or uneven surfaces shall be barricaded.
7. Barricades can include: Fencing, Cones, Tape, Retractable Belts, Signage and Planks
8. If possible, control visitor access through a sign in log and make sure all visitors are escorted by management.

Security

1. Measures will be established to restrict public access to the jobsite/work area.
2. If access control is not possible, items that may create a hazard will be locked, barricaded or removed.

Pollution

1. Construction operations that generate waste, debris, byproducts or other contaminants that may result in pollution, degradation or contamination will be evaluated and controlled to reduce or eliminate the problem
2. Project waste will be moved only to facilities that are licensed, certified or qualified to accept and process that type of waste

Hazardous Materials and Substances

1. Hazardous materials will be stored away from the public in approved containers that are properly labeled.
2. Emergency response personnel will receive MSDS on the hazardous materials as required by the presiding authority

Injuries and Damage

1. All construction personnel as part of their training shall be instructed to notify their immediate supervisors if any public injury or damage has occurred
2. Any public injury or damage will be immediately assessed and action will be taken to secure medical help and to minimize further injury or damage
3. The area in which the injury or damage has occurred will be secured until proper investigation and documentation have taken place

QUALITY CONTROL PROCEDURES

Our quality control plan is a set of processes that measures and maintains the quality of our service. The plan is implemented to ensure all construction procedures are performed in compliance with the plans and specifications of the written contract between (Name Insured) and our client.

Our work is always based on a written contract that includes the exact specifications of the project.

Alten Construction's Supervisors are responsible to verify that work is completed according to the contract. They shall:

- Ask our clients if the work is meeting their expectations or if they have any concerns
- Walk the job site, paying close attention to the quality of workmanship and how closely procedures are followed
- Perform daily inspections as appropriate and always at competitionof the job
- Make sure identification tags and all other safety policies are in place
- Check in regularly with all workers to make sure they are aware of our standards and that they are properly trained

AUTO SAFETY

Alten Construction's fleet safety program establishes the policies and procedures that all employees assigned to driving duties ("drivers") are needed to follow to help ensure a safe work environment.

Drivers

Drivers must have a current, valid (California) driver's license, and must maintain a clean driving record, i.e., must remain insurable under our company's liability insurance policy according to the standards of acceptability of our Auto insurance carrier. Alten is enrolled in DMV's Pull Notice Program and receives periodic updates about the status of its drivers' activities.

Any employee driving a Company vehicle or driving on Company business must observe all safety, traffic, and criminal laws of this state. No driver may consume alcohol or illegal drugs while driving a Company vehicle, while on Company business, while in a Company vehicle, or prior to the employee's shift if such consumption would result in a detectable amount of alcohol or illegal drugs being present in the employee's system while on duty. In addition, no driver may consume or use any substance, regardless of legality or prescription status, if by so doing, the driver's ability to safely operate a motor vehicle and carry out other work-related duties would be impaired or diminished. No driver may pick up or transport non-employees while in a Company vehicle or on Company business, unless there is a work-related need to do

so. Any illegal, dangerous, or other conduct while driving that would tend to place the lives or property of others at risk is prohibited.
Personal Use of Company vehicles is not permitted, unless pre-approved by a supervisor or for use in the case of an emergency.

Anything a driver does in connection with the operation of motor vehicles can affect that driver's fitness for duty or insurability as a driver. Regardless of fault, circumstance, on- or off-duty status, time, or place, any driver who receives a traffic citation from or is arrested by a law enforcement officer, or who is involved in any kind of accident while driving, must inform an appropriate supervisor about the incident immediately or as soon as possible thereafter. Any penalty, fine, imprisonment, fee, or other adverse action imposed by a court in connection with such an incident must be reported immediately to an appropriate supervisor. In both of the above situations, the matter will be reported to the Company's insurance carrier so that a prompt decision on continued coverage of the employee can be made. The driver involved in an accident or cited by a law enforcement official for violating a motor vehicle law must turn over any documentation relating to such incident as soon as possible to the employer, and must cooperate fully with the employer in verifying the information with other parties involved and with law enforcement authorities. While parking tickets will not affect a driver's insurability, any parking ticket issued on a vehicle that is being used for company business should be reported to an appropriate supervisor at the earliest possible opportunity.

Any employee who violates any part of this policy, or who becomes uninsurable as a driver, will be subject to reassignment and/or disciplinary action, up to and possibly including termination from employment.

Vehicle Maintenance

The purpose of this policy is to ensure the proper, adequate, and cost-effective maintenance of Alten Construction’s fleet through a program that will extend the safety, quality, and longevity of its vehicles.

Each vehicle is required to have a first aid kit, fire extinguisher and SDS binder.

Each supervisor is responsible for the timely maintenance of the vehicles driven by their crews. Oil and fluid changes are performed based on mileage; tire and brake services are done as needed and should be inspected and changed as per manufacturer’s specifications. Non-routine maintenance is done when a driver reports any issue with the functioning of the vehicle.

Job-Site Checklist

I. Housekeeping: Slips, Trips and Falls	Yes	No
Are walking and working surfaces clear and free of debris?	___	___
Are waste and trash containers provided, and used?	___	___
Is there regular removal of waste and trash from the containers?	___	___
Does each trade clean up after themselves?	___	___
Is adequate temporary lighting provided?	___	___
Is temporary storage of materials and supplies done in an organized fashion?	___	___
Are working surfaces clear of cords so as not to create a tripping hazard?	___	___
Are workers trained to not leave any objects near the edges of roofs?	___	___

II.a. Job Site Protection: Protecting the Public	Yes	No
Does insured restrict public access to work site?	___	___

If YES, how? _____

If jobs sites are left unattended for extended periods of time how are they secured and protected from the elements? _____

II.b. Barricading (see websites listed below)		
Barricades can include: Fencing, Tape, Retractable Belts, Signage and Planks	Yes	No
Are direction signs used to inform the public of upcoming construction work?	___	___
Is the sidewalk protection effective?	___	___
Are floor openings planked and secured or barricaded?	___	___
Are open excavation, road drop offs, manholes, uneven surfaces barricaded?	___	___

III. QC/Inspection:		
Are all jobs inspected by a foreman or the contractor daily or at completion	Yes	No
Before leaving job site?	___	___

IV. Sub info is almost always addressed on a Supplemental but here is a good checklist:

Subcontractors used? Yes No Total sub costs: _____

If subs are used are they required to carry GL limits at least equal to our insured and do they list our insured as an additional insured:	__Yes	__No
Are subs required to provide certificates of insurance?	__Yes	__No
Are subs asked to carry workers compensation insurance?	__Yes	__No
Are Hold Harmless agreements required?	__Yes	__No

V. Hazard Communication Does the Program include:	Yes	No
A list of hazardous chemicals.	___	___
Container labeling.	___	___
Material Safety Data Sheets (MSDS)	___	___
Employee training.	___	___
Informing other contractors.	___	___
Posting.	___	___

Workplace Violence Prevention Program

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Introduction

Look for instructions in blue where you should add specific details for your organization.

This **Workplace Violence Prevention Program** aids **Alten Construction** in protecting workers from physical and mental harm at work. It adds to the Company's existing and effective Injury and Illness Prevention Program. This plan is maintained in accordance with California's Senate Bill 553, but conscientious employers in other states can also implement it at their discretion.

According to the U.S. Bureau of Workplace Statistics, in 2020, the most recent year for which statistics are available, there were **392 workplace homicides** and **37,060 nonfatal injuries** in the workplace resulting from an intentional injury by another person. Service occupations have the highest incidences of workplace violence, but any industry is susceptible. Researchers at the Harvard Injury Control Research Center have also shown that the U.S. has the highest rate of civilian gun ownership globally. While the link between guns and violence is not definitive, the U.S. has more firearm-related deaths, suicides, and accidents than other high-income countries.

Please consult with competent legal professionals and experts as needed to implement all of the initiatives discussed herein.

Company Name

State the company names that the policies outlined within this document apply to. Throughout the following pages these organizations are collectively referred to as the "Company."

Alten Construction, LLC

Definitions

Workplace violence is any act or threat of violence, harassment, intimidation, or other threatening, disruptive behavior that can occur on the job. It does not include lawful acts of self-defense or the defense of others.

EXAMPLES OF VIOLENCE AMONG COWORKERS

According to the U.S. Department of Labor, there are many forms of workplace violence. Unfortunately, the one that receives the most attention is workplace homicide. However, there are far more incidents of violence that DO NOT involve casualties but still evoke trauma.

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The most frequently encountered situations among coworkers are:

- Concealing or using a weapon.
- Physical assault upon oneself or another person.
- Actions that damage, destroy, or sabotage property.
- Intimidating or frightening others.
- Harassing, stalking, or showing undue focus on another person.
- Physically aggressive acts, such as shaking one's fists at another person, kicking, pounding on desks, punching a wall, angered movements, or screaming at others.
- Verbal abuse including offensive and profane or vulgar language.
- Threats (direct or indirect), whether made in-person or through letters, phone calls, emails, etc.

TYPES OF WORKPLACE VIOLENCE

A combination of one or more types of workplace violence may exist in the Company's workplace:

- **Type 1** violence is committed by a person who has no legitimate business at the worksite and includes violent acts by anyone who enters the workplace or approaches workers with the intent to commit a crime.
- **Type 2** violence is directed at employees by customers, clients, patients, students, inmates, or visitors.
- **Type 3** violence is done by an existing or former employee, supervisor, or manager.
- **Type 4** violence is committed in the workplace by a person who doesn't work there but has or is known to have had a personal relationship with an employee.

Plan Review

The Company will review this plan at least annually. Plan updates will include actively involving employees and authorized employee representatives. The plan will also be updated when a deficiency is observed or becomes apparent and after a workplace violence incident. Changes in federal, state, or local regulations that may reasonably affect workplace violence prevention will also prompt plan updates.

Direct suggested changes or other feedback on this plan to:

Revision History

Review	Reviewed By	Changes	Effective Date

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Scope

Effective Date

This plan is effective as of **[July 1 2024]**.

Purpose

This plan is used in conjunction with the Company's Injury & Illness Prevention Program. The purpose of the Workplace Violence Prevention Program is to identify:

- Procedures for workplace violence hazard identification, evaluation, and correction.
- Steps for proper investigation and resolution of violent incidents.
- How to record information in a Violent Incident Log for every violent workplace incident, as specified.
- Effective employee training on this Workplace Violence Prevention Program, among other things.
- How to address when a new or previously unrecognized workplace violence hazard has been identified and communicating to employees when changes are made to this plan.
- When and how to share certain records with employees, employee representatives, and government officials as specified.

Applicability

This plan applies to all Company employees and all other workers that the Company controls, directs, or supervises on the job to the extent these workers are exposed to worksite and job assignment-specific hazards. This plan is designed to help prevent workplace violence.

EXCLUSIONS

The following employers, employees, and places of employment are exempt from this Workplace Violence Prevention Program.

- **Healthcare facilities**, service categories, and operations covered by Section 3342 of Title 8 of the California Code of Regulations.
- **Facilities operated by California's Department of Corrections and Rehabilitation** that comply with Section 3203 of Title 8 of the California Code of Regulations.
- Employers that are **law enforcement agencies** that are a "department or participating department," as defined in Section 1001 of Title 11 of California's Code of Regulations and that received confirmation of compliance with the Commission on Peace Officer Standards and Training (POST) Program from the POST Executive Director in accordance with Section 1010 of Title 11 of the California Code of Regulations. However, an employer shall be

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exempt only if all facilities operated by the agency are in compliance with Section 3203 of Title 8 of the California Code of Regulations.

- **Employees teleworking from a location of the employee's choice**, which is not under their employer's control.
- Places of employment where there are **less than 10 employees** working at the place at any given time and who are not accessible to the public.

Overall Responsibility & Accountability

PLAN ADMINISTRATOR(S)

The Company has designated the following person or people to implement, coordinate, and maintain this plan.

Full Name	Job Title	Workplace Violence Prevention Role
		Trainer, Administrator, etc.
Bob Giraudo	Safety Manager	

SUPERVISORS, MANAGERS & COMPANY LEADERSHIP

All Company managers and supervisors are responsible for:

- Implementing, modeling, and maintaining the principles of this plan and workplace violence prevention strategies in their work areas.
- Ensuring that all workplace security policies and procedures are clearly communicated and understood by all workers.
- Enforcing the rules fairly and uniformly.
- Answering related worker questions.

EMPLOYEES

Company workers will follow all workplace security directives, policies, and procedures, and assist in maintaining a safe work environment.



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Detection

Organizations with one or more of the following factors inherently have a higher risk for violence in their workplaces:

1) Exchange of money.
2) Employees who work alone.
3) Employees who work at night and during early morning hours.
4) Availability and guarding of valued items, e.g., money and jewelry.
5) Provision, use, or distribution of alcohol or marijuana.
6) Perform public safety or social service functions in the community.
7) Work with patients (healthcare facilities not within the scope of CCR, Title 8, section 3342) clients, passengers, customers, or students known or suspected to have a history of violence.
8) Workers with a history of assaults or who have exhibited belligerent, intimidating, or threatening behavior to others.

Behavior Indicators

While workplace violence may occur without warning, there is often a **pattern of escalating incidents** that provide clues that things may be heading in a concerning direction.

LEVEL I: EARLY WARNING SIGNS

A person is being:

- Intimidating or bullying
- Discourteous or disrespectful
- Uncooperative
- Verbally Abusive

LEVEL II: ESCALATION

A person is:

- Arguing with customers, vendors, coworkers, or management
- Refusing to obey Company policies and procedures
- Sabotages equipment or stealing Company property
- Verbalizing a wish to hurt coworkers or management
- Sending threatening notes to coworkers or management

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- Seeing themselves as victimized by management

LEVEL III: EMERGENCY

A person is exhibiting or engaged in:

- Suicidal threats
- Physical fights
- Destruction of property
- Extreme rage that is possibly disproportionate to the situation
- Using weapons with the intent to harm themselves or others

Hazard Detection & Documentation

Employers must have a system for identifying and evaluating workplace hazards, including the potential for violence.

Specifically, the Company's systems to ensure that workers comply with workplace violence prevention rules and maintain a secure work environment are:

- Informing workers about the provisions of this plan.
- Evaluating workers' performance.
- Identifying and coaching workers who perform work that may increase their risk of workplace violence on how they can protect themselves.
- Providing employee training.
- Discipline up to and including employment termination for workers who fail to comply with workplace violence prevention practices.
- A reporting path either to their supervisor or anonymous submission for workers who observe worrisome behaviors or acts of workplace violence.
- Allowing workers to access communication means to seek emergency assistance, assess the safety of a situation, or communicate with someone to verify their safety.

Describe any additional methods that the Company has adopted to ensure worker compliance.

Inspections & Observation

Periodic inspections and reviews to identify and evaluate workplace security and violence hazards will be performed by competent observers in the following workplace areas.

Competent Observer	Job Title	Area

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INITIAL INSPECTION

Assessing fundamental aspects of the building's physical security and business practices can yield simple, zero-cost or low-cost changes that improve worker safety.

✓	#	Task	Evaluation Items
☐	1	Is the exterior or interior of the workplace attractive to thieves?	• Limited lighting • No security system (cameras, mirrors, etc.) • Broken windows, doors, locks, light bulbs, etc.
☐	2	Are signs posted indicating limited cash is kept on-site?	• Legible sign in visible area
☐	3	Do employees know what to do in the event of a robbery or another crime?	• Q&A • Safe simulation
☐	4	Do employees know how to accurately assess suspicious activity without racial profiling? Do they know how to report it?	• Q&A
☐	5	Are emergency buttons and alarms in an effective location? Do all of them work?	• Controlled test, coordinated with law enforcement, as necessary
☐	6	Do employees have rapid access to a list of emergency telephone numbers for security, law enforcement, fire, and medical services?	• Legible, up-to-date sign in visible area
☐	7	Is the amount of cash kept on the premises limited? Are time access safes used for large bills?	• Physical observation and inspection
☐	8	Do workers have effective escape routes from the workplace? Is there a designated safe area where they can go in an emergency?	• Physical observation and inspection
☐	9	Can doors and rooms be locked?	• Physical observation and inspection
☐	10	Do workers have access to a telephone with an outside line?	• Physical observation and inspection
☐	11	Does the facility have visitors check in at an entrance station to be identified and granted clearance before they proceed into the workplace?	• Physical observation • Safe simulation
☐	12	In a business receiving public visitors, are there areas which are restricted to employees only? Are they secured from unauthorized access?	• Physical observation • Safe simulation

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FREQUENCY

The above inspection will be completed:

1) When Company initially adopted this Workplace Violence Prevention Program.
2) When new workplace security hazards are introduced into the workplace.
3) When new, previously unidentified workplace security hazards are recognized.
4) When workplace security incidents occur.
5) When Company hires and/or reassigns permanent or intermittent workers to processes, operations, or tasks for which a workplace security evaluation has not yet been conducted.
6) Whenever workplace security conditions warrant an inspection.

ADVANCED ANALYSIS & INSPECTION

As warranted, the Company may work with law enforcement or other experts to assess the following aspects of workplace security and response.

- Access to and freedom of movement within the workplace, including non-workers, recently discharged workers, or persons with whom one of the Company's workers is having a dispute.
- Adequacy of workplace security systems, such as door locks, entry codes or badge readers, security windows, physical barriers, and restraint systems.
- Frequency and severity of threatening or hostile situations that may lead to violent acts by persons who are service recipients of our establishment.
- Workers' skill in safely handling threatening or hostile service recipients.
- Effectiveness of systems and procedures that warn others of a security danger or that summon assistance (e.g., alarms or panic buttons).
- The use of work practices such as the "buddy" system for specified emergency events.
- How well the Company's anti-violence policy has been communicated to workers, supervisors, and managers.
- How well Company's management and workers communicate with each other.
- Company workers', supervisors', and managers' knowledge of the warning signs of potential workplace violence.
- Frequency and severity of workers' reports of threats of physical or verbal abuse by managers, supervisors, or other workers.
- Any prior violent acts, threats of physical violence, verbal abuse, property damage, or other signs of strain or pressure in the workplace.
- Worker disciplinary and discharge procedures.

Employee Participation

Employees are encouraged to report concerns about workplace security, workplace violence, or any other job matters.

Describe how Company employees can submit concerns or safety suggestions anonymously.

INSTRUCTIONS TO SUBMIT A SUGGESTION IN KPA'S VERA SUITE

Instructions

1. Go to www.VeraSuite.com. Enter **KPAMSDS** as the username and your KPA client ID/pin as the password. The pin number is on your Safety Data Sheet (SDS) poster.
2. Click on the **Suggestions** tab.
3. Add your idea. **Submit**.

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Correction

The Company does not tolerate harassment or violence of employees, customers or clients, vendors, or suppliers. Any form of harassment or violence that violates federal, state, or local law will be treated as a disciplinary matter up to and including termination. For these purposes, the term “harassment” includes slurs and any other offensive remarks, jokes, or other verbal, graphic, or physical misconduct.

Investigation Procedures

The Company will appoint at least 2 people to conduct the following activities after a workplace violence concern is reported or a non-emergency incident occurs. See the Workplace Violence Emergencies section of this plan for guidance responding to life-threatening incidents. Safety is paramount and involving law enforcement may be necessary.

1) Visit the incident scene as soon as possible.
2) Interview threatened and injured workers and witnesses.
3) Examine the workplace for factors associated with workplace security, including any previous reports of inappropriate behavior by the perpetrator.
4) Determine the cause of the incident.
5) Take corrective action to prevent the incident from reoccurring.
6) Record the findings and corrective actions taken. Notify involved employees about the results of the investigation.
7) Produce a written incident report that includes the date, time, location, description of the type of the event and circumstances leading up to it, as well as the identity of the persons involved.

Actions Hierarchy

Hazards that pose a higher risk for violence in the workplace will be corrected in a timely manner, based on the severity of the hazards. The higher the risk of violence, the greater priority the Company will take in correcting the matter. Hazards will be corrected according to the following procedures:

1) When first observed or discovered.
2) If an imminent hazard exists that cannot be immediately abated without endangering worker(s) and/or property, all exposed workers will be removed from the situation except those necessary to correct the existing condition. In escalating or emergency situations, law enforcement shall resolve the matter.
3) All corrective actions taken and the dates that they are completed will be documented.

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Workplace Violence Emergencies

Any individual observing violent or threatening behavior that poses an immediate danger to themselves, others, or Company property is expected to:

- **Call 911** or other appropriate emergency contacts for that particular facility, particularly if the situation requires immediate medical and/or law enforcement personnel.
- Remain calm and contact your supervisor.
- Secure your personal safety first.
- Leave the area if your safety is at risk.
- Cooperate with law enforcement personnel when they respond to the situation.

Alert System

To signal an evacuation, the facility uses an evacuation notification alarm. The evacuation alarm system is communicated to employees upon hire and is reviewed during re-training sessions. The alarm is distinct and clear so as not to be confused with other forms of communication.

The Company uses the following methods to signal the need for evacuation. Check all that apply.

- ☐ Verbal communication
- ☐ Audible alarm
- ☐ Facility telephone or announcement system
- ☐ Visual alarm
- ☐ Pull box alarm system
- ☐ Mass electronic device communication

Activation of this notification signals all facility employees must stop working and proceed to their evacuation assembly points.

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Evacuation vs. Shelter in Place

Certain circumstances, such as workplace violence events or active shooter situations, may necessitate a facility evacuation. All employees have the right to evacuate a facility if they are in immediate danger.

However, if it is too dangerous or you will cross paths with a perpetrator, sheltering in place may be safer. Sheltering in place means finding a safe location inside the facility and staying there until you are cleared by law enforcement. The Company has designated shelters in place, but if you can't make your way to one of them without endangering yourself:

- Look for a room, preferably one with a locking door.
- Does the door open inward or outward?
- Can you close or block any windows?
- Can you barricade furniture against the door to reinforce it?
- Turn off the lights and silence your phone.

Add recommended shelter-in-place locations at the facility.



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Communication & Training

The Company recognizes that open, two-way communication between management and staff about workplace security issues is essential to a safe and productive workplace. Our communication methods facilitate a continuous flow of workplace security information between management and staff in a form that is readily understandable by all affected workers, and consists of one or more of the following:

- New worker orientation including workplace security policies and procedures.
- Review of this plan.
- Workplace security training programs.
- Regularly scheduled meetings.
- Effective communication between workers and supervisors about security and violence concerns, including translation where appropriate.
- Posted or distributed workplace security information.
- A system for workers to anonymously inform management about workplace security and violence concerns.
- A system for workers to inform management about workplace security hazards or threats of violence without fear of reprisal or adverse action.
- Address security issues at our workplace security team meetings.

Check the one that is applicable to the Company.

☐ The Company has less than 10 employees and communicates with and instructs workers orally about general workplace security practices, and workplace security hazards that are unique to each worker's job assignment.

☒ The Company has appropriate labor/management safety and health committees that:

- Meet regularly.
- Prepare written records of the safety and health committees' meetings.
- Review periodic and scheduled inspection results.
- Review workplace security concerns, investigation findings, and incidents.
- Make suggestions to management about preventing future incidents.
- Review investigations of alleged hazardous workplace security conditions.
- Submit recommendations to assist in evaluating workplace security.

Enter any other methods of effective communication that the Company uses.

Plan Availability

This written plan shall be available and easily accessible to employees, authorized employee representatives, and government representatives at all times. This is accomplished through both hard copies and electronic systems, such as an employee internet portal or similar. Employees may also request a copy of the plan from the company's Administrator.

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Non-Retaliation

The Company will not take adverse action nor retaliate against employees in any way if they report workplace violence concerns or if they refuse to report to work or leave a workplace or worksite because they have a reasonable belief that the workplace or worksite is unsafe.

Training Elements

The Company shall use training material that's appropriate in content and vocabulary to employees' educational level, literacy, and language. **Note:** The "Workplace Violence and Active Shooter Response" online training course is available in KPA software for Company employees to complete.

At a minimum, the following topics will be covered as part of the Company's emergency response and antiviolence training:

- The details of this Workplace Violence Prevention Program, how to obtain a copy of it at no cost, and how to participate in the plan.
- Definitions and requirements, including recognizing workplace security hazards and the risk factors associated with the 4 types of workplace violence.
- How to report any violent acts or threats of violence to the Company or law enforcement without fear of reprisal.
- Workplace violence hazards specific to the employees' jobs, the corrective measures the Company has implemented, how to seek assistance to prevent or respond to violence, and strategies to avoid physical harm.
- How and when to use the required violent incident log.
- An opportunity for interactive questions and answers with a person knowledgeable about the Company's antiviolence measures.
- Ways to defuse hostile or threatening situations.
- How to recognize alerts, alarms, or other warnings about emergency conditions, and how to use identified escape routes or locations for sheltering.
- Measures to summon others for assistance.
- Worker escape routes.
- Notification of security and law enforcement authorities when a criminal act may have occurred.
- The method for emergency medical care provided in the event of any violent act upon a worker.
- Availability of post-event trauma counseling for workers desiring such assistance.

Training Schedule

All affected workers, including managers and supervisors, will have training and instruction on general and job-specific safe workplace security practices and violence prevention. Training and instruction will be provided as follows:

- When this Workplace Violence Prevention Program is first established and annually thereafter.
- To all new workers.
- To all workers given new job assignments for which training has not been provided.
- Whenever new workplace security concerns are introduced to the workplace and represent a new hazard.
- Whenever the Company is made aware of a new or previously unrecognized workplace security hazard. The additional training may be limited to addressing the new workplace violence hazard or changes to this plan.
- To supervisors so that they can recognize the workplace security hazards to which workers under their immediate direction and control may be exposed.
- To all workers with respect to workplace security hazards specific to each worker's job assignment.

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Recordkeeping

In accordance with laws and legal best practices, the Company keeps records of workplace violence hazard identification, evaluation, and correction for a minimum of 5 years.

Additional Records Practices

- Records of workplace security hazard assessment inspections, including the person(s) conducting the inspection, the workplace security concerns identified, and the action taken to correct the identified concerns, are recorded on a hazard assessment and correction form.
- Training records shall be created and maintained for a minimum of 1 year and include training dates, contents or a summary of the training sessions, names and qualifications of persons conducting the training, and names and job titles of all persons attending the training sessions.
- Violent incident logs shall be maintained for a minimum of 5 years.
- Records of workplace violence incident investigations conducted shall be maintained for a minimum of 5 years. These records shall not contain “medical information.”
- All required records shall be made available to authorities upon request for examination and copying.
- All required records shall also be made available to employees and their representatives, upon request and without cost, for examination and copying within 15 calendar days of a request.



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APPENDIX A: VIOLENT INCIDENT LOG

INSTRUCTIONS: Enter complete information about a workplace violence incident, ensuring that you fill out all the columns of this form. Retain for at least 5 years.

Person Completing This Log: _____ **Date Completed:** _____

Job Title:
_____

Date of Incident	**Time of Incident**	**Location of Incident**	**Location Classification** (Workplace, Parking Lot, Area Outside Workplace, Other)	**Type of Incident** (Physical Attack Without Weapon, Attack With Weapon, Threat, Sexual Assault, Animal Attack, Other)	**Workplace Violence Type** (I, II, II, or IV)	**Detailed Description**	**Who Committed the Violence** (Client, Immediate Family Member, Friend, Stranger, Supervisor, Partner/Spouse, Parent, Relative, Other)	**Employee Circumstances** (Doing usual job duties, Poor lighting, Rushed, Low staffing, Alone, Unable to get help, Community setting, Unfamiliar work location)	**Incident Actions** (Security/Law Enforcement Involved, Corrections)

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Alten Construction Inc.

Heat Illness Prevention Plan Summary

This is a summary of the Alten Construction Inc. Heat Illness Prevention Plan. The detailed plan that includes Site specific updates is in the Alten Construction Injury Illness Prevention Plan to be kept in the jobsite office to be available for anyone who wishes to see it.

Alten Construction Inc recognizes the serious nature of Heat illness in the construction industry and has developed the Alten Construction Heat Illness Prevention Plan in accordance with the California Code of Regulations. Title 8 section 3395.

The written procedures for this plan will include;

- This summary to be included in the Heat Illness section of the IIPP as well as the employee hand book.
- The full written Heat Illness Prevention plan included in the IIPP
- Site specific updates to be completed as required by changing site conditions and included in the Heat Illness section of the jobsite IIPP

The written plan will cover;

- (Training) Employees will receive training thru regularly held safety meetings and handouts. Employees will be included in all jobsite specific updates to the plan. Supervisors will receive training at quarterly safety meetings.

The training will cover;

- The symptoms of Heat illness, headaches, dizziness, confusion, moist skin, upset stomach, fainting, hot dry skin with no sweating, and seizures or convulsions.
- The provision of water. Alten Construction will at all times provide adequate supplies of clean, potable drinking water, and encourage employees to drink water whenever they require it. Location of water stations to be included in the site specific updates.
- The access to shade; Alten Construction will provide designated shade areas as needed. Employees will be encouraged to use these areas to cool down / recover as they require. Location of the shade area or areas to be included in the site specific updates.
- Emergency response; A call to Emergency responders/911 should be made immediately when any person complains or shows symptoms of heat illness. The person should be moved to a shaded / cool area where steps can be taken to cool the person down with water, fanning etc. Emergency response procedures should be followed to aid emergency personnel in safely entering the site.

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HEAT ILLNESS PREVENTION ELEMENTS

(a) Scope and Application

- This section applies to the control of risk of occurrence of heat illness. This is not intended to exclude the application of other sections of Title 8, including, but not necessarily limited to, sections 1512, 1524, 3203, 3363, 3400, 3439, 3457, 6251, 6512, 6969, 6975, 8420 and 8602(e).

- Note No. 1: The measures required here may be integrated into the employer's written Injury and Illness Program required by section 3203, or maintained in a separate document.

- Note No. 2: This standard is enforceable by the Division of Occupational Safety and Health pursuant to Labor Code sections 6308 and 6317 and any other statutes conferring enforcement powers upon the Division. It is a violation of Labor Code sections 6310, 6311, and 6312 to discharge or discriminate in any other manner against employees for exercising their rights under this or any other provision offering occupational safety and health protection to employees.

(b) Definitions.

“Acclimatization” means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

“Heat Illness” means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

“Environmental risk factors for heat illness” means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

“Landscaping” means providing landscape care and maintenance services and/or installing trees, shrubs, plants, lawns, or gardens, or providing these services in conjunction with the design of landscape plans and/or the construction (i.e., installation) of walkways, retaining walls, decks, fences, ponds, and similar structures, except for employment by an employer who operates a fixed establishment where the work is to be performed and where drinking water is plumbed.

“Oil and gas extraction” means operating and/or developing oil and gas field properties, exploring for crude petroleum or natural gas, mining or extracting of oil or gas or recovering liquid hydrocarbons from oil or gas field gases.

“Personal risk factors for heat illness” means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use

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of prescription medications that affect the body's water retention or other physiological responses to heat.

“Shade” means blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions.

“Temperature” means the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement, e.g., with the hand or some other object, from direct contact by sunlight.

(c) Provision of water.

Employees shall have access to potable drinking water meeting the requirements of Sections 1524, 3363, and 3457, as applicable. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water, as described in subsection (f)(1)(C), shall be encouraged.

To ensure access to sufficient quantities of potable water, the following steps will be taken:

- Supervisors are responsible for insuring that adequate amounts of clean, potable drinking water and ice or other means of cooling are available before the start of each shift. Minimum, I qt per employee per hour
- Water supplies will be monitored throughout the day at regular intervals.
- Disposable/single use drinking cups will be provided to employees, or provisions will be made to issue their own cups each day.
- Water stations shall be located as centrally as is practical. All employees shall have a water station available to them within a short walk. (less than 5 minutes) Larger jobsites require multiple water stations.
- Supervisors may designate a person responsible for monitoring and filling water stations and maintaining adequate supplies for each shift.
- Employees are encouraged to report to supervisor/designated person low levels or dirty water.
- When drinking water levels within a container drop below 50%, the water shall be replenished immediately; or water levels should not fall below the point that will allow for adequate water during the time necessary to effect replenishment.

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To encourage frequent drinking of potable water, the following steps will be taken:

- Supervisors will provide frequent reminders to employees to drink frequently.
- Heat illness will regularly be the subject of weekly safety meetings during warmer months
- Access to drinking water will be as easy as is practical

Access to Shade

(1) Shade required to be present when the temperature exceeds 80 degrees Fahrenheit. When the outdoor temperature in the work area exceeds 80 degrees Fahrenheit, the employer shall have and maintain one or more areas with shade at all times while employees are present that are either open to the air or provided with ventilation or cooling. The amount of shade present shall be at least enough to accommodate the number of employees on the meal period that remain on site, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other. The shaded area shall be located as close as practicable to the areas where employees are working.

(2) Shade required to be available when the temperature does not exceed 80 degrees Fahrenheit. When the outdoor temperature in the work area does not exceed 80 degrees Fahrenheit employers shall either provide shade as per subsection (d)(1) or provide timely access to shade upon an employee's request.

(3) Employees shall be allowed and encouraged to take a cool-down rest in the shade for a period of no less than five minutes at a time when they feel the need to do so to protect themselves from overheating. Such access to shade shall be permitted at all times.

Exceptions to subsection (d):

(1) Where the employer can demonstrate that it is infeasible or unsafe to have a shade structure, or otherwise to have shade present on a continuous basis, the employer may utilize alternative procedures for providing access to shade if the alternative procedures provide equivalent protection.

(2) Except for employers in the agricultural industry, cooling measures other than shade (e.g., use of misting machines) may be provided in lieu of shade if the employer can demonstrate that these measures are at least as effective as shade in allowing employees to cool.

(e) High-heat procedures. The employer shall implement high-heat procedures when the temperature equals or exceeds 95 degrees Fahrenheit. These procedures shall include the following to the extent practicable:

(1) Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable.

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(2) Observing employees for alertness and signs or symptoms of heat illness.

(3) Reminding employees throughout the work shift to drink plenty of water.

(4) Close supervision of a new employee by a supervisor or designee for the first 14 days of the employee's employment by the employer, unless the employee indicates at the time of hire that he or she has been doing similar outdoor work for at least 10 of the past 30 days for 4 or more hours per day.

To ensure access to shade at all times, the following steps will be taken:

- Whenever possible, provide areas for employees to take their breaks which are:
- Readily accessible
- In the shade and open to the air, and ventilated or cooled
- Near sufficient supplies of drinking water
- Supervisor will set-up an adequate number of; umbrellas, canopies or other potable devices, or designate existing shaded areas onsite at the start of the shift and will relocate them to be closer to the crew, as needed. Equipment should be placed in close proximity (i.e., less than a five minute walk) to the work activity.
- Designated or temporary shade areas shall be of adequate size to allow 25% of employees to sit in the shade without touching each other. Some form of seating will be provided; employees may not sit directly on the ground.

To ensure that employees have access to a preventative recovery period, the following steps will be taken:

- Employees will receive training regarding Heat Illness as the warm weather begins. This training will be repeated throughout the warmer months.
- Supervisors will remind employees regularly of the need for recovery breaks.
- Supervisors will monitor employees and send any employee showing signs of stress for a recovery break.

Written Procedures

1) Employee training. Effective training in the following topics shall be provided to each supervisory and non-supervisory employee before the employee begins work that should reasonably be anticipated to result in exposure to the risk of heat illness:

(A) The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment.

(B) The employer's procedures for complying with the requirements of this standard.

(C) The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties.

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(D) The importance of acclimatization.

(E) The different types of heat illness and the common signs and symptoms of heat illness.

(F) The importance to employees of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers.

(G) The employer's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary.

(H) The employer's procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider.

(I) The employer's procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders. These procedures shall include designating a person to be available to ensure that emergency procedures are invoked when appropriate.

Emergency Response Procedures

Help reduce the risk of heat related illness, and ensure that emergency assistance is provided without delay.
The employer's procedures shall be in writing and shall be made available to employees and to representatives of the Division upon request. The procedures for complying with the requirements of this standard shall include:

- Shade and Water Stations will be provided and or designated on all sites on any day where the forecasted temperature is to exceed 80 degrees Fahrenheit. Employees will be informed as to their location and encouraged to make full use of those facilities.
- Training: Supervisors will receive training at Quarterly Safety meetings at the beginning of the season. Employees will also receive training at the start of the season and that training will be repeated and reinforced though the summer months. Employee training will take place during weekly safety meetings.
- Supervisors carry cell phones and all sites have phones located in the construction office. Emergency service numbers and jobsite location information will be posted in the construction office near the phone. The location of the phone and the emergency information will be given regularly at weekly safety meetings.
- Working hours will be modified to work during the cooler hours of the day, when possible.
- Supervisors will continuously check all employees, and stay alert to the presence of heat related symptoms.

Procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary:

- First contact Emergency Medical services for anyone complaining or showing symptoms of heat illness.
- Send flagman (1 or more if needed) to meet Emergency personnel and guide them into the jobsite.
- While waiting for Emergency services to arrive, apply first aid procedures for heat illness Including:
    - Move person to a cool shaded area
    - Loosen or remove heavy clothing
    - Provide cool drinking water
    - Fan and mist the person with water.

Procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical provider;

- Dial 911 or the emergency service number posted in jobsite office
- If the person can be carried safely they may be moved to an area more easily reached by the emergency medical personnel.
- If the person is in a dangerous location such as on a roof or scaffold etc. or moving the person would risk further injury, try to provide shade and misting and call emergency rescue personnel.

Procedures for ensuring that in the event of emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders

- Jobsite address/location information will be posted near the phone with emergency numbers
- Send flagman to meet Emergency personnel and guide them into the jobsite.

To reduce the risk of heat-related illness (HI) and respond to possible symptoms of HI, the following steps will be taken:

- Supervisors will continuously check all employees, and stay alert to the presence of heat related symptoms.
- Co-workers will use a “Buddy system” to watch each other closely for discomfort or symptoms of HI
- Supervisors and co-workers are encouraged never to discount any signs or symptoms they are experiencing, and will immediately report them

Acclimatization

Acclimatization is a process by which the body adjusts to increase heat exposure. The body needs time to adapt when working in hotter environments. Employees are more like to develop heat illness if not allowed or encouraged to take it easy when a heat wave strikes or when starting a job that newly exposes them to heat. Acclimatization is fully achieved in most people in 4 to 14 days of regular work involving at least 2 hours per day in the heat.

During heat waves and with new employees, employers must be extra vigilant. A supervisor or

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designee must closely observe employees. Best practices include finding ways to lessen the intensity of employees work during a heat wave and during 2- week break-in periods of ne employees.

Supervisor Training

Prior to supervising employees performing work that should reasonably be anticipated to result in exposure to the risk of heat illness effective training on the following topics shall be provided to the supervisor:

(A) The information required to be provided by section (f)(1) above.

(B) The procedures the supervisor is to follow to implement the applicable provisions in this section.

(C) The procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

(D) How to monitor weather reports and how to respond to hot weather advisories.

(3) The employer's procedures for complying with each requirement of this standard required by subsections (f)(1)(B), (G), (H), and (I) shall be in writing and shall be made available to employees and to representatives of the Division upon request.

Note: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

Training is critical to help reduce the risk of heat related illness and to assist with obtaining emergency assistance without delay.
Employee training: Training in the following topics shall be provided to <u>all employees.</u>

A. The environmental and personal risk factors for heat illness;
    - High temperature, Humidity, Lack of air movement and direct sun are environmental factors
    - Physical exertion, heavy clothing, dehydration, drug or alcohol use and poor physical conditioning are personal factors
B. The employer's procedures for complying with the requirements of this standard; have been stated previously in this section
C. The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties, also has been fully outlined previously in this section
D. The importance of acclimatization;
    - Drink extra amounts of water
    - Frequent rest breaks
    - Wear light clothing
    - Avoid Alcohol, caffeine or heavy meals
E. .The different types of heat illness and the common signs and symptoms of heat illness;
    - Symptoms of Heat Exhaustion
        - Headaches, dizziness, lightheadedness, or fainting
        - Weakness and moist skin
        - Mood changes such as irritability or confusion
        - Upset stomach or vomiting
    - Symptoms of Heat Stroke
        - Hot dry skin with no sweating

- Mental confusion or losing consciousness
- Seizures or convulsions

F. Always stress the importance of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers
   - Supervisors and co-workers are encouraged to never discount any signs or symptoms they are experiencing, and will immediately report them.

Note: T8CCR3203(a)(3) requires that communication for employees shall be in a form readily understandable by all affected employees.

Supervisors: Prior to assignment to supervision of employees working in the heat, training on the following topics shall be provided:

1. Training (verbal and in writing) to ALL employees who will be working when the temperature is predicted to be over 80 degrees
2. Implementation the supervisor is to follow and provisions in this section
3. Procedures to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

HISTORY

1. New section filed 8-22-2005 as an emergency; operative 8-22-2005 (Register 2005, No. 34). A Certificate of Compliance must be transmitted to OAL by 12-20-2005 or emergency language will be repealed by operation of law on the following day.

2. New section refiled 12-20-2005 as an emergency; operative 12-20-2005 (Register 2005, No. 51). A Certificate of Compliance must be transmitted to OAL by 4-19-2006 or emergency language will be repealed by operation of law on the following day.

3. New section refiled 4-19-2006 as an emergency; operative 4-19-2006 (Register 2006, No. 16). A Certificate of Compliance must be transmitted to OAL by 8-17-2006 or emergency language will be repealed by operation of law on the following day.

4. Certificate of Compliance as to 4-19-2006 order, including amendment of section heading and section, transmitted to OAL 6-16-2006 and filed 7-27-2006 (Register 2006, No. 30).

5. Amendment filed 10-5-2010; operative 11-4-2010 (Register 2010, No. 41).

UPDATE: COVID-19 Prevention – Non-Emergency Regulation
What Employers Need to Know

January 9, 2024

On January 9, 2024, the California Department of Public Health updated its COVID-19 Isolation Guidance, COVID-19 Testing Guidance, and State Public Health Officer Order. These changes impact Cal/OSHA's COVID-19 Prevention Non-Emergency Standards, in particular with respect to isolation of COVID-19 cases and testing of close contacts. Cal/OSHA's regulations took effect on February 3, 2023, and will remain in effect for two years after the effective date, except for the recordkeeping subsections that will remain in effect for three years.

Note: These regulations apply to most workers in California who are not covered by the **Aerosol Transmissible Diseases standard**.

Important changes to definitions

- "Infectious period" for the purpose of cases the Cal/OSHA COVID-19 Prevention Non-Emergency Standards, is now defined as:
  - For COVID-19 cases with symptoms, it is a minimum of 24 hours from the day of symptom onset:
    - COVID-19 cases may return if 24 hours have passed with no fever, without the use of fever-reducing medications, AND
    - Their symptoms are mild and improving.
  - For COVID-19 cases with no symptoms, there is no infectious period for the purpose of isolation or exclusion. If symptoms develop, the criteria above will apply.

Note on changes to testing recommendations

- CDPH no longer recommends testing for all close contacts and instead recommends testing only for:
  - All people with new COVID-19 symptoms.
  - Close contacts who are at higher risk of severe disease or who have contact with people who are at higher risk of severe disease.
- Regardless of CDPH recommendations, employers must continue to make COVID-19 testing available at no cost and during paid time to all employees with a close contact, except for asymptomatic employees who recently recovered from COVID-19.
- In workplace outbreaks or major outbreaks the COVID-19 Prevention regulations still require testing of all close contacts in outbreaks, and everyone in the exposed group in major outbreaks. Employees who refuse to test and have symptoms must be excluded for at least 24 hours from symptom onset, and can return to work only when they have been fever-free for at least 24 hours without the use of fever-reducing medications, and symptoms are mild and improving.

(Continued on next page)

Important requirements in the COVID-19 Prevention regulations that remain the same:

- Employers must address COVID-19 as a workplace hazard under the requirements found in **section 3203 (Injury and Illness Prevention Program, IIPP)**, and include their COVID-19 procedures to prevent this health hazard in their written IIPP or in a separate document.
- Employers must provide face coverings and ensure they are worn by employees when CDPH requires their use.
    - COVID cases who return to work must wear a face covering indoors for 10 days from the start of symptoms or if the person did not have COVID-19 symptoms, 10 days from the date of their first positive COVID-19 test.

      Note: Employees still have the right to wear face coverings at work and to request and receive respirators from the employer when working indoors and during outbreaks.
- Employers must report information about employee deaths, serious injuries, and serious occupational illnesses to Cal/OSHA, consistent with existing regulations.
- Employers must notify all employees, independent contractors, and employers with an employee who had close contact with a COVID-19 case.
- Employers must exclude COVID-19 cases during the infectious period from the workplace.
- Employers must review CDPH and Cal/OSHA guidance regarding ventilation, including **CDPH and Cal/OSHA Interim Guidance for Ventilation, Filtration, and Air Quality in Indoor Environments**. Employers must also develop, implement, and maintain effective methods to prevent COVID-19 transmission by improving ventilation.

This guidance is an overview, for full requirements see Title 8 sections **3205**, **3205.1**, **3205.2**, and **3205.3**



or assistance with developing a COVID-19 Prevention Program, employers may contact Cal/OSHA Consultation Services at 1 800 963 9424 or **InfoCons@dir.ca.gov**
For Consultation information or publications, access the following link or copy the site address: **www.dir.ca.gov/dosh/consultation.html**
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Section 10: Recordkeeping

The Alten Construction Safety Manager will maintain records in the following manner:

- Workplace evaluations and inspections will be documented on the Inspection Forms and maintained for twelve months
- Incidents will be documented on Incident Report Forms and Supervisor's Incident Investigation Forms and maintained for five years
- Safety training will be documented and maintained by for at least one year after the termination of employment

For the purpose of displaying a tracking history of occupational safety and health programs and activities, all documents are maintained for a minimum of one year plus the current year, unless otherwise stated.

For example, at the end of each year, the prior year's documents are removed from the files. During the next year, current year documents are maintained along with the just-past year's documents.

1. Specific records are maintained for each of the topics within the IIPP to include, but not be limited to:
    a. Employee Recognition and Correction
    b. Safety Meetings and Other Safety Communication

        Form – *Employee Meeting & Training Report Form*

    c. Safety Suggestions and Hazard Reporting

        Form – *Identified Problem Report Form*

    d. Hazard Identification and Correction

        Form – *Safety Inspection Form/Action Plan*

    e. Occupational Injury & Illness Investigations

        Form – *Investigation Report*

    f. Safety Meetings and Training

        Form – *New Employee Safety Orientation Checklist* – for each individual employee; filed in personnel file

        Form – *Employee Meeting & Training Report Form* – for each meeting and/or training session

        Form – *Record of Training Form* – record of all training received by each employee

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g. Receipt of IIPP and GCSP

Form -*Acknowledgement of Receipt of the Injury & Illness Prevention*

Form -*Acknowledgement of Receipt of the General Code of Safe Practices (GCSP}*

Review and Revision:

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Bob Giraudo
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Bob Giraudo:

4/28/2020 | 4:56 PM PDT
Date:

DocuSigned by:
Jackie Torres
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Jackie Torres

4/29/2020 | 8:41 AM PDT
Date:

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Attachment 1: Alten Construction Inc. Managers Statement of Support

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Company Policy Letter

Safety and Health Policy For Alten Construction Inc.

The purpose of this policy is to develop a high standard of safety throughout all operations of ***Alten Construction Inc.***

We believe that the success of the company depends on our employees and that each employee has the right to derive personal satisfaction from his/her job and the prevention of occupational injury or illness is of such consequence to this belief that it will be given top priority at all times.

It is our intention here at ***Alten Construction Inc.*** to initiate and maintain complete accident prevention and safety training programs. Each individual from top management to the working person is responsible for the safety and health of those persons in their charge and coworkers around them. By accepting mutual responsibility to operate safely, we will all being of our personnel and the continued success of the company.

DocuSigned by:
Bob Alten

(Bob Alten, President)

Attachment 1: Alten Construction Inc. Managers Statement of Support

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Attachment 2: Employee Meeting and Training Reports

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Alten Construction Inc.

Safety Training Attendance Record

Department:_____

Topic of Training Session:_____

(attach a copy of the training session curriculum)

Instructor(s)	Location	Date	Time	Length

We are legally required to maintain records regarding our safety training activities. Please assist us by providing the information indicated below to document your attendance. Thank you.

Name *(Please Print)*	Department	Campus Phone	Employee I.D. (if available)	Official Payroll Title	Signature
1.					
2.					
3.					
4.					
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6.					
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12.					
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IIPP - Form 6 Completed copies of this form must be kept in the department files for at least one year.

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Alten Construction Inc. Injury & Illness Prevention Program

New Employee Safety Training Record

Department:

Instructor/Supervisor:

This completed form should be retained in the individual's personnel file as evidence of initial training required under the Injury and Illness Prevention Program.

Employee Name:

Please Print)

o New Hire o Transfer o Other:

Date of Hire / New Assignment:

I, , hereby certify that this employee has

(Instructor)

been trained on the following: (Check appropriate boxes.)

I. ☐ Initial Training on Department's IIPP, Including: Date:

- My right to ask any question, or report any safety hazards, either directly or anonymously without any fear of reprisal.
- The location of departmental safety bulletins and required safety postings (i.e., summary of occupational injuries and illnesses, and Safety and Health Protection Poster).
- Disciplinary procedures that may be used to ensure compliance with safe work practices.
- Reporting safetyconcerns.
- Accessing the department safety committee.
- Reporting occupational injuries and illnesses.

II. ☐ Hazard CommunicationTraining Date:

- The potential occupational hazards in the work area associated with my job assignment.
- The safe work practices and personal protective equipment required for my job title.
- The location and availability of Safety Data Sheets (SDS).
- The hazards of any chemicals to which I may be exposed, and my right to the information contained on (SDS) for those chemicals.

III. ☐ Building Emergency Plan(BEP) Date:

- Emergency escape routes and procedures and Emergency Assembly Area (EAA)
- How to report a fire and other emergencies
- Names or regular job titles of persons to be contacted for further information.

III. Other_____ Date:	
Employee Signature: Date:	
IIPP - Form 7	Completed copies of this form must be kept in Department files for at least one year.

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Alten Construction Inc. Injury & Illness Prevention Program

Safety Meeting Report

DATE:_____ TIME:_____ DEPARTMENT:_____

Meeting Location:_____Length of Meeting (minutes):_____

Meeting Leader/Title: _____

(Signature):_____

TOPICS DISCUSSED (attach or identify all documents provided and discussed)

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EMPLOYEES IN ATTENDANCE	
PRINT NAME	**SIGNATURE**
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Attachment 3: Report of Unsafe Condition or Hazard

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All accidents or near misses should be investigated to determine the TRUE cause of it so that corrective action/measures may be implemented to prevent a reoccurrence.

Serious Accidents

If an employee of our company or that of a sub-contractor is involved in a serious accident or a major loss of equipment or property occurs, the Project Safety Professional and/or the Project Manager/Superintendent shall notify by phone designated personnel and affected organizations so that an investigation can be initiated. The procedures described in this section shall be followed.

Reporting Serious Accidents

Upon learning of a serious or fatal accident on the project, notification must be made immediately to the Main Office, Personnel Department.

Investigating Serious Accidents

An investigation shall be conducted as soon as possible after the accident. The investigation must be **FACT-FINDING**, not fault finding. Members of the investigation team should include the Project Manager/Superintendent or his designee, and the employee's foreman. The Project Safety Professional should also participate.

The purpose of the investigation is to learn the true cause so that similar accidents can be prevented, and to determine FACTS bearing on legal liability.

A description of the operation being performed at the time of the accident is essential. All personnel assigned to the operation and all witnesses to the accident shall be interviewed and statements taken.

A private place such as an enclosed office or conference room should be used for these discussions. If the Workmen's Compensation insurance adjuster is present, the Safety Professional and the adjuster may interview the employee jointly.

The interviewer(s) must obtain first-hand facts, and not hearsay. The information obtained must be recorded and signed by each person involved. The Supervisors Accident Report form is in this section. The Date & Time of the accident and interview, names, addresses, occupations of victim (if known), co-workers and/or witnesses.

Attachment 3: Report of Unsafe Condition or Hazard

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Report of Unsafe Condition or Hazard

Optional (Employees may submit this form anonymously):

Employee's Name:_____ Job Title:_____

Location of Condition Believed to Be Unsafe or

Hazardous:_____

_____

Date and Time Condition or Hazard Observed:_____

Description (and photos) of Unsafe Condition or
Hazard:_____

_____

_____

What Changes Would You Recommend to Correct the Condition or
Hazard?_____

_____

_____

_____

Optional:

Employee's Signature:_____ Date:_____

ALTEN CONSTRUCTION Inc. RESPONSE

Name of PersonInvestigating Report:_____

Results ofInvestigation:

What was found? Was condition unsafe or a hazard? Attach additional sheets if necessary:

_____

_____

_____

_____

Action taken to correct Hazard or Unsafe Condition if appropriate (or, alternatively, information provided to employees as to why Condition was NOT unsafe or hazardous). Attach additional sheets if necessary:

_____

_____

Person Investigating Report:

Print Name_____Signature_____

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Attachment 4: Workplace Inspection Forms

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SAFETY INSPECTION REPORT **ALTEN CONSTRUCTION, INC**

JOB NO._____ JOB NAME_____ Date_____

PROJECT MANAGER_____ SUPERINTENDENT_____

PERSON MAKING INSPECTION Bob Girado

Subcontractors Onsite (list name and trade)

Name	Trade	Name	Trade

COLUMN **A**=Adequate at time of inspection **B**=Needs Consideration **C**=Needs Immediate Attention **N/A**=Not applicable

	A	B	C	N/A	Corrective Action Taken
1. Project Information					
OSHA 200 forms available, complete and posted Feb thru Apr?					
OSHA poster(s) posted?					
Emergency phone #'s posted for nearest medical center, fire, police, hospitals, etc posted? Map/directions to clinic?					
Safety "Toolbox" meetings up to date?					
Subcontractor Safety Programs & Haz-Com Programs received and reviewed?					
Material Safety Data Sheets (MSDS) in binder, with index and up to date?					
Adequate First Aid Kit(s) & Supplies on site?					
Emergency Action Plan in place, evacuation plan, stretcher?					
Certified CPR/First Aid person on site?					
Work areas properly signed & barricaded?					
2. Housekeeping					
Material Storage and Staging neat & not a Hazard?					
General neatness of work area?					
Projecting nails removed or bent over?					
Waste containers provided and used?					
Passageways, walkways, stairs, and floor clear?					
Adequate ventilation in work areas?					
Adequate lighting in work areas?					
Electrical cords and welding leads off of the floor					
3. Fire Prevention					
Flammable liquid containers properly labeled?					
Storage tanks properly vented?					
Flammable/combustible material spills cleaned up immediately?					
Flammable storage tanks grounded/bonded?					
Propane/Butane tanks properly barricaded and installed?					
Temporary heating devices installed properly & checked periodically?					
Adequate clearance to combustible materials?					
Approved safety cans used?					
Adequate fire extinguishers, checked and accessible?					
Phone # of Fire Department posted?					
"No Smoking" posted and enforced near flammables?					

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	A	B	C	N/A	Corrective Action Taken
4. Electrical					
Laser warning signs posted?					
Electrical rooms/panels properly secured & labeled when energized?					
Extension cords with bare wires or missing ground prongs taken out of service?					
Lockout/Tagout procedures used when needed?					
Lockout Kit onsite?					
Ground fault circuit interrupters being used?					
Terminal boxes equipped with required covers?					
5. Hand, Power & Powder Actuated Tools					
Tools inspected periodically for defects and taken out of service?					
Hand tools inspected regularly?					
Guards in place on grinders and tools?					
Right tool being used for job at hand?					
Operators of powder actuated tools are licensed?					
6. Fall Protection					
Floor hole(s), window opening(s) & exposed edges are protected?					
Guardrails & cables are in place/secured properly?					
Employees have safety harness and use correctly?					
Employees exposed to a 6 foot fall hazard are tied off?					
If using a Fall Protection Plan for leading edge work, is it being followed properly? (safety monitor authorized workers)					
Employees below protected from falling objects?					
7. Ladders					
Adequate number of access/egress ladders for the number of personnel on a high rise project?					
Ladders extend at least 36" above the landing?					
Ladders are secured to prevent slipping, sliding or falling?					
Ladders with split or missing rungs taken out of service?					
Job built ladders built adequately and checked for defects?					
Stepladders used in fully open position?					
No employees stepping on the top 2 rungs of stepladder?					
8. Scaffolding					
All scaffolding inspected daily?					
Erected on sound rigid footing and base plates used?					
Tied to structure as required?					
Guardrails, intermediate rails, toe-boards and screens in place?					
Platform fully decked and planking is sound and sturdy?					
Platforms solidly, fully planked over?					
Supports plumb, adequate cross braces provided?					
Planking is scaffold grade lumber of at lease 1,500 fsg?					
Planking is solid, sturdy & secured from being dislodged?					
Wheels on rolling towers are locked when being used?					
Proper access ladder provided?					
Employees below protected from falling objects?					
Mud sills being used under base plates on soft soil?					

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	A	B	C	N/A	Corrective Action Taken
9. Floor & Wall Openings					
All floor or deck holes are covered or barricaded & marked?					
Perimeter protection is in place?					
Hole or deck covers are secured?					
Materials stored away from edge?					
10. Trenches, Excavation & Shoring?					
Competent person inspected trench daily and on hand?					
Excavations are shored, benched or sloped back?					
Materials/spoil pile(s) are stored at least 2 feet from trench?					
Ladders provided every 25 feet in trench?					
Excavations over 20 feet in depth have engineer approval?					
Equipment is a safe distance from edge of trench or excavation?					
Walkways over trenches adequate and secure?					
Trench barricaded or secured?					
Shoring and sheeting as needed for soil classification and depth?					
11. Material Handling					
Materials are properly stored or stacked?					
Employees are using proper lifting methods?					
Tag lines are used to guide loads?					
Proper number of workers for each operation?					
12. Welding & Burning					
Gas cylinders stored upright?					
Proper 20 foot separating distance between fuels & oxygen?					
Shielding utilized to protect passerby's from flash burns?					
Welders wearing protective leather gear to prevent burns?					
Burning/welding goggles or shields are used?					
Fire extinguishers are nearby?					
Hoses are in good condition?					
Welding gas cylinders capped when not in use?					
Carts provided for moving cylinders?					
Appropriate safeguards against hazards caused by welding, cutting or heating?					
13. Equipment					
Operated only by Authorized/Certified Personnel?					
Inspected by operator before use?					
Fluids Checked?					
Greased every 8 hours of operation?					
All Safety equipment in place and operational?					
Any subcontractor using Alten Equipment have signed "Use Agreement" on file?					
All manuals, load charts and decals are legible and in proper position					
Weight limits are obeyed at ALL times?					
Proper warm up and shut down procedures are followed?					
No loose materials or tools in cab?					
Equipment operated at safe speed at all times?					
Steps and handles mounted solid and in proper position?					
Backup alarms operational ?					

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	A	B	C	N/A	Corrective Action Taken
14. Concrete Construction					
All trucks equipped with back up alarms?					
Respiratory Protection Program in-place and followed?					
Employees are protected from cement dust?					
Employees wearing eye protection?					
Exposed skin covered?					
Pump truck setup level, properly and clear of powerlines?					
All reinforcing steel protected by approved caps or troughs?					
Runways are adequate?					
15. Personal Protective Equipment					
Dust control measures in place on the project?					
Adequate footwear being worn?					
Indoor air quality checked?					
Effective air pollution controlled?					
Hard hats are being worn?					
Safety glasses are being worn?					
Respirators are used when required?					
Hearing Protection being worn when required?					
Life jackets, safety harness, lifelines & lanyards being used when required?					
Traffic vests being worn when required?					
16. Unsafe Acts or Practices Observed (List)					

Additional comments_____

Signature:_____ Date: _____

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Attachment 5: Supervisor's Report of Accident/Incident/Injury

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Alten Construction Inc.

Employee's Report of Injury Form

Instructions: Employees shall use this form to report all work related injuries, illnesses, or "near miss" events (which could have caused an injury or illness) – *no matter how minor*. This helps us to identify and correct hazards before they cause serious injuries. This form shall be completed by employees as soon as possible and given to a supervisor for further action.

I am reporting a work related: ❑ Injury ❑ Illness ❑ Equipment/Property Damage ❑ Near miss	
Your Name:	
Job title:	
Supervisor:	
Have you told your supervisor about this injury/near miss? ❑ Yes ❑ No	
Date of injury/near miss:	Time of injury/near miss:
Names of witnesses (if any):	
Where, exactly, did it happen?	
What were you doing at the time?	
Describe step by step what led up to the injury/near miss. (continue on the back if necessary):	
What could have been done to prevent this injury/near miss?	
What parts of your body were injured? If a near miss, how could you have been hurt?	
Did you see a doctor about this injury/illness? ❑ Yes ❑ No	
If yes, whom did you see?	Doctor's phone number:
Date:	Time:
Has this part of your body been injured before? ❑ Yes ❑ No	
If yes, when?	Supervisor:

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Alten Construction Inc.

Your signature:	Date:

Supervisor's Accident Investigation Form

Name of Injured Person _____

Date of Birth_____ Telephone Number _____

Address _____

City_____ State_____ Zip _____

(Circle one) Male Female

What part of the body was injured? Describe in detail. _____

_____

What was the nature of the injury? Describe in detail. _____

_____

_____

Describe fully how the accident happened? What was employee doing prior to the event? What equipment, tools beingusing? _____

_____

_____

Names of all witnesses:

_____ _____

_____ _____

Date of Event_____ Time of Event _____

Exact location of event: _____

What caused the event? _____

_____

_____

Were safety regulations in place and used? If not, what was wrong? _____

_____

Employee went to doctor/hospital? Doctor's Name _____

Hospital Name _____

Recommended preventive action to take in the future to prevent reoccurrence.

_____

_____

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Alten Construction Inc.

Supervisor Signature _____ Date _____

Incident Investigation Report

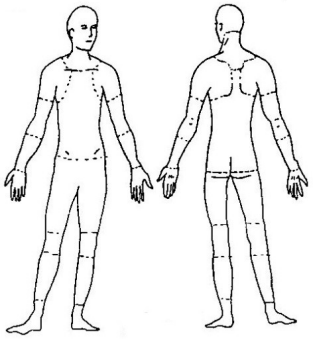
Instructions: Complete this form as soon as possible after an incident that results in serious injury or illness. (Optional: Use to investigate a minor injury or near miss that *could have resulted in a serious injury or illness*.)

This is a report of a: ❑ Death ❑ Lost Time ❑ Dr. Visit Only ❑ First Aid Only ❑ Near Miss	
Date of incident:	This report is made by: ❑ Employee ❑ Supervisor ❑ Team ❑ Other_____

Step 1: Injured employee (complete this part for each injured employee)

Name:	Sex: ❑ Male ❑ Female	Age:
Department:	Job title at time of incident:	

Part of body affected: (shade all that apply)



Nature of injury: (most serious one)
- ❑ Abrasion, scrapes
- ❑ Amputation
- ❑ Broken bone
- ❑ Bruise
- ❑ Burn (heat)
- ❑ Burn (chemical)
- ❑ Concussion (to the head)
- ❑ Crushing Injury
- ❑ Cut, laceration, puncture
- ❑ Hernia
- ❑ Illness
- ❑ Sprain, strain
- ❑ Damage to a body system:
- ❑ Other _____

This employee works:
- ❑ Regular full time
- ❑ Regular part time
- ❑ Seasonal
- ❑ Temporary

Months with this employer

Months doing this job:

Step 2: Describe the incident

Exact location of the incident:	Exact time:

What part of employee's workday? ❑ Entering or leaving work ❑ Doing normal work activities ❑ During meal period ❑ During break ❑ Working overtime ❑ Other_____

Alten Construction Inc.

Names of witnesses (if any):

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Number of attachments:	Written witness statements:	Photographs:	Maps / drawings:

What personal protective equipment was being used (if any)?

Describe, step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials and other important details.

Description continued on attached sheets: ❑

Step 3: Why did the incident happen?

Unsafe workplace conditions: (Check all that apply)
- ❑ Inadequate guard
- ❑ Unguarded hazard
- ❑ Safety device is defective
- ❑ Tool or equipment defective
- ❑ Workstation layout is hazardous
- ❑ Unsafe lighting
- ❑ Unsafe ventilation
- ❑ Lack of needed personal protective equipment
- ❑ Lack of appropriate equipment / tools
- ❑ Unsafe clothing
- ❑ No training or insufficient training
- ❑ Other: _____

Unsafe acts by people: (Check all that apply)
- ❑ Operating without permission
- ❑ Operating at unsafe speed
- ❑ Servicing equipment that has power to it
- ❑ Making a safety device inoperative
- ❑ Using defective equipment
- ❑ Using equipment in an unapproved way
- ❑ Unsafe lifting
- ❑ Taking an unsafe position or posture
- ❑ Distraction, teasing, horseplay
- ❑ Failure to wear personal protective equipment
- ❑ Failure to use the available equipment / tools
- ❑ Other: _____

Why did the unsafe conditions exist?

Why did the unsafe acts occur?

Is there a reward (such as “the job can be done more quickly”, or “the product is less likely to be damaged”) that may have encouraged the unsafe conditions or acts? ❑ Yes ❑ No
If yes, describe:

Were the unsafe acts or conditions reported prior to the incident? ❑ Yes ❑ No

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Have there been similar incidents or near misses prior to this one? ❑ Yes ❑ No

Step 4: How can future incidents be prevented?

What changes do you suggest to prevent this incident/near miss from happening again?

❑ Stop this activity ❑ Guard the hazard ❑ Train the employee(s) ❑ Train the supervisor(s)

❑ Redesign task steps ❑ Redesign work station ❑ Write a new policy/rule ❑ Enforce existing policy

❑ Routinely inspect for the hazard ❑ Personal Protective Equipment ❑ Other: _____

What should be (or has been) done to carry out the suggestion(s) checked above?

Description continued on attached sheets: ❑

Step 5: Who completed and reviewed this form? (Please Print)

Written by: Department:	Title: Date:
Names of investigation team members:	
Reviewed by:	Title: Date:

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Attachment 6: Emergency Action Plan (EAP)

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Alten Construction Inc.

Emergency Action Plan (EAP)

ALTEN CONSTRUCTION INC has developed the following Emergency Action Plan (EAP), in compliance with Title 8 of the California Code of Regulations, General Industry and Construction Safety orders.

The EAP has been designed to address, in detail, the following areas:

- Program Implementation and Responsible Person
- Supervisor's Responsibilities
- Emergency Posting Notice
- 1st Aid / Emergency Medical Services
- Alarm System
- Designated Employees – Training Procedures
- Employee Notification and Training
- Emergency Escape and Evacuation Procedures
- Multi-Employer Job Site Exposures
- Crisis Response Procedures

1. Program Implementation and Responsible Person

SAFETY MANAGER has been assigned as the responsible individual for the maintenance and implementation of the Emergency Action Plan (EAP) for **ALTEN CONSTRUCTION INC**.

THE SAFETY MANAGER is responsible for the following functions:

- ❑ Identify, evaluate and establish procedures for potential emergencies that may require special action
- ❑ Perform periodic emergency training/exercises, as appropriate
- ❑ Maintain a sufficient inventory of emergency equipment and 1st Aid supplies to support the requirements of theEAP
- ❑ Coordinate implementation and maintenance of the EAP with Supervisors
- ❑ Coordinate 1st Aid Training, and other applicable training, for all Supervisors and designated employees
- ❑ Provide safety material to Supervisors to assist with employee training requirements
- ❑ Confirm employee notification and training is enforced
- ❑ Maintain all documentation relevant to the following:
- ❑ Development and implementation of the EAP
- ❑ Changes implemented in accordance with regulatory requirements, and in response to changing needs within the company
- ❑ Employeetraining
- ❑ Emergency equipment inventory

2. Supervisor's Responsibilities

Supervisors are responsible for maintaining compliance with the Emergency Action Plan, and establishing procedures that are site specific. A copy of this program and training is provided to each supervisor.

At specific job sites, Supervisors will be responsible for the following functions:

- Identify and document appropriate evacuation routes and safe location for employees to assemble (This may be coordinated with all the Subcontractors where appropriate.)
- Designation of employee(s) to assist with Crisis Response and Emergency Evacuation procedures (assignment of specific tasks)
- Provide notification and training to employees
- Coordinate continued enforcement of the EAP with Safety Manager
- Monitor inventory of 1st Aid Kit contents at job sites
- Maintain 1st Aid/CPR training certificate

3. EmergencyPosting Notice

A posting notice will be displayed at all job sites, which will identify the following:

- Identity of the Site Manager and After Hours Contact Information (optional)
- Name, address and directions to job site (optional)
- Fire & Rescue – Phone Number
- Police Department – Phone Number
- Ambulance – Phone Number
- Nearest Hospital – Phone Number
- Nearest Cal/OSHA Office – Phone Number,
- Map of job site that identifies the location of the area to assemble in the event of an emergency requiringevacuation

4. Alarm System

In the event of an emergency requiring evacuation of all employees, the following alarm system will be used:

The Site Supervisor will select an alarm appropriate for the jobsite (bell, airhorn etc.) This will be a part of the site specific Emergency Action Plan

If there is not an automatic alarm, the Supervisor, or designated employee, will be responsible for sounding the alarm and locating any hearing-impaired employees to ensure proper evacuation.

5. Designated Employees – Training Procedures

THE SITE SUPERVISOR will be responsible for coordination of the EAP and assignment of tasks to designated employee(s) that will assist with emergency procedures.

Designated employees will be provided with the proper training to assist with the following functions:

- 1st Aid / Emergency Medical Services
- Fire Suppression
- Crisis Response Procedures
- Evacuation Procedures

No employee will be permitted to perform any action that might endanger his/her life or the life of others.

6. Employee Notification and Training

All employees, permanent and intermittent, to include managers and supervisors will be provided necessary training on all elements of the EAP. Employee notification and training will occur when:

- Work begins at a new job site
- An employee is transferred to a new job site
- Training as part of regular site safety meetings
- When Site Specific section is updated

- The following documentation will be used to ensure compliance with notification requirements:
  - Emergency Posting Notices will be displayed at all job sites and facilities
  - The Safety Meeting Sign in sheet will be used to document employee notification and training when beginning work at a new job site
- Employee notification and training relevant to the EAP will consist of:
  - Employees right to review the EAP policy
  - Location of Emergency Posting Notice (Safety Bulletin Board)
  - Procedures implemented for Crisis Response
  - Identity of the Alarm System (sound) that will be used to trigger an evacuation
  - Location of exit routes and designated location for employee to assemble
  - 1st Aid and Emergency Medical Services available to employees
  - Procedures to be followed by employees who remain to operate critical Jobsite operations before they evacuate (if applicable, these procedures must be outlined. Create a section, entitled *"Critical Jobsite Operations"* and list out the specific procedures for your operations)

7. Emergency Escape and Evacuation Procedures

Supervisors will be responsible for evaluating new job sites in order to identify emergency evacuation routes and a safe location for employees to assemble. This information will be documented in the Site specific update and posted on the safety bulletin board. *(This may also be coordinated with the Subcontractors onsite).*

Identified exit routes will be checked periodically to ensure they remain unobstructed.

The following tasks will be carried out in the event of an emergency requiring evacuation:

- The Supervisor, or designated employee, will sound the evacuation alarm.
- The Supervisor will instruct a designated employee to contact the necessary emergency facilities and Management, **and** proceed to the identified assembly area to perform the necessary head-count
- The Supervisor and designated employee(s) will be responsible for making sure the job site / structure is clear of all employees that have not been assigned with specific duties to assist with theevacuation
- Employees must proceed directly to the designated assembly area

- Employees are not to stop and pick up personal belongings when exiting the job site/structure
- Employees are not to block areas that would be considered access for emergency vehicles
- Employees will not be allowed to re-enter the job site/structure until they are authorized by the site supervisor or the designated person.
- The site supervisor or Designated person may not authorize re-entry to the site until they have received an All Clear from emergency responders
- Employees cannot leave the job site (assembly area) accounted for and released by a designated employee or Supervisor
- Employees will be instructed not to respond to news media. Contact with the media is limited to designated Supervisors or Management

The most important focus of an emergency is the protection of human life.

8. Multi-Employer Job Site Exposures

Supervisors will be responsible for ensuring that all other contractors/employers, which have a contractual obligation to **Alten Construction Inc.**, are in compliance with Cal/OSHA requirements and that employees are notified of procedures implemented to respond to emergency situations.

9. Crisis Response Procedures

Specific Crisis Response procedures have been developed for emergency situations that may arise.

10. Fire and Explosion

All employees will be trained on how to properly use fire suppression equipment and instructed on the following:

- Any employee discovering a fire should quickly and carefully remove any person who is injured or in immediate danger, unless doing so will create the possibility of personal injury
- Employees in the immediate vicinity of the fire, as well as those in surrounding areas, who may be threatened by the fire, must be notified of the existence of the fire
- If the area or material involved in the fire is small, only properly trained employees may attempt to extinguish the fire using approved fire suppression equipment only. The Supervisor or designated employee must be notified of the occurrence immediately
- If the fire appears to be too large, involves toxic substances, or is electrical based, employees are to leave the area immediately and notify the Supervisor or designated employee

When the fire cannot be extinguished using a portable fire extinguisher:

- The Supervisor or designated employee will initiate the evacuation procedures
- The fire will be reported to the appropriate agency(s)
- The emergency evacuation alarm will be sounded
- Without creating exposure to personal injury, attempts should be made to contain the fire, by properly trained and designated employees only (i.e. closing doors and windows in the immediate vicinity and removing any flammable materials)

11. Rescue and Medical

Employees shall report any emergency or injuries to a supervisor or manager.

First Aid kits are kept in the following locations:

(To be list in the site specific Section of the EAP)

If emergency medical help or an ambulance is necessary activate the following procedures:

- Call 9-1-1 or local dispatch (fire department or police/sheriff)
  a. Give the nature of the emergency (i.e. fire, medical, etc.)
  b. Give the address of the emergency include cross street if available
  c. If the operator asks you to stay on the line, do so.
- Designate an employee to stand out by the driveway/entrance of the building or jobsite to direct emergency responders.
- Stay out of the way of emergency responders unless you are specifically requested to assist in somemanner.

Management will contact the relatives of injured employees.

12. Earthquake

All employees will be instructed to:

- Remain Calm
- Move away from windows, temporary walls, partitions, freestanding and heavy objects
- Duck or drop down to the floor
- Attempt to take cover under fixed objects, or interior framing, that may provide safety from fallingobjects
- Avoid being near any electrical units, flammable or combustible materials
- **STAY PUT** until the ground / structure stops shaking and it is safe to move, **DO NOT** leave the building

After the Earthquake:

- The Supervisor or designated employee will initiate the evacuation procedures
- When it is believed to be safe, if appropriate, the Supervisor and designated employee(s) will search the area for injured persons and assess the structure for damages that may create additional hazards
- Report any missing or injured persons to Supervisors
- Do not drink water out of the tap due to potential contamination
- Do not smoke, light a fire, or use electrical equipment due to potential gas leaks

13. NaturalDisasters

Including, but not limited to, Floods, Tornadoes, and Severe Thunderstorms

Most natural disasters are usually forecast sufficiently in advance for emergency action to be initiated before the exposure becomes serious.

In most cases, advising employees of the approaching danger and seeing to it that they are in a safe location will be sufficient, should the incident occur during normal working hours.

14. Chemical Leak, Spill or Threatened Release

The following procedures will be carried out in the event of a hazardous substance spill:

All employees will be instructed to:

- Notify the Supervisor immediately
- All employees, not trained to deal with the exposure, will be instructed to leave the immediate area

The Supervisor and/or designated employee(s) will:

- Determine the nature and source of the spill/release. SDS will be used to determine the characteristics of the material and identify necessary precautions for dealing with the material
- Depending on the classification and amount of the spill, if warranted, the local fire department and appropriate local environmental agency will be notified
- Clean-up procedures will be performed by qualified personnel

15. Bomb Threat

If a bomb threat is received, the following procedures will be carried out:

All employees will be instructed to:

- Notify the Supervisor immediately

The Supervisor and/or designated employee(s) will:

- Notify the Police and Fire Department
- The emergency evacuation procedure will be initiated, unless the threat includes instructions not to do so (proper law/emergency enforcement agencies should determine proper course of action in this situation)
- The individual who received the threat should be instructed to document every word of the conversation immediately, if applicable
- A search of the building will be performed by the appropriate law enforcement personnel only
- Access to the building/job site will not be permitted until clearance is given by the appropriate personnel (i.e., police, fire department)

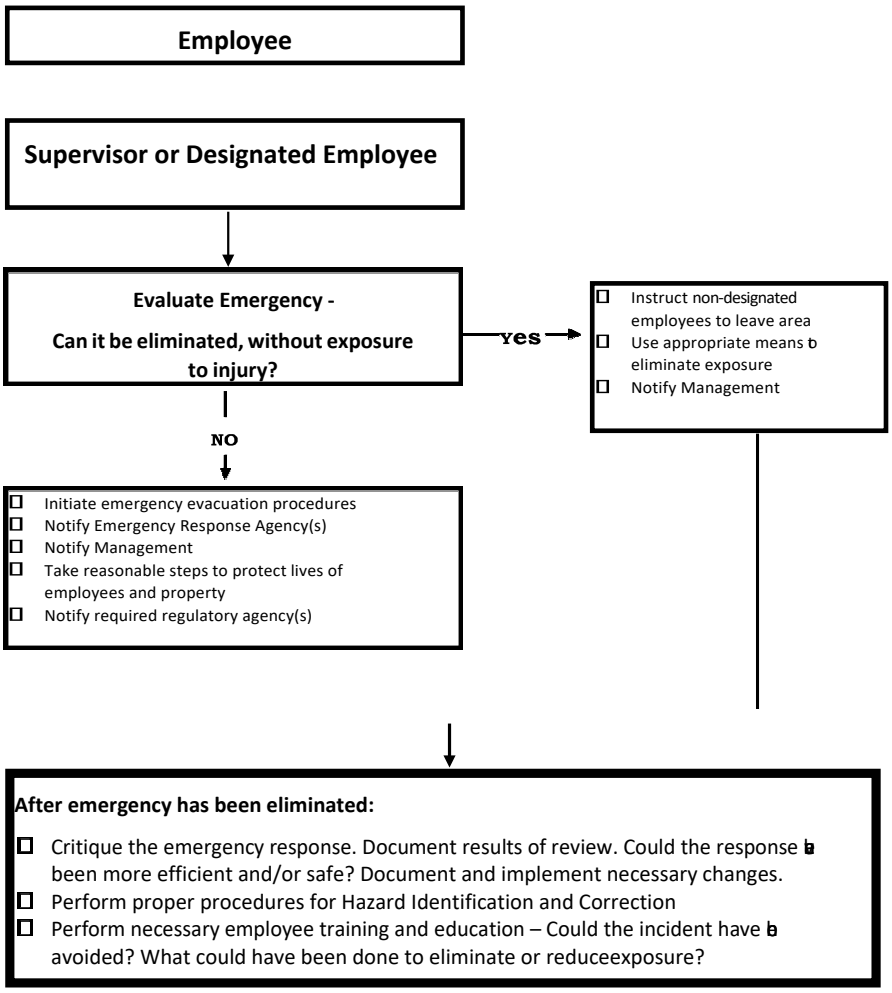
16. CivilDisturbance

Civil disorders, usually in the form of large unruly crowds, can interfere with business operations and could cause damage to property and employees.

The Supervisor or designated employee will notify the appropriate authorities for assistance. Steps will be taken to assure the safety of all employees, business property and equipment, without creating exposure to personal injury.

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17. Notification and Procedure Flowchart



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Alten Construction Inc.

Emergency Action Plan Training #1

Emergency Response / Evacuation

Date revised: Jobsite#

OSHA requires an Emergency Action Plan for all Jobsites and requires employees to be trained to implement that plan. This Safety meeting is intended to train and update employees on the procedures that are in place on the _____ jobsite.

Employees are encouraged to ask they're supervisor if they have any questions regarding this or any part of the Alten Construction Inc. Injury, Illness Prevention Plan. A copy of the IIPP is available to be read at this site _____

In the event that an emergency response is required for fire, medical emergency, chemical spill etc. Emergency Phone information is posted _____ or dial 911
Give the complete address including cross street and any other information requested by the operator. A person or persons should be posted to guide Emergency responders safely to where they are needed.

In any situation where Evacuation of the site is required, a designated alarm will sound. The designated evacuation alarm for this site is _____. In the event an evacuation is required EVERYONE will turn off any equipment they are using and leave the site immediately via the nearest exit. Do not stop to grab tools or other items. Move immediately to the designated assembly area. The designated assembly area for this jobsite
is _____.

Everyone MUST remain at the assembly area until they are accounted for and released to either return to work or leave the site by the superintendent or designated person. It is critical that NO ONE leaves the site without being accounted for and released.to prevent emergency responder's form being put in harm's way looking for someone who has already evacuated. For this reason anyone leaving the assembly area before being released is subject to disciplinary action including termination.

The site superintendent will designate a person or persons to implement the Emergency Action Plan in the event the superintendent is not onsite or otherwise unable to perform these duties. Designated persons will be trained on the Emergency Action Plan for this site, and the locations of emergency contacts, employee and subcontractor listsetc.
Designated persons for this site _____ _____

Retraining will be done for new employee's onsite or anytime site conditions cause the above site specific information to be changed.

It is important that everyone onsite understands and follows Alten Construction's Emergency Action Plan in order to respond better and reduce the potential for injuries during any emergency.

Revised _____

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Alten Construction Inc.

Emergency Action Plan Training #2

Crisis Response Procedures

Fire and Explosion

- Any person discovering a fire should quickly and carefully remove any person who is injured or in immediate danger, unless doing so would create the possibility of personal injury.
- Warn any persons who may be threatened by the fire.
- If the fire is small only trained employees may attempt to extinguish the fire using approved equipment only. The superintendent or Designated person must be notified immediately of the incident.
- If the fire is large or involves electricity or toxic substances, employees are to leave the area immediately and notify the Superintendent or Designated employee.
- Superintendent or Designated person will initiate Evacuation procedures and notify the Fire Dept.

In Case of Earthquake

- Stay calm, do not try to leave the building. Shelter in place until the shaking stops.
- Stay low and try to take cover near interior framing or other fixed objects. Stay away from temporary walls, partitions etc.
- Stay away from flammables and or electrical sources.

When the shaking stops

- Report any missing or injured persons to the Superintendent or Designated person
- Do not use electricity or flame and No smoking due to possible gas leaks.
- Do not drink tap water due to possible contamination.
- If it is warranted the superintendent or Designated person will initiate evacuation procedures. Everyone should follow procedure and exit to the designated assembly area and remain there until they are accounted for and released.
- Do not re-enter the site until the Superintendent has given the All Clear

Rescue and Medical

- If 1st Aid is need 1st aid Kits are located _____
- Employees shall report any and ALL emergencies or injuries to they're supervisor or manager immediately.
- If Emergency responders are needed call the local dispatch (police / fire) using the onsite postings or dial 911. Give the operator the type of emergency and the address including cross street. If the operator requests other information or ask you to remain on the line Please cooperate fully.
- Post an employee near the site entrance to guide responders safely to where they are needed.
- Employees are to stay out of the way of Emergency responders unless they are specifically asked to assist in some manner

Revised_____

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Alten Construction Inc.

Emergency Action Plan Training #3

Crisis Response Procedures

The following procedures will be carried out in case of Chemical Leak, Spill or Threatened Release:

- Employees will notify the superintendent immediately.
- Employees who are not specifically trained to deal with the exposure must leave the area immediately.
- The Superintendent or Designated person will determine the source of the spill and using the SDS determine the precautions required for the material.
- If warranted the fire department and appropriate Environmental agency will be notified.
- Clean up will be conducted by qualified personnel.

Natural Disasters (Flood, Storms, Tornado, etc.)

- Most Natural disasters are forecasted sufficiently in advance for action to be taken before the threat occurs. Actions such as making sure employees are in a safe place are usually sufficient.

Civil Disturbance

- Civil Disorders, riots etc. can cause damage or injury to employees, equipment and property. In such cases the authorities will be notified immediately for assistance and steps will be taken to insure the safety of employees and property without creating exposure to personal injury.

Bomb Threat

- Notify The superintendent immediately
- Notify Police and Firedept.
- The Superintendent or Designated person should initiate the Emergency Evacuation procedure unless the threat specifically instructs them not to. In that case follow the instructions of the Law enforcementpersonnel.
- Search of the building will only be done by Law enforcement personnel.
- Employees may only return to site when clearance is received from law enforcement, Fire dept. or both

Revised_____

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Attachment 7: Forms

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Alten Construction Inc.

California Documentation of Training - IIPP

Project Name_____Location_____

Job #_____Name of Employee_____

Checklist of Topics to be discussed with employee:

Note: After each topic is discussed and fully understood by the employee, the employee should indicate his understanding by initialing in the space provided.

1. _____Explanation of the California Title 8 sections as detailed in the IIPP
2. _____Explanation of the "Code of Safe Work Practices" as outlined in the Construction Safety Handbook
3. General information regarding how to "minimize" job related illnesses and injuries
4. _____Identification of project Health and Safety hazards
5. _____Use of safety equipment needed to perform assigned duties
6. _____The method for timely reporting of project accidents, chemical spills and other hazards that may arise on the project.
7. _____The method for reporting health and safety hazards without fear of reprisal
8. _____Methods by which employee is informed orally or in writing regarding health and Safety hazards.
9. _____The identity and responsibilities of the person(s) on this project who will implement the Company IIPP.

I, the undersigned, have been fully trained and completely understand the topics discussed.

Employee Name_____

Employee Signature_____Date _____

Trainer or Representative Signature_____

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CODE OF SAFE WORK PRACTICES

As an employee, you are expected and required to participate in the IIPP program and follow the safety/job rules. You will be informed by your supervisor of any changes to the existing safety requirements

1. Be alert at all times and report any unsafe acts or conditions to your supervisor immediately.
2. Report every injury or property loss to your supervisor immediately, no matter how slight or minor.
3. Possession or use of drugs (other than prescription), and/or alcoholic beverages (of any kind), on a project is strictly prohibited. (If you are taking prescription drugs, inform your supervisor immediately when reporting to/for work.)
4. An employee **SHALL NOT** cause interference to/with another employee when that employee is performing their assigned duties.
5. Attend scheduled safety meetings conducted by your supervisor.
6. Appropriate clothing is to be worn at all times as prescribed by company policy. (Long trousers, shirts with a minimum of having short sleeves, appropriate construction type leather work shoes.)
7. Use personal Protective Equipment as directed or when it is required by the duty you are performing.
8. Fire protection equipment is not to be tampered with or removed from its assigned location.
9. Maintaining good housekeeping is mandatory for all employees.
10. Employees are to visually inspect all equipment prior to use for any defects. If equipment is found defective/unserviceable, it is to be immediately removed from service and put in for repairs.
11. All electrical power sources, tools and extension cords shall be free of defects and be properly grounded and protected by a Ground Fault Circuit Interrupter device.
12. Only authorized and properly instructed /trained employees shall operate machinery, equipment, tools and vehicles.
13. Powder Actuated Tools WILL NOT be used by non-licensed employees or without the proper Personal Protective Equipment.
14. Vehicles on the property are to be operated and driven a safe manner at all times. Only employees on the Alten Construction drivers list are authorized to operate any Company vehicle.
15. No employee, other than the operator, is to ride on any mobile equipment, (i.e. cranes, end loaders, backhoes, etc.) unless they are inside the cab in a designated seat and their presence does not hinder the operator's operation of the equipment. No employee is to ride on the exterior of a truck.
16. Ladder Safety shall be followed at all times, site specific information and training will be provided through weekly toolbox safety topics.

ENFORCEMENT of these safety/job rules by Company supervision shall be as follows:

1st violation – Warning notice issued with notation to personnel file

2nd violation – Three (3) days suspension from work without pay

3rd violation – Termination of employment.

I have read, fully understand and will comply with the basic safety/job rules and understand that violation of these rules may lead to my dismissal.

Date_____Project_____

Employee's Name_____Employee's signature_____

Company Representative_____

DISCIPLINARY ACTION POLICY

This disciplinary policy is established as a means to enforce the IIPP and other existing work rules.

When an employee commits an unsafe act or causes damage to property, the employee's Supervisor shall correct the employee and instruct him to refrain from such acts and instruct the employee in the proper/safe method in which to accomplish their work assignment. Disciplinary action shall be dispensed in the following manner:

A. Serious/intentional acts:

1. Written reprimand and/or suspension from work for a period of time without pay (normally three days);or
2. Termination of employment
3. Disciplinary action is at the discretion of the Management.

B Non serious/unintentuional acts;

1. **FIRST OFFENSE** Employee is to be given a verbal reprimand with a notation of the violation being placed in personnel file. Employee is to receive additional training on the safety subject violated.
2. **SECOND OFFENSE:** Employee is to receive a written reprimand, with a copy to personnel file, and suspended from work for a period of three (3) days without pay. On returning to work, the employee will receive additional training on the safety subject violated.
3. **THIRD OFFENSE** Termination of employee with written statement of cause to his personnel file.

I have read and fully understand the basic safety/job rules and understand that violation of these rules may lead to my dismissal**.**

Date_____ Employee name_____

Employee Signature_____

Company Representative_____

EMPLOYEE WARNING NOTICE

Date_____Project_____

Employee Name_____

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Position/Title_____ Issued by_____

_____

_____Absenteeism

_____Tardiness

_____Abuse to equipment, materials

_____Leaving work area without permission

_____Poor work due to neglect

_____Alcohol or drugs on premises

_____Stealing

_____Loafing

_____Stopping work without permission

_____Discrimination

_____Sexual Harassment

_____Smoking in prohibited areas

_____Insubordination

_____Refusing to obey orders

_____Violation of safety rules

_____Violation of Company rules/policies

_____Abusive language

_____Fighting or horse

_____Falsifying information to the company

_____Reckless driving on premises

_____General inability to meet work goals

_____Other (specify)

_____

_____Verbal Warning _____Written Warning_____Suspension_____Dismissal

Supervisor's Statement

_____
_____
_____
_____
_____

Employee's Statement

_____
_____
_____
_____
_____

The purpose of this warning notice is to bring to your attention and give you an opportunity to correct the issues above. If these discrepancies continue it may result in your dismissal.

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Employee's signature does not indicate agreement with the above statement, but does indicate that these issues were discussed with the employee.

Length of suspension (if any-typically three (3)days) _____

_____ _____

Employee signature Supervisor Signature

Date_____ Date_____

APPENDIX B
Professional Asbestos and Lead Service, Inc Soil Health & Safety Plan

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Revised 11/21/24

Soil Health & Safety Plan

For The

Alameda High School – Swim Center Modernization Project

Located at

2200 Central Avenue
Alameda, CA 94501

Scope of Work

The scope of work includes the removal and disposal of lead-containing soils discovered at the site.

Training Requirements

All PALS employees conducting hazardous materials abatement on this project will have the following:

- Lead-awareness training,
- Current Medical Evaluation,
- Current Fit-Test Documentation, and
- Current Blood Test Results.

Safety Manager

Eric Edsberg CHST- (408) 726-2283

- Certified Health & Safety Technician, and
- OSHA 500 & 510 Trainer.

Regulated Areas

All soil excavation /removal activities will occur within Lead Regulated Work Areas (RAs) by utilizing Lead barricade tape Lead Warning Signage and Orange Plastic Delineators.

Water Source

PALS will use the nearest available water source (hose bib) to provide water into the RA's.

Hygiene Facility

A hygiene facility consisting of a wash bucket, soap and clean disposable towels will be used for employee decontamination engaging in lead related activities. All PALS employees exiting the RA's will be required to remove their protective clothing and properly decontaminate themselves to include washing their boots with water and brushes.

No one will be allowed to enter the RA that does not have a direct need to do so. Persons entering the work area must follow all entry procedures, donning protective clothing, using the appropriate respiratory protective device, and complying with the requirements of the company's respiratory protection program.

- All generated waste streams other than soil (PPE, plastic sheeting, filters etc.) will be sampled by Waste StreM Characterization sampling to determine the appropriate disposal method.

Waste Characterization Sampling

All waste streams (i.e. suits, rags, gloves, etc.) will be tested by TTLC.

- If the TTLC result is less than 50 mg/kg that waste stream will be disposed of as non-hazardous waste.

- If the TTLC sample result is greater than 50 mg/kg but below 1000 mg/kg it will be analyzed by STLC.

- If the STLC result is less than 5 mg/l it will be disposed of as non-hazardous waste at the NWS Landfill.

- If the STLC result is greater than 5 mg/l the waste will be sampled by TCLP to determine if the waste stream is considered a RCRA or non-RCRA Waste for disposal at Clean Harbors in Buttonwillow, CA.

Personal Protection Equipment

Prior to entering the work area(s), all personnel will don respiratory protection, suit-up with protective disposable clothing (i.e. Tyvek coveralls, work boots, head covering, eye protection and gloves), this equipment will be worn at all times while inside the work area. If standard protective procedures are not followed, the person in non-compliance will be removed from the site immediately.

Respiratory Protection

PALS will be utilizing North half face negative pressure respirators with P-100 HEPA filters during all lead related removal activities. Respirators selected are from those approved by the National Institute for Occupational Safety and Health (NIOSH).

Removal and Disposal Procedures

Soil Excavation

Using wet methods, a Link belt 350 excavator with bucket and bobcat S650 will be used to remove the lead containing soil and place into awaiting tucks. The trucks will be capable of safely transporting lead-containing soil to Clean Harbors in Buttonwillow, CA.

Should an accidental spill happen while loading the trucks, all work will stop, and workers will immediately clean up the spilled soil using wet methods, shovels, brooms, and/or HEPA type vacuums and place into 6ml poly bags. The bags will then be loaded into the awaiting trucks with the other lead-containing soils.

Dust Control / Engineering Controls

Engineering controls used for this project may include the following:

- Drop sheeting / covering stockpiles (as necessary),
- Wet methods / using water to keep soil wet during excavations to prevent visible dust,
- Prompt loading of soil as it is being excavated,
- Covering the loads of soil once loaded,
- Removal of soil from equipment and tires prior top exiting the site / RAs,
- Worker decontamination (hygiene facilities),
- Removing soils track out from municipal streets and sidewalks (if observed),
- HEPA Vacuums.

See the Soil Management Plan for more details.

Waste Characterization Sampling

All waste streams (i.e. suits, rags, gloves, etc.) will be tested by TTLC.

- If the TTLC result is less than 50 mg/kg that waste stream will be disposed of as non-hazardous waste.

- If the TTLC sample result is greater than 50 mg/kg but below 1000 mg/kg it will be analyzed by STLC.

- If the STLC result is less than 5 mg/l it will be disposed of as non-hazardous waste at the NWS Landfill.

- If the STLC result is greater than 5 mg/l the waste will be sampled by TCLP to determine if the waste stream is considered a RCRA or non-RCRA Waste for disposal at Clean Harbors in Buttonwillow, CA.

Job Description and Responsibilities

Superintendent

The Superintendent is a CDPH certified lead abatement supervisor and EPA/AHERA Asbestos Supervisor trained and experienced in asbestos and lead abatement projects. He will be responsible for scheduling, coordinating with the general contractor and other subcontractors, conducting safety meetings and supervising PALS's work force.

The Superintendent will also be responsible for ensuring the following.

Before the Job

- All workers are on the medical surveillance program,
- All engineering controls and protective equipment are ready to be used on the job, and
- All employees have been trained, including respiratory training.

During the Job:

- That engineering controls are in place and used correctly, and
- All workers are wearing appropriate personal protective equipment and using good hygiene practices.

The Superintendent will be on site full time during any lead related activities and will conduct inspections of the work area to ensure that control measures, work practices and personal protective equipment are used. The Superintendent will also ensure a safe working environment.

Medical Surveillance Program

Purpose

To assure a healthy work force through:

- Selection of employees physically able to safely work in lead-exposed tasks, and
- Monitoring their health and exposure on a regular basis.

Scope

This program applies to all PALS employees who are exposed to lead at or above an eight-hour time weighted average concentration of 30 ug/m3 for more than thirty days per year, or who are otherwise considered to be at potential risk of significant lead exposure. This procedure has been written primarily to meet requirements of CCR Title 8 1532.1 Lead in Construction Standards and as such will be revised when required to remain in compliance with applicable regulations.

Requirements

Initial Medical Examination

Each covered employee will have an initial medical evaluation to determine his or her ability to safely work in lead-exposed tasks. Assignment to such tasks is contingent upon the examining physician's opinion that the employee is medically qualified to wear a respirator and to work in a lead-contaminated environment when using appropriate personal protective equipment.

Annual Medical Examination:	Annual medical examinations will be conducted for each employee who exceeds or is expected to exceed the action level for more than 30 (thirty) days in a year.
Special Medical Examinations:	Special medical examinations will be conducted if the employee develops signs or symptoms commonly

	associated with lead intoxication; if the employee desires medical advice concerning the effects of lead; If the employee has difficulty wearing his or her assigned respirator; if otherwise determined medically necessary for the follow-up of any worker medically removed from potential lead exposure.
Biological Monitoring:	Every employee for this project will undergo blood lead and ZPP testing prior to mobilization on the project and within two (2) days after completion of lead work on this project. Should a worker be removed from exposure to lead because of a high blood lead concentration, he or she will be tested monthly during the period of removal.
Medical Removal:	If at any time a workers blood lead concentration's meet or exceed 50 ug/dl, the worker will be removed from further workplace exposure for at least 2 weeks or until the lead concentration falls to an acceptable concentration. Any worker who is determined by the physician to no longer be medically qualified to work in lead-exposed tasks will be removed from those tasks.

Responsibilities

Site Superintendent:	The Site Superintendent will be designated to coordinate scheduling of medical services by the local medical provider.
Local Medical Provider:	The Local Medical Provider will conduct medical examinations and biological monitoring tests according to this section. The Provider will forward specimens for lead and ZPP analysis to the designated laboratory and will forward results of the of blood lead to Allied Environmental, Inc.

Medical Examination Protocol

Initial and periodic medical examinations consist of the following:

- Detailed medical and occupation history, with particular attention to past lead exposure and health concerns associated with lead,
- Physical examination with particular attention to potential for lead-related abnormalities,
- Blood pressure, pulse, height and weight,
- Pulmonary function tests,
- Chest x-ray, PA only, every other year, and
- Blood tests (lead, ZPP, Complete blood count, chemistry screen).

Medical Records

Employees will be provided access to their medical records within fifteen days of receipt of a written request from the employee or the employee's designated representative. All employee records will be maintained for at least the duration of employment plus thirty years.

Lead

Permissible exposure limit

PALS will assure that no employee is exposed to lead at concentrations greater than fifty micrograms per

cubic meter of air (50mg/m^3) averaged over an 8-hour period.

If an employee is exposed to lead for more than 8 hours in any work day the employees' allowable exposure, as a time weighted average (TWA) for that day, will be reduced according to the following formula:

- Allowable employee exposure (in mg/m 3) = 400 divided by hours worked in the day.

When respirators are used to limit employee exposure as required, employee exposure may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn.

Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

Exposure Assessment

PALS will initially determine if any employee may be exposed to lead at or above the action level (AL). Employee exposure is that exposure which would occur if the employee were not using a respirator.

PALS will collect personal samples representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level.

- Full shift personal samples will be representative of the monitored employee's regular, daily exposure to lead.

Protection of employees during assessment of exposure

Where lead is present, until PALS performs an employee exposure assessment the employee performing any of the listed tasks is not exposed above the PEL, ECPR will treat the employee as if the employee were exposed above the PEL, and not in excess of ten (10) times the PEL, and will implement employee protective measures.

In addition, where PALS has any reasons to believe that an employee performing the task may be exposed to lead in excess of the PEL, until PALS performs an employee exposure assessment as required and documents that the employee's lead exposure is not above the PEL, PALS will treat the employee as if the employee were exposed above the PEL and will implement employee protective measures.

Waste Storage

See the Soil Management Plan for more details.

Traffic Control

See the Soil Management Plan for more details.

Inclement Weather

See the Soil Management Plan for more details.

Notification Requirements

As required, PALS will notify, in writing, the nearest District Office of DOSH prior to commencement of any lead-related activity at least 24 hours prior.

Lead Soil Work Plan Prepared By:

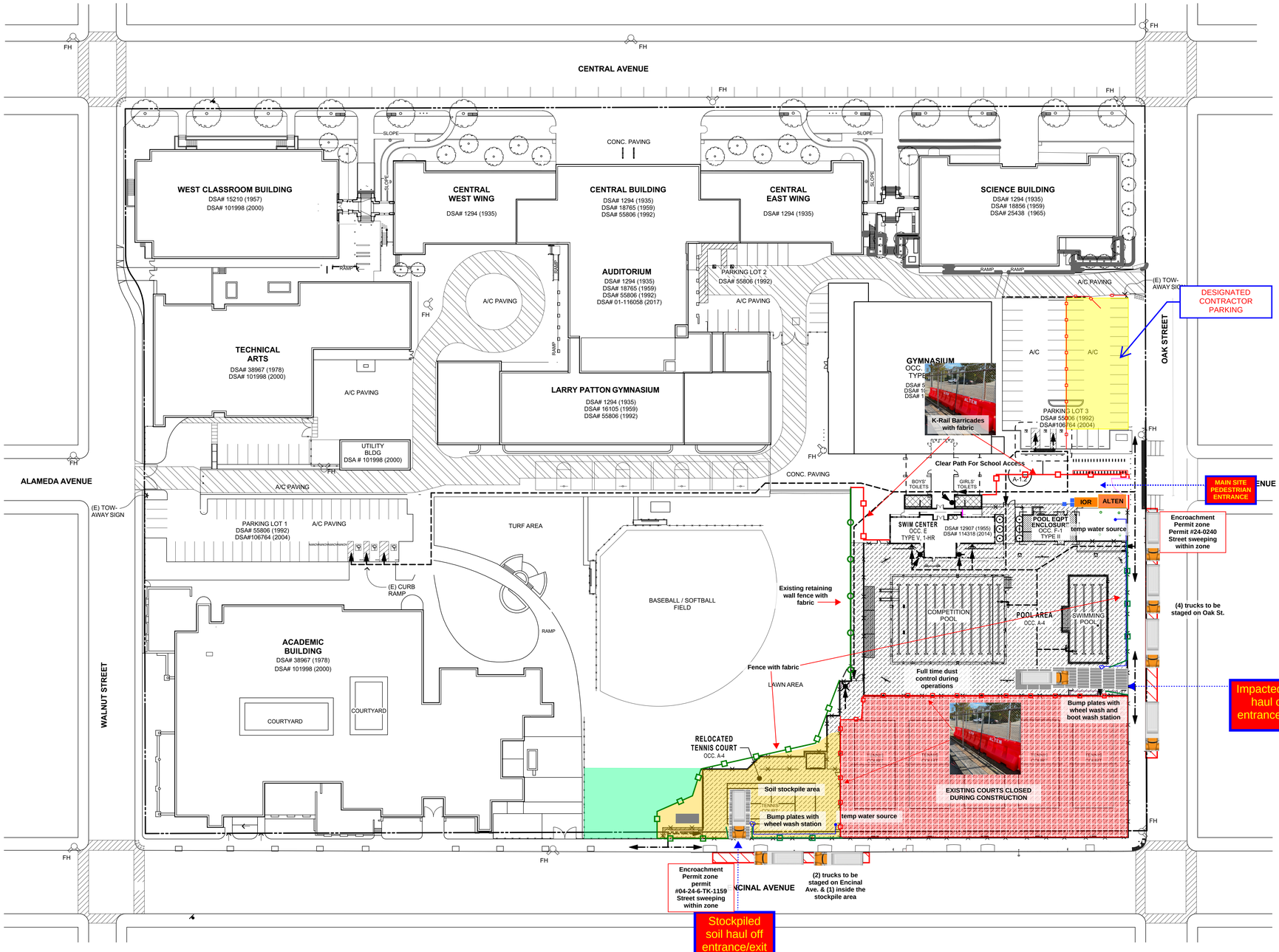
Professional Asbestos & Lead Services LLC



Steve Whittington, CAC, CDPH
General Manager/Estimator

APPENDIX C
Alten's Site Logistics Plan

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POOL SITE ACCESS, FLS 1

1" = 40'

GENERAL NOTES

1. FOR BUILDING CODE ANALYSIS SEE G-0.4.
2. ALL NEW WORK SHALL BE ACCESSIBLE. ALL NEW WALKWAYS SHALL CONFORM TO CBC 1133B.7 PAVING MATERIALS NOT OTHERWISE NOTED SHALL BE CONCRETE PER DETAIL.
   - CONCRETE SHALL SLOPE MIN. 1/8" PER FOOT AWAY FROM BUILDINGS, S.C.D.
   - EXTERIOR DOOR LANDINGS SHALL SLOPE 1/4" PER FOOT MAX. AWAY FROM BUILDING FOR DRAINAGE.
3. REFER TO CIVIL ENGINEERING DWGS FOR SIDEWALK GRADES.
4. REFER TO CIVIL ENGINEERING DRAWINGS FOR SITE FEATURES NOT OTHERWISE INDICATED.
5. PARKING AND PEDESTRIAN SITE SIGNAGE SHALL COMPLY WITH CBC SECTIONS 11B-502.6 & 11B-703.7.2.1
6. BUILDING SIGNAGE SHALL COMPLY WITH CBC 11B-703
7. PEDESTRIAN GATES SHALL COMPLY WITH CBC 1008.2 & 11B-206.5

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT: THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT THE P.O.T. WAS EXAMINED AND ANY ELEMENT, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT

1) HAVE BEEN IDENTIFIED AND
2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.

ANY NONCOMPLIANT ELEMENT, COMPONENT, OR PORTION OF THE P.O.T. THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE-COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOUCMENT.

THE BARRIER FREE PATH OF TRAVEL INDICATED HAS BEEN PROVIDED IN ACCORDANCE WITH IR 11B-10 AND SHALL COMPLY WITH THE FOLLOWING:
- 1:20 MAXIMUM SLOPE WITHOUT A RAMP
- 1:48 MAXIMUM CROSS SLOPE
- NO ABRUPT VERTICAL CHANGES EXCEEDING 1/4", CHANGES BETWEEN 1/4" TO 1/2" VERTICAL CAN BE AT 1:2 MAX SLOPE. CHANGES LESS THAN 1/4" CAN BE VERTICAL
- 48" MIN. CLEAR IN WIDTH (60" MIN PASSING SPACE)
- NON-SLIP SURFACE -HEAVY BROOM FINISH AT EXTERIOR CONCRETE PAVING WHERE SLOPED >6%, MEDIUM BROOM FINISH AT SLOPES <6%
- MAINTAIN FREE OF OVERHANGING OBSTRUCTIONS TO 80" MIN
- PROTRUDING OBJECTS NOT GREATER THAN 4" SHALL BE MOUNTED BETWEEN 27" AND 80" A.F.F.
- WHERE A DRAIN INLET IS IN THE PATH OF TRAVEL, THE GRATE SHALL BE ORIENTED SO THAT MAX OPENING IS 1/2" & LONG DIM IS PERPENDICULAR TO THE PREDOMINANT DIRECTION OF PEDESTRIAN TRAVEL.
- CONTRACTOR TO VERIFY THAT NO BELOW-GRADE PULL BOXES OCCUR WITHIN THE AREA OF TRUNCATED DOMES

LEGEND

- (E) BUILDING
- UNCONDITIONED POOL EQUIPMENT ENCLOSURE BULDING
- MODERNIZED SITEWORK
- (E) 20' WIDE EMERGENCY VEHICLE ACCESS
- (E) ACCESSIBLE RESTROOM
- (E) ACCESSIBLE PATH OF TRAVEL PER GENERAL NOTES ABOVE
- (E) ACCESSIBLE PATH OF TRAVEL AT PUBLIC RIGHT OF WAY
- (E) ACCESSIBLE ENTRY/ EXTERIOR DOOR AT P.O.T.
- FH (E) FIRE HYDRANT
- (E) ACCESSIBLE DRINKING FOUNTAIN
- (E) ACCESSIBLE BOTTLE-FILL STATION
- ACCESSIBLE HI-LO BOTTLE-FILL DRINKING FOUNTAIN
- ACCESSIBLE RINSE-OFF SHOWER

PARKING ANALYSIS

	TOTAL SPACES PROVIDED (E)	TOTAL SPACES PROVIDED (N)	ACC SPACES REQUIRED *	ACC SPACES PROVIDED
PARKING LOT 1	56	56	3 (1 VAN)	3 (1 VAN)
PARKING LOT 2	16	16	1 (1 VAN)	2 (1 VAN)
PARKING LOT 3	54	54	3 (1 VAN)	3 (1 VAN)

* CBC SECTION 11B-208.2 & TABLE 11B-208.2
1-25 PARKING SPACES: 1 ACCESSIBLE SPACES REQUIRED
26-50 PARKING SPACES: 2 ACCESSIBLE SPACES REQUIRED
51-75 PARKING SPACES: 2 ACCESSIBLE SPACES REQUIRED
PER 11B-208.2.4: 1 VAN ACC SPACE REQUIRED PER 6 ACC SPACES

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

LICENSED ARCHITECT
MARK QUATTROCCHI
LICENSE # C15438
EXP JULY 31, 2025
STATE OF CALIFORNIA

SIGNED: DECEMBER 18, 2023

ALAMEDA HIGH SCHOOL

SWIM CENTER MODERNIZATION

2200 CENTRAL AVE,
ALAMEDA, CA 94501

ALAMEDA UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-121390
ARCH PROJECT NO: 2112.00
DRAWN BY: BSC, TF
DRAWING SCALE: 1" = 40'-0"
PTN: 61119-160 FILE NO: 1-H1

DSA SUBMITTAL
DECEMBER 18, 2023

SHEET TITLE

POOL SITE ACCESSIBILITY, FIRE & LIFE SAFETY PLAN

SHEET NUMBER

G-0.3

BIMcloud: archiserver - BIMcloud Basic for Archicad 25/2112.00 AHS SWIM CTR/2112.00 AHS SWIM CENTER SITE.12/18/2023 3:22 PM



FIGURE 3
ALAMEDA TRUCK ROUTES

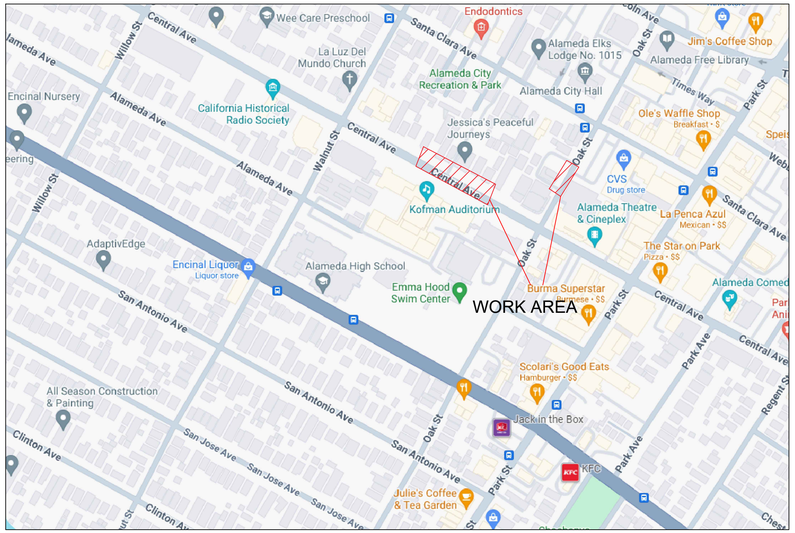
- Truck Route
- Temporary Truck Route
- No Truck Route

TEMPORARY TRAFFIC CONTROL PLAN
CITY OF ALAMEDA

EXHIBIT A

GENERAL TRAFFIC CONTROL NOTES:

1. THE APPLICATION OF THE SPECIFICATION FOR THE WORKSITE TRAFFIC CONTROL SHALL CONFORM TO THE STATE OF CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) , CHAPTER 6 OF THE 2014 EDITION, THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH MANUAL), LATEST EDITION, CALTRANS SPECIFICATIONSAND STANDARD PLANS, AND THE CITY OF ALAMEDA STANDARDS LATEST EDITIONS.
2. THE NAME AND PHONE NUMBER (24-HOUR AVAILABILITY) OF THE CONTRACTOR'S SAFETY COORDINATOR AND TRAFFIC CONTROL DEVICE MAINTENANCE INSPECTOR SHALL BE PROVIDED TO THE CITY INSPECTOR. ANY CHANGE IN THE ASSIGNED PERSONNEL OR PHONE NUMBER SHALL BE REPORTED IMMEDIATELY TO THE INSPECTOR. THE CONTRACTORS SAFETY COORDINATOR AND/OR TRAFFIC CONTROL DEVICE MAINTENANCE INSPECTOR SHALL MAKE PERIODIC INSPECTIONS OF TRAFFIC CONTROL DEVICES THROUGHOUT THE DAY AND NIGHT TO INSURE THAT CONTROLS ARE PROPERLY LOCATED AND IN GOOD REPAIR. THE ABOVE PERSONNEL SHALL HAVE THE WORKSITE TRAFFIC CONTROL PLANS ON SITE AND AVAILABLE AT ALL TIMES.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING WORK FOR THE PROJECT TO INSTALL AND MAINTAIN THE TRAFFIC CONTROL DEVICES AS SHOWN HEREIN, AS WELL AS ANY SUCH ADDITIONAL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CITY OF ALAMEDA. THE TRAFFIC CONTROL PLAN INSTALLED SHALL PROVIDE FOR SAFE MOVEMENT OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH AND AROUND THE WORK AREA AND PROVIDE MAXIMUM PROTECTION AND SAFETY TO CONSTRUCTION WORKERS.
4. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY TO PRESERVE AND CONTINUITY.
5. THE CITY OF ALAMEDA HAS THE RIGHT TO OBSERVE THE TRAFFIC CONTROL IN USE AND TO MAKE ANY CHANGES DEEMED NECESSARY BY FIELD CONDITIONS. ANY CHANGES SHALL SUPERSEDE THESE PLANS AND WILL BE DONE SOLELY AT THE CONTRACTOR'S EXPENSE.
6. ORANGE COLORED ENGINEERING GRADE REFLECTIVE OR BRIGHTER SHEETING SHALL BE USED AS THE BACKGROUND FOR ALL CONSTRUCTION MAINTENANCE WORK ZONE AND WARNING SIGNS USED WITHIN THE WORKSITE TRAFFIC CONTROL AREA, IF NOT SPECIFIED BY THE STANDARDS LISTED IN NOTE 1 ON THIS PLAN.
7. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FOLLOWING THE COMPLETION OF THE CONSTRUCTION PHASE. THE PERMANENT TRAFFIC CONTROL DEVICES SHALL BE RESTORED BY THE CONTRACTOR AS OPERATIONS REVERT BACK TO THE DEVICES' INTENDED USE.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ACCESS TO ALL PUBLIC AND PRIVATE DRIVEWAYS IN THE CONSTRUCTION AREA NOT RELATED TO THE SPECIFIC PROJECT. CONTRACTOR IS TO NOTIFY NEIGHBORING BUSINESSES 72-HOURS IN ADVANCE OF CONSTRUCTION.
9. ALL NECESSARY ENCROACHMENTS PERMITS SHALL BE OBTAINED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
10. ALL CONFLICTING SIGNS SHALL BE COVERED.
11. THE CONTRACTOR SHALL REMOVE ANY EXCESS AND/OR CONFLICTING STRIPING AND PAVEMENT MARKERS AS NECESSARY BY GRINDING.
12. THE CONTRACTOR SHALL PLATE OPEN TRENCHES AT THE END OF EACH WORK DAY PER CALTRANS STEEL PLATE BRIDGING UTILITY PROVISIONS TR-0157.



VICINITY MAP

VICINITY MAP (N.T.S)

LEGEND:

= TYPE II BARRICADE W/SIGN	= WORK AREA
= TRAFFIC CONE	P.T.T.A.N.S.A.T.S. = POST TEMPORARY TOW AWAY NO STOPPING ANY TIME SIGNS
= PORTABLE SIGN	= EXISTING DRIVEWAY
= CONE W/ SIGN	= ABSORB 350 SYSTEM 3 ELEMENTS
= EXISTING SIGN	= K-RAIL
= TYPE III BARRICADES W/SIGN	= SIGNALIZED INTERSECTION
= FLAGGER	= EXISTING LANE FLOW DIRECTION
= DIRECTION OF TRAFFIC FLOW	CMS = CHANGEABLE MESSAGE SIGN

Contact

Contractor's name: Alten Construction LLC

Contractor's Address: 1141 Marina Way S
Richmond, CA 94804

Contact Name: Harry Torrano

Contact Phone Number:
(415) 559-6063

TABLE 1
TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING

SPEED (S)	MINIMUM TAPER LENGHT * FOR WIDTH OF OFFSET 12 FEET (W)					MAXIMUM CHANNELIZER DEVICE SPACING		
						X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	LONGITUDINAL BUFFER (TABLE VI-1)	TAPER	TANGENT	CONFLICT
MPH	FT	FT	FT	FT	FT	FT	FT	FT
20	160	80	40	30	35	20	40	10
25	250	125	65	45	55	25	50	12
30	360	180	90	60		25	60	15
35	490	245	125	85	120	25	70	17
40	640	320	160	110	170	25	80	20
45	1080	540	270	180	220	45	90	22
50	1200	600	300	200	280	50	100	25
55	1320	660	330	220	335	50	100	25
60	1440	720	360	240	415	50	100	25
65	1560	780	390	260	485	50	100	25
70	1680	840	420	280	550*	50	100	25
75	1800	900	450	300	625*	50	100	25

FOR OTHER OFFSETS: TAPER LENGTH FORMULA:
40 MPH OR LESS L=WS²/60
45 MPH OR MORE L=WS
L = TAPER LENGHT W = WIDTH OF OFFSET S = POSTED SPEED, OF-PEAK 85TH-PERCENTILE

TABLE 3 – ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS*		
	A	B	C
	FT	FT	FT
URBAN – 25 MPH OR LESS	100	100	100
URBAN – MORE THAN 25 MPH TO 40 MPH	250	250	250
URBAN – MORE THAN 40 MPH (45–50)	350	350	350
RURAL (55–60 MPH)	500	500	500
EXPRESSWAY / FREEWAY (65+ MPH)	1000	1500	2640

REGISTERED PROFESSIONAL ENGINEER
DON P. TRAN
No. 2074
Exp. 06-30-24
TRAFFIC
STATE OF CALIFORNIA

Under Ground Service Alert of Southern California
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

NTS TRAFFIC SOLUTIONS

PROJECT LOCATION:
22000 CENTRAL AVE.
ALAMEDA, CA

PROJECT NAME:

PRIME CONTRACTOR:
ALTEN CONSTRUCTION

CONTACT:
JEFF WITZELBERGER
(415) 701-2641

CITY OF ALAMEDA
DEPARTMENT OF PUBLIC WORK

ENGINEER, TRAFFIC DIVISION — DATE
RECOMMENDED BY:
ACCEPTED BY:
TRAFFIC DIVISION — DATE
PERMIT ENGINEER — DATE

ENGINEER STAMP:

REV	DATE	REV	DATE	

REVIEWED BY/ APPROVED BY:

CITY ENGINEER:

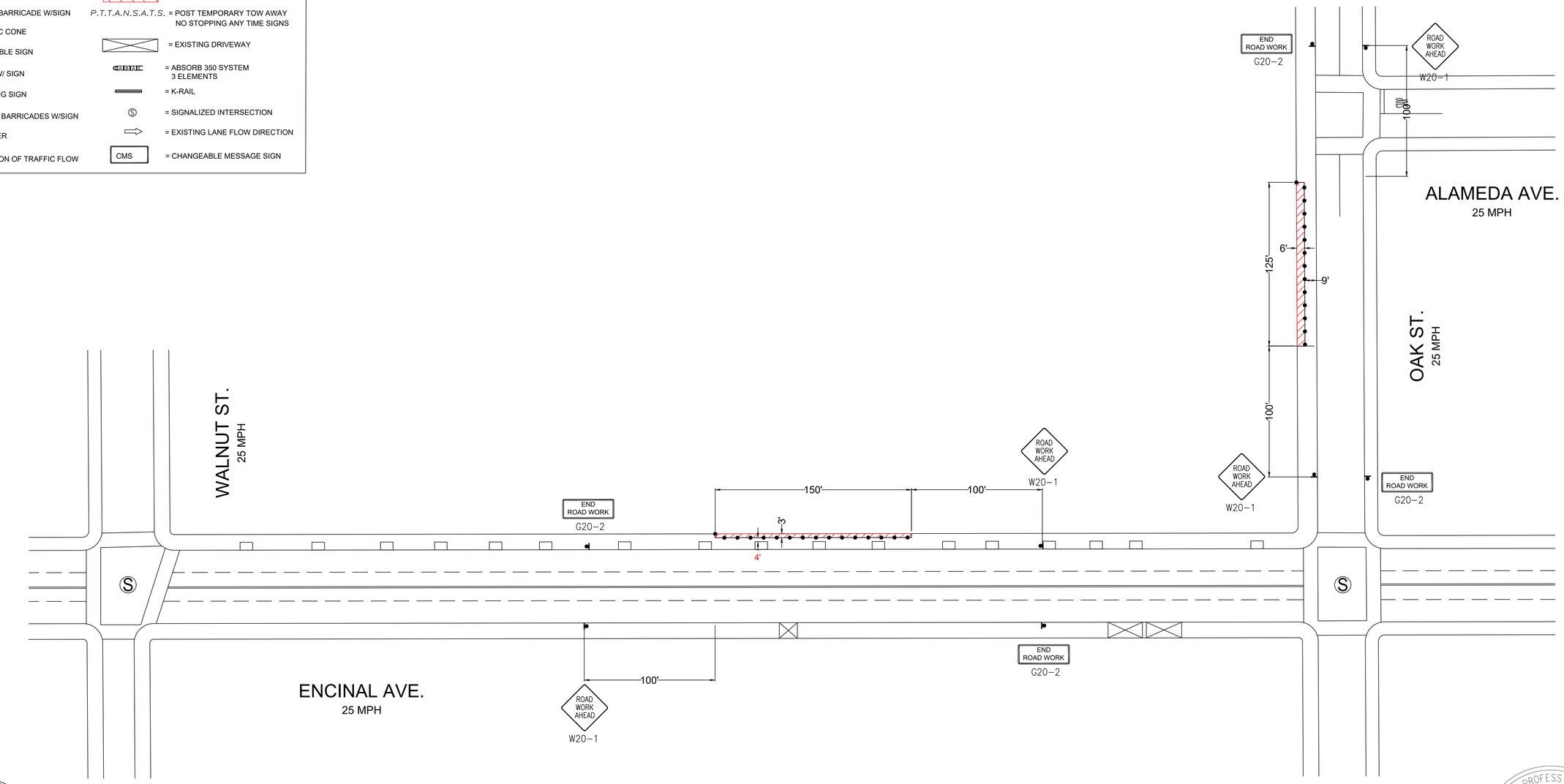
DRAWN BY: FABRIZIO V.
DESIGNED BY: FABRIZIO V.
CHECKED BY:
LICENSE: 787313 C31/D42

SCALE: N.T.S
DATE: 5/21/2024
BRANCH: CA60
DRAWING NO: 24-061FV

TEMPORARY TRAFFIC CONTROL PLAN
CITY OF ALAMEDA

LEGEND:

- = TYPE II BARRICADE W/SIGN
- = TRAFFIC CONE
- = PORTABLE SIGN
- = CONE W/ SIGN
- = EXISTING SIGN
- = TYPE III BARRICADES W/SIGN
- = FLAGGER
- = DIRECTION OF TRAFFIC FLOW
- = WORK AREA
- P.T.T.A.N.S.A.T.S. = POST TEMPORARY TOW AWAY NO STOPPING ANY TIME SIGNS
- = EXISTING DRIVEWAY
- = ABSORB 350 SYSTEM 3 ELEMENTS
- = K-RAIL
- = SIGNALIZED INTERSECTION
- = EXISTING LANE FLOW DIRECTION
- CMS = CHANGEABLE MESSAGE SIGN



SCALE: 1" = 40'

50' 40' 20' 0' 40' 80' 120'

10' 20' 20' 40' 40' 40'

REF: SCALE ON 24"X36" PRINT, USE SCALE ABOVE IF OTHER SIZE.

REGISTERED PROFESSIONAL ENGINEER
DON P. TRAN
No. 2074
Exp. 06-30-24
TRAFFIC
STATE OF CALIFORNIA

Under Ground Service Alert of Southern California
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

NTS TRAFFIC SOLUTIONS

PROJECT LOCATION:
22000 CENTRAL AVE.
ALAMEDA, CA

PROJECT NAME:

PRIME CONTRACTOR:
ALTEN CONSTRUCTION

CONTACT:
JEFF WITZELBERGER
(415) 701-2641

CITY OF ALAMEDA
DEPARTMENT OF PUBLIC WORK

Recommended By: Date:

Accepted By: Date:

ENGINEER STAMP:

REV	DATE	DESCRIPTION:

REVIEWED BY/ APPROVED BY:

CITY ENGINEER:

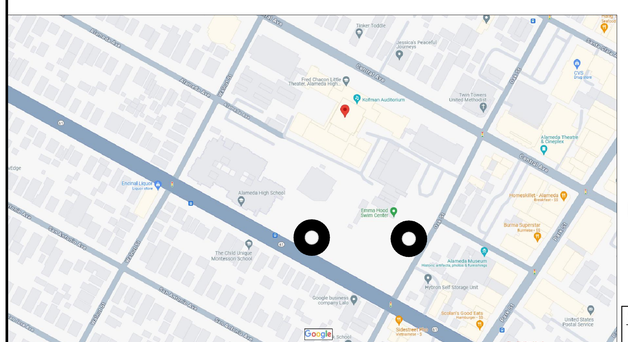
DRAWN BY: FABRIZIO V.
DESIGNED BY: FABRIZIO V.
CHECKED BY:
LICENSE: 787313 C31/D42

SCALE: 1"=40'
DATE: 5/21/2024
BRANCH: CA60
DRAWING NO: 24-061FV

NOTES:
1. PROVIDE FLAGGER FOR DRIVEWAY ACCESS
2. KEEP ALL DRIVEWAYS OPEN/CLEAR DURING CONSTRUCTION.
3. USE CONES WITH 18"MIN. HEIGHT AS CHANNELIZING DEVICE. PORTABLE DELINEATORS PLACED AT ONE–HALF THE SPACING INDICATED FOR TRAFFIC CONES, MAY BE USED INSTEAD OF CONES FOR DAYTIME CLOSURES ONLY.
4. ALL CONES USED FOR LANE CLOSURES DURING THE HOURS OF DARKNESS SHALL BE FITTED WITH RETRO–REFLECTIVE BANDS OR SLEEVES AS SPECIFIED IN THE SPECIFICATIONS.
5. THE MAXIMUM SPACING BETWEEN CONES ALONG A TANGENT AND A TAPER SHALL BE APPROXIMATELY AS SHOWN ON TABLE 2.
6. EACH ADVANCE WARNING SIGN SHALL BE EQUIPPED WITH AT LEAST TWO FLAGS FOR DAYTIME CLOSURES. EACH FLAG SHALL BE AT LEAST 16"x16" IN SIZE AND SHALL BE ORANGE OR FLUORESCENT RED–ORANGE IN COLOR. FLASHING BEACON SHALL BE PLACED DURING DARKNESS INSTEAD OF FLAGS.
7. FLASHING ARROW SIGN SHALL BE EITHER TYPE I OR TYPE II
8. FOR ADDITIONAL INFORMATION, REFER TO THE CALIFORNIA MUTCD (LATEST EDITION)
9. NOTIFY PUBLIC WORKS INSPECTOR 48 HRS PRIOR TO BEGINNING WORK.
10. TRENCH EXCAVATIONS WITHIN THE ROADWAY SHALL BE COVERED WITH STEEL PLATES. STEEL PLATE WARNING SIGNS SHALL BE USED.
11. CONTRACTOR MUST SET–UP AND TEAR DOWN DAILY.
12. PARTIAL STREET CLOSURE REQUIRED APPROVAL BY DEPT. OF PUBLIC WORKS

LEGEND:

- SURFACE MOUNTED DELINEATOR W/ WHITE REFLECTIVE TAPE FOR EDGELINES AND DOUBLE YELLOW TAPE FOR CENTERLINE.
- STANDARD SIGN WITH STAND.
- SIGN ON CONETOP.
- TYPE II BARRICADE W/ STANDARD SIGN & FLASHING BEACON.
- TYPE III BARRICADE W/ STANDARD SIGN & FLASHING BEACON.
- TANSAT — POST TEMPORARY NO STOPPING ANYTIME SIGN.
- CONSTRUCTION WORK AREA.
- GRAPHIC SYMBOLS TO SHOW FLOW OF TRAFFIC – NOT A PAVEMENT MARKING.
- EXISTING PAVEMENT ARROW MARKINGS.
- PORTABLE TUBULAR DELINEATORS OR CONES.



CITY OF ALAMEDA
COVER PAGE
2200 CENTRAL AVE.

EXHIBIT B

SCOPE OF WORK:
MATERIAL DELIVERIES AND OFFHAUL.

WORK HOURS:
~~8:00 AM~~ TO 5:00 PM; MONDAY – FRIDAY
7:00 AM

SIGN LEGEND:

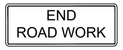
 W20–1	 G20–2	 C30A(CA)	 W11–1
 W5–1	 C12(CA)	 W21–5b	 W16–1

TABLE 1

RECOMMENDED SIGN SPACING FOR ADVANCE WARNING SIGN SERIES AND MINIMUM TAPER LENGTH

A	B	C		
		MINIMUM TAPER LENGTHS (L) (FEET) FOR 12–FOOT LANE		
APPROACH SPEED (S) (MPH)	MINIMUM DISTANCE (FEET) BETWEEN SIGNS AND FROM LAST SIGN TO TAPER	L	1/2L	1/3L
25	100	125	65	45
30	250	180	90	60
35	250	245	125	85
40	250	320	160	110
45	350	540	270	180
50	350	600	300	200
55+	1000	660	330	220

L FOR MERGE TAPER
1/2L FOR SHIFT TAPER

TABLE 2

RECOMMENDED BUFFER LENGTH AND MAXIMUM CHANNELIZER/CONE SPACING

A	B	C		
		MAX CONE SPACING		
APPROACH SPEED (S) (MPH)	BUFFER LENGTH (FEET)	TAPER	TANGENT	CONFLICT(*)
25	155	25	50	12
30	200	30	60	15
35	250	35	70	17
40	305	40	80	20
45	360	45	90	22
50	425	50	100	25
55+	495	55	100	27

(*) FACING OPPOSING TRAFFIC, ADJACENT TO WORK AREA OR CONFLICTING WITH EXISTING STRIPING

NOTES:

Taper Formula

L = S X W FOR SPEEDS GREATER THAN 45 MPH

$L = \frac{W \times S^2}{60}$ FOR SPEEDS OF 40 MPH OR LESS

L = MINIMUM LENGTH OF TAPER (FEET)
S = APPROACH SPEED (MPH) = POSTED SPEED LIMIT OR OFF–PEAK 85TH % SPEED PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED

W = WIDTH OF OFFSET (FEET)

REGISTERED PROFESSIONAL ENGINEER
DON P. TRAN
No. 2074
Exp. 06–30–24
TRAFFIC
STATE OF CALIFORNIA

PROJECT LOCATION: 2200 CENTRAL AVE ALAMEDA, CA 94501	**WORK TYPE:** MATERIAL DELIVERIES AND OFFHAUL	Underground Service Alert Call: TOLL FREE 1–800 227–2600 (or 811) 2 WORKING DAYS BEFORE YOU DIG			
PRIME CONTRACTOR: ALTEN CONSTRUCTION LLC 1141 MARINA WAY RICHMOND, CA 94804	**CONTACT:** HARRY TORRANO (415)559–6063		REV	DATE	DESCRIPTION

NTS TRAFFIC SOLUTIONS
564 143rd Ave
San Leandro, CA 94578
#787313 C31/ D42
Ph. (855) 351-1114 C. (510)8463421

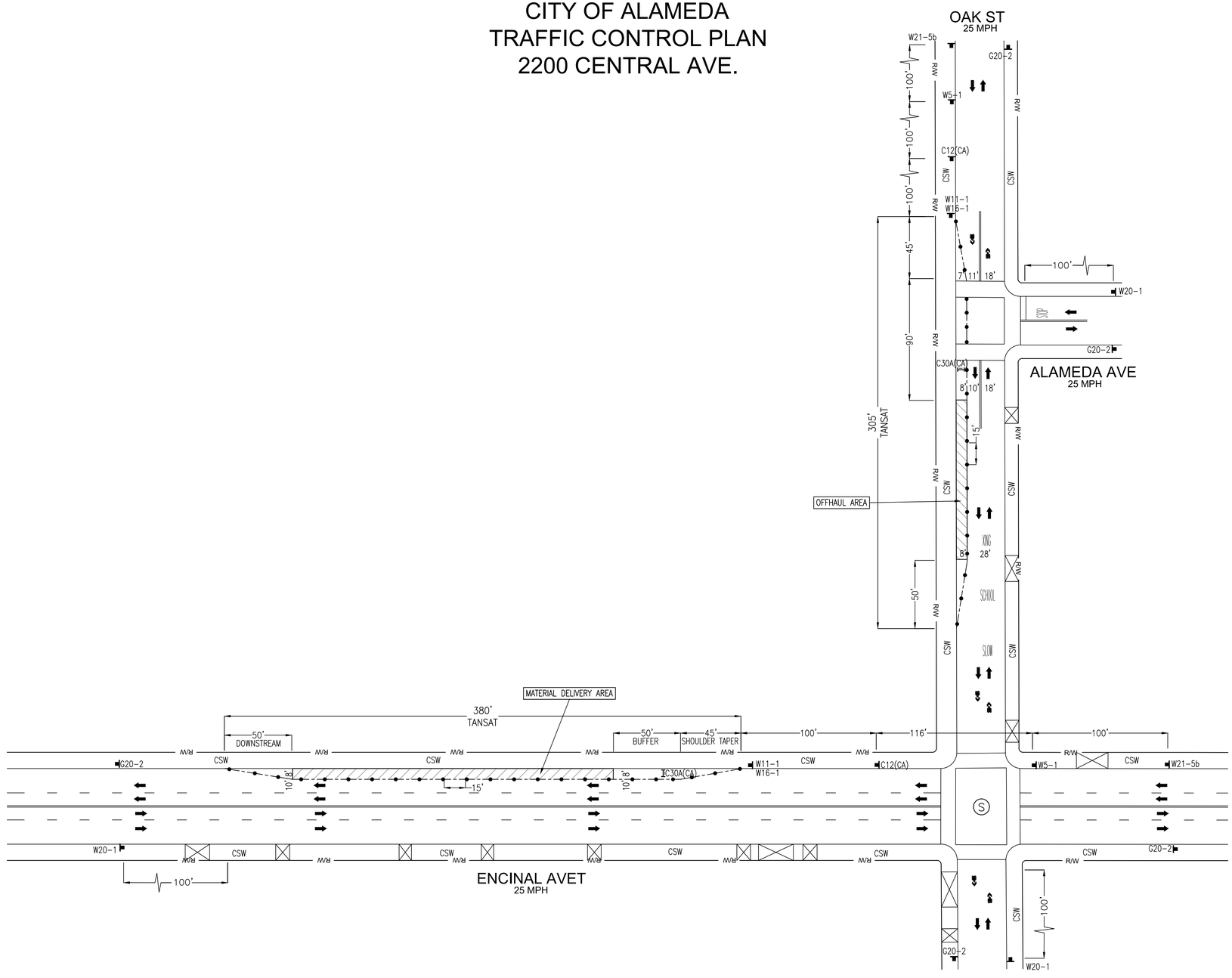
CITY OF ALAMEDA
TEMPORARY TRAFFIC CONTROL PLAN FOR 2200 CENTRAL AVE.

DATE	DRAWN	SCALE
6/03/24	H.D.	1" = 40'
	DESIGN H.D.	

SHEET NO.
TC–1
1 OF 2 SHEETS

ONE PHASE
WORK HOURS: ~~8:00 AM~~ 7:00 AM TO 5:00 PM; MON – FRI

CITY OF ALAMEDA
TRAFFIC CONTROL PLAN
2200 CENTRAL AVE.



PEDESTRIAN NOTES
A DEDICATED INDIVIDUAL WILL BE ASSIGNED THE RESPONSIBILITY OF ESCORTING PEDESTRIANS THROUGH THE WORK AREA IN ACCORDANCE WITH THREE MAJOR CONSIDERATIONS: 1. PEDESTRIANS SHOULD NOT BE LED INTO DIRECT CONFLICT WITH WORK SITE VEHICLES, EQUIPMENT OR OPERATIONS 2. PEDESTRIANS SHOULD NOT BE LED INTO DIRECT CONFLICT WITH MAINLINE TRAFFIC MOVING THROUGH OR AROUND THE WORK SITE 3. PEDESTRIANS SHOULD BE PROVIDED WITH A REASONABLY SAFE, CONVENIENT AND ACCESSIBLE PATH THAT REPLICATES AS NEARLY AS PRACTICAL THE MOST DESIRABLE CHARACTERISTICS OF THE EXISTING SIDEWALK OR FOOTPATH

"NO PARKING" SIGNS SHALL BE POSTED 72 HOURS PRIOR TO STARTING OPERATION

CONTRACTOR TO PROVIDE ACCESS TO DRIVEWAYS AT ALL TIMES
AN INDIVIDUAL WILL BE ASSIGNED TO MAINTAIN THE CONES WHILE THE WORK ZONE IS IN PLACE
CONTACT PROPERTY OWNER(S) 72 HOURS PRIOR TO START OF WORK

REGISTERED PROFESSIONAL ENGINEER
DON P. TRAN
No. 2074
Exp. 06-30-24
TRAFFIC
STATE OF CALIFORNIA

SCALE: 1" = 40'

Underground Service Alert
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

REV	DATE	DESCRIPTION

NTS TRAFFIC SOLUTIONS
564 143rd Ave
San Leandro, CA 94578
#787313 C31/ D42
Ph. (855) 351-1114 C. (510)8463421

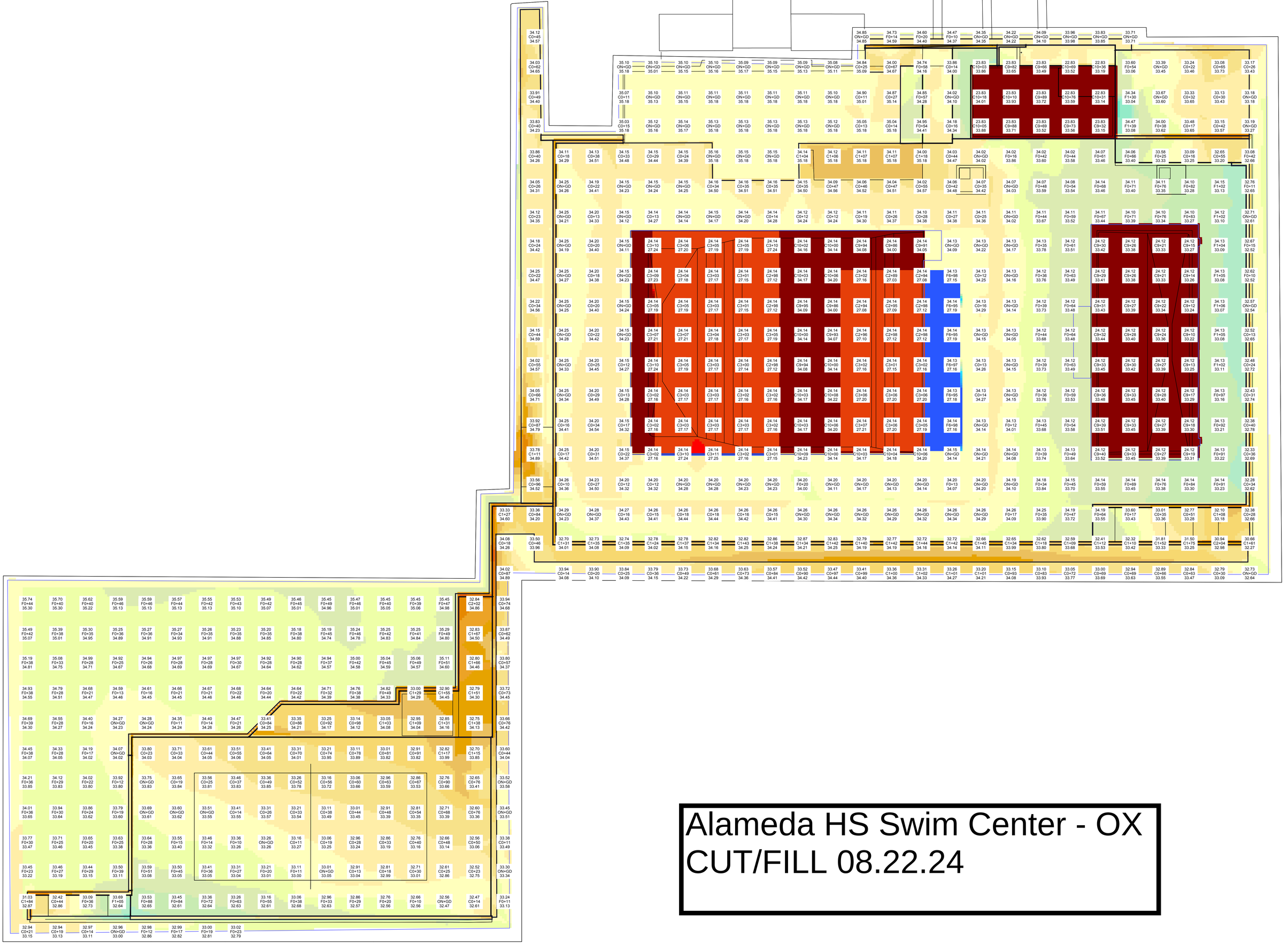
CITY OF ALAMEDA
TEMPORARY TRAFFIC CONTROL PLAN FOR 2200 CENTRAL AVE.

DATE	DRAWN	SCALE
6/03/24	H.D.	1" = 40'
	DESIGN H.D.	

SHEET NO.
TC-2
2 OF 2 SHEETS

APPENDIX D
Alameda HS Swim Center - OX Cut Fill Map

© 2024 Kleinfelder



Alameda HS Swim Center - OX
CUT/FILL 08.22.24

APPENDIX E
Clean Harbors Waste Material Profile Sheet

© 2024 Kleinfelder

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH2863649

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # ***CAL000159754*** GENERATOR NAME: ***Alameda Unified School District***

GENERATOR CODE (Assigned by Clean Harbors) ***AL45631*** CITY ***Alameda*** STATE/PROVINCE ***CA*** ZIP/POSTAL CODE ***94501***

ADDRESS ***2200 Central Ave.*** PHONE: **(510) 926-5650**

CUSTOMER CODE (Assigned by Clean Harbors) ***DI0631*** CUSTOMER NAME: ***Dirt Shop Inc***

ADDRESS ***1485 Bayshore Blvd MB# 141*** CITY ***San Francisco*** STATE/PROVINCE ***CA*** ZIP/POSTAL CODE ***94124***

B. WASTE DESCRIPTION

WASTE DESCRIPTION: ***Non-RCRA Hazardous Waste, Solid (Soil with Lead)***

PROCESS GENERATING WASTE: **Site grading for new high school athletic facility. Previous use was high school swimming pools and associated out-buildings. No known sources of Lead contamination from site. Lead contamination believed to be from fill soil delivered to the site from unknown location.**

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER ? **No**

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- [x] SOLID WITHOUT FREE LIQUID
- [ ] POWDER
- [ ] MONOLITHIC SOLID
- [ ] LIQUID WITH NO SOLIDS
- [ ] LIQUID/SOLID MIXTURE
- [ ] % FREE LIQUID
- [ ] % SETTLED SOLID
- [ ] % TOTAL SUSPENDED SOLID
- [ ] SLUDGE
- [ ] GAS/AEROSOL

NUMBER OF PHASES/LAYERS

1 2 3

% BY VOLUME (Approx.)

TOP ***0.00***

MIDDLE ***0.00***

BOTTOM ***0.00***

VISCOSITY (If liquid present)
- [ ] 1 - 100 (e.g. Water)
- [ ] 101 - 500 (e.g. Motor Oil)
- [ ] 501 - 10,000 (e.g. Molasses)
- [ ] > 10,000

COLOR

Brown to gray

ODOR
- [x] NONE
- [ ] MILD
- [ ] STRONG

Describe:

BOILING POINT °F (°C)
- [ ] <= 95 (<=35)
- [ ] 95 - 100 (35-38)
- [ ] 101 - 129 (38-54)
- [ ] >= 130 (>54)

MELTING POINT °F (°C)
- [ ] < 140 (<60)
- [ ] 140-200 (60-93)
- [x] > 200 (>93)

TOTAL ORGANIC CARBON (%)
- [x] <= 1
- [ ] >1 - <10
- [ ] >= 10

FLASH POINT °F (°C)
- [ ] < 73 (<23)
- [ ] 73 - 100 (23-38)
- [ ] 101 -140 (38-60)
- [ ] 141 -200 (60-93)
- [ ] > 200 (>93)

pH
- [ ] <= 2
- [ ] 2.1 - 6.9
- [ ] 7 (Neutral)
- [x] 7.1 - 12.4
- [ ] >= 12.5

SPECIFIC GRAVITY
- [ ] < 0.8 (e.g. Gasoline)
- [ ] 0.8-1.0 (e.g. Ethanol)
- [ ] 1.0 (e.g. Water)
- [ ] 1.0-1.2 (e.g. Antifreeze)
- [x] > 1.2 (e.g. Methylene Chloride)

ASH
- [ ] < 0.1
- [ ] 0.1 - 1.0
- [ ] 1.1 - 5.0
- [ ] 5.1 - 20.0
- [ ] > 20
- [x] Unknown

BTU/LB (MJ/kg)
- [x] < 2,000 (<4.6)
- [ ] >=2,000-4,999 (>=4.6-11.62)
- [ ] >=5,000-10,000 (>=11.63-23.2)
- [ ] > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	--	MAX	UOM
DEBRIS (VEGETATION, TRASH, ETC.)	1.0000000	--	3.0000000	%
GRAVEL 1/4 INCH TO 1/2 INCH	10.0000000	--	30.0000000	%
LEAD (TTLC)	1.0000000	--	1400.0000000	PPM
SOIL	70.0000000	--	90.0000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES [ ] NO [x]

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES [ ] NO [x]

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES [ ] NO [x]

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. ***G39*** SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. ***W301***

E. CONSTITUENTS

Are these values based on testing or knowledge? Knowledge ☑ Testing

If constituent concentrations are based on analytical testing, analysis must be provided. Please attach document(s) using the link on the Submit tab.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				☑
D005	BARIUM	100.0				☑
D006	CADMIUM	1.0				☑
D007	CHROMIUM	5.0				☑
D008	LEAD	5.0	*1.4000*	*1400.0000000*	*PPM*	
D009	MERCURY	0.2				☑
D010	SELENIUM	1.0				☑
D011	SILVER	5.0				☑

	VOLATILE COMPOUNDS	
D018	BENZENE	0.5
D019	CARBON TETRACHLORIDE	0.5
D021	CHLOROBENZENE	100.0
D022	CHLOROFORM	6.0
D028	1,2-DICHLOROETHANE	0.5
D029	1,1-DICHLOROETHYLENE	0.7
D035	METHYL ETHYL KETONE	200.0
D039	TETRACHLOROETHYLENE	0.7
D040	TRICHLOROETHYLENE	0.5
D043	VINYL CHLORIDE	0.2
	SEMI-VOLATILE COMPOUNDS	
D023	o-CRESOL	200.0
D024	m-CRESOL	200.0
D025	p-CRESOL	200.0
D026	CRESOL (TOTAL)	200.0
D027	1,4-DICHLOROBENZENE	7.5
D030	2,4-DINITROTOLUENE	0.13
D032	HEXACHLOROBENZENE	0.13
D033	HEXACHLOROBUTADIENE	0.5
D034	HEXACHLOROETHANE	3.0
D036	NITROBENZENE	2.0
D037	PENTACHLOROPHENOL	100.0
D038	PYRIDINE	5.0
D041	2,4,5-TRICHLOROPHENOL	400.0
D042	2,4,6-TRICHLOROPHENOL	2.0
	PESTICIDES AND HERBICIDES	
D012	ENDRIN	0.02
D013	LINDANE	0.4
D014	METHOXYCHLOR	10.0
D015	TOXAPHENE	0.5
D016	2,4-D	10.0
D017	2,4,5-TP (SILVEX)	1.0
D020	CHLORDANE	0.03
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			☑
CHLORINE			☑
FLUORINE			☑
IODINE			☑
SULFUR			☑
POTASSIUM			☑
SODIUM			☑
AMMONIA			☑
CYANIDE AMENABLE			☑
CYANIDE REACTIVE			☑
CYANIDE TOTAL			☑
SULFIDE REACTIVE			☑

HOCs

NONE
☑ < 1000 PPM
>= 1000 PPM

PCBs

NONE
☑ < 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ☑ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ☑ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCES	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	☑ NONE OF THE ABOVE

F. REGULATORY STATUS

YES ☑ NO USEPA HAZARDOUS WASTE?

☑ YES NO DO ANY STATE WASTE CODES APPLY?

611

Texas Waste Code

YES ☑ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ☑ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: ***Not subject to LDR***
VARIANCE INFO:

YES ☑ NO IS THIS A UNIVERSAL WASTE?

YES ☑ NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS A VERY SMALL QUANTITY GENERATOR (VSQG) OR A STATE EQUIVALENT DESIGNATION?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ☑ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE STREAM PROHIBITED FROM INCINERATION BASED ON THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ☑ NO IS THIS WASTE STREAM "USED OIL" WHICH IS TO BE MANAGED UNDER 40 CFR PART 279 - STANDARDS FOR THE MANAGEMENT OF USED OIL?

YES ☑ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES ☑ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 76.6 KPA (11.1 PSIA)?

YES ☑ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ☑ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

RQ, UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S., (SOIL WITH LEAD), 9, PG III

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY ☑ OTHER ***Daily until gone***

CONTAINERIZED

0-0 CONTAINERS/SHIPMENT

STORAGE CAPACITY:
CONTAINER TYPE:

PORTABLE TOTE TANK BOX|CARTON|CASE

CUBIC YARD BOX DRUM

OTHER: DRUM SIZE:

BULK LIQUID

GALLONS/SHIPMENT: ***0 Min -0 Max*** GAL.

☑ **BULK SOLID**

SHIPMENT UOM: TON ☑ YARD

TONS/YARDS/SHIPMENT: ***15.00 Min - 18.00 Max***

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

Wear proper PPE. See list of representative samples in "Attachment A to profile CH2863649"

GENERATOR'S CERTIFICATION

I certify that I am authorized to execute this document as an authorized agent. I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge.I also certify that any samples submitted are representative of the actual waste.If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
Steven Lee	Steven Lee	MOF - Compliance Coordinator - AUSD	

Addendum

D. COMPOSITION

F. REGULATORY STATUS

Attachment A: Sample IDs Included in non-RCRA Profile CH2863649

Sample Date	Sample ID	Lab Report ID	Test Suite
08.20.2024	ACC-SS-1 (a,b,c,d)	2408E69 & 2408E69 A	Full Suite
	ACC-SS-1 (a,b,c,d)	2408E69	discrete VOCs & SVOCs
09.04.2024	TP1-1'	319735 & 320635 & 320636	Lead
	TP1-2'	319735 & 320635 & 320636	Lead
	TP1-3'	319735	Lead
	TP2-1'	319735	Lead
	TP2-2'	319735	Lead
	TP2-3'	319735	Lead
	TP3-1'	319735 & 319830	Lead
	TP3-2'	319735	Lead
	TP3-3'	319735	Lead
	TP4-1'	319735 & 319971	Lead
	TP4-2'	319735	Lead
	TP4-3'	319735 & 319830 & 319831	Lead
09.26.24 - 10.01.24	DV-1(1')	2409271	TPH/PCBs/Lead
	DV-1(3')	2409271	TPH/PCBs/Lead
	DV-2(1')	2409271	TPH/PCBs/Lead
	DV-2(3')	2409271	TPH/PCBs/Lead
	DV-4(1')	2409271	TPH/PCBs/Lead
	DV-4(3')	2409271	TPH/PCBs/Lead
	DV-5(1')	2409271	TPH/PCBs/Lead
	DV-5(3')	2409271	TPH/PCBs/Lead
	DV-7(1')	2409271	TPH/PCBs/Lead
	DV-7(3')	2409271	TPH/PCBs/Lead
	DV-8(1')	2409271	TPH/PCBs/Lead
	DV-8(3')	2409271	TPH/PCBs/Lead
	SP-1(AB)	2409271	TPH/OCP/PCBs/VOCs/SVOCs/PAHs/Metals

APPENDIX F
East Bay Municipal Utility District – Special Discharge Permit

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EAST BAY
MUNICIPAL UTILITY DISTRICT

August 28, 2024

Javier Canseco
1141 Marina Way S.
Richmond, CA 94804

RE: Special Discharge Permit to **Alten Construction, LLC, Permit no. 11000154.**

Dear Javier Canseco,

The enclosed Special Discharge Permit No. 11000154 covers the discharge of special discharge wastewater from Alten Construction, LLC into the community sewer at **1327 Oak St. Alameda**. All wastewater discharges from Alten Construction, LLC, actions and reports, shall be in accordance with the terms and conditions of this permit. Your permit expires one year from the date of issuance.

Enclosed with this wastewater discharge permit is a copy of EBMUD's Standard Terms and Conditions. Please note that EBMUD's Wastewater Control Ordinance (Ordinance) is available online at https://www.ebmud.com/wastewater/collection-treatment/wastewater-control-ordinance-discharge-limits/. As a permit holder you are legally responsible for complying with all requirements set forth in these documents.

Alten Construction, LLC shall report to the EBMUD Wastewater Environmental Services Division any changes, permanent or temporary, to the premises or operations that significantly affect the quality or volume of the permitted discharge or deviate from the terms and conditions under which the Permit was granted.

If you have any questions regarding this permit, please contact John Roberts of the Wastewater Environmental Services Division at (510) 287-1651 or cleanbay@ebmud.com.

Sincerely,

Adam Kern

Adam Kern
Supervisor of Pretreatment and Pollution Prevention Programs

Enclosures:
Special Discharge Permit
Special Discharge Permit Standard Terms and Conditions

375 ELEVENTH STREET . OAKLAND . CA 94607-4240
P.O. BOX 24055 . OAKLAND . CA 94623-1055

THIS PAGE INTENTIONALLY LEFT BLANK

East Bay Municipal Utility District
Special Discharge Permit Number 11000154

Discharger:	**Alten Construction, LLC**
Discharge Location:	1327 Oak St. Alameda
Discharger Mailing Address:	1141 Marina Way S. Richmond, CA 94804
Discharger Contact:	Javier Canseco, jcanseco@altenconstruction.com

In accordance with the provisions of the East Bay Municipal Utility District's (EBMUD) Wastewater Control Ordinance (Ordinance) **Alten Construction, LLC** is hereby authorized to discharge Special Discharge Wastewater from the above-identified facility to the community sewer in accordance with the effluent limitations, monitoring requirements and other conditions set forth herein. Compliance with this permit does not relieve **Alten Construction, LLC** of its obligations to comply with all applicable pretreatment regulations, standards, or requirements under local, state, and federal laws, including any such regulations, standards, requirements, or laws that come into effect during the term of this permit. Noncompliance with any term or condition of this permit shall constitute a violation of the Ordinance and this permit.

All reports and notifications required by this permit shall be submitted in accordance with the Terms and Conditions below. Contact information for EBMUD is as follows:

East Bay Municipal Utility District
Wastewater Environmental Services Division
Attn: John Roberts
375 11th Street, MS 702
Oakland, CA 94607-4240

(510) 287-1651
(866) 403-2683(Non-Business Hours)
cleanbay@ebmud.com

This permit will become effective on the date of signature below and will expire one year from the effective date shown below.

If **Alten Construction, LLC** wishes to continue to discharge after the expiration date of this permit, an application must be filed for a renewal permit in accordance with the requirements of Title IV, Section 3(a) of the Ordinance, a minimum of 60 days before this permit expires.

Sincerely,

Amit Mutsuddy, P.E.
Director of Wastewater

Effective Date: 8/27/2024

GENERAL CONDITIONS

I. **Alten Construction, LLC** shall comply with the provisions of the following two documents:
   - EBMUD Wastewater Control Ordinance (Wastewater Control Ordinance)
   - EBMUD Special Discharge Permit Standard Terms and Conditions, most recent edition

II. This Special Discharge Permit is a waiver of Wastewater Control Ordinance, Title I, Section 5, which prohibits the discharge of stormwater, drainage water, and groundwater to the community sewer.

III. **Alten Construction, LLC** shall discharge Special Discharge Wastewater only from the site described in the Special Discharge Permit Applicant Form.

IV. **Alten Construction, LLC** shall immediately cease discharge of treated or managed Special Discharge Wastewater if not in compliance with any of the terms and conditions of this Special Discharge Permit.

V. **Alten Construction, LLC** shall promptly notify the EBMUD in advance of any significant change to the quality or volume of the wastewater discharge or any deviation from the terms and conditions of the Special Discharge Permit; including immediate notification of any changes that affect the potential for a slug discharge.

VI. **Alten Construction, LLC** shall not discharge Special Discharge Wastewater authorized by this Special Discharge Permit after the expiration date.

COMPLIANCE REQUIREMENTS

I. **Alten Construction, LLC** shall pretreat/manage, including sediment control, all Special Discharge Wastewater prior to discharge to the community sewer. Pretreatment or management shall be sufficient to achieve compliance with the discharge limits in the Wastewater Control Ordinance or any additional discharge limits established in this Special Discharge Permit.

II. **Alten Construction, LLC** shall post a sign in the work area stating "All Wastewater Discharge must comply with the Special Discharge Permit."

III. **Alten Construction, LLC** shall not discharge Special Discharge Wastewater to the community sewer at a flow rate greater than 100 gallons per minute.

IV. **Alten Construction, LLC** shall not discharge Special Discharge Wastewater to the community sewer during a rain event or within 24 hours after a rain event, which is defined as any precipitation greater than a drizzle.

V. **Alten Construction, LLC** shall obtain permission from the applicable local sewer authority to discharge Special Discharge Wastewater to the community sewer. Note that local sewer authorities may have different or more restrictive discharge requirements than EBMUD.

VI. **Alten Construction, LLC** shall discharge all Special Discharge Wastewater to the community sewer through a totalizing flow meter.

VII. **Alten Construction, LLC** shall maintain a discharge logbook. Each entry shall include the date, time, source, and total volume of all Special Discharge Wastewater discharged to the community sewer.

REPORTING REQUIREMENTS

I. **Alten Construction, LLC** shall submit quarterly discharge log reports, including:

- A copy of discharge logs which include dates, times, volumes, flow totalizer readings, and the total volume of Special Discharge Wastewater discharged to the sanitary sewer to date.

- The discharge logs are due within 10 days of the final discharge or no later than the end of the month according to the following schedule:

Discharge Period	Discharge Log Due
July – September	October 10, 2024
October - December	January 10, 2025
January - March	April 10, 2025
April - June	July 10, 2025

- The discharge log must include the following certification statement and an authorized signature:

  "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

II. Submit all reports to EBMUD by email to **cleanbay@ebmud.com**.

WASTEWATER DISCHARGE LIMITS

Alten Construction, LLC shall not discharge Special Discharge Wastewater to the community sewer if the strength of the wastewater exceeds Wastewater Control Ordinance Discharge Limits as described in Title II Sections 3(a) and 3(b).

INSPECTIONS

The District may conduct random, unannounced inspections to verify compliance with the terms and conditions of this Special Discharge Permit. **Alten Construction, LLC** shall grant District personnel site access to conduct inspections and collect Special Discharge Wastewater samples.

ENFORCEMENT AND PENALTIES

Failure to comply with the terms and conditions of this Special Discharge Permit may result in enforcement actions, including violation follow-up fees, civil enforcement penalties, and administrative fines of up to $5,000 per day.

RATES AND CHARGES

This Special Discharge Permit may be amended to include changes to rates and charges that may be established by the District during the term of this Special Discharge Permit. The treatment charge is $1.74 per hundred cubic feet (Ccf) for the wastewater discharged to the community sewer. The permit fee is $3,130 per year.

AUTHORIZATION

Alten Construction, LLC is hereby authorized to discharge Special Discharge Wastewater to the community sewer, subject to compliance with *EBMUD Wastewater Control Ordinance, Special Discharge Permit Standard Terms and Conditions*, and established billing conditions.

APPENDIX G
Soil Management Plan Monitoring Forms

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Alameda High School Swim Center Soil Managment Plan Acknowledgment Form

I have read, understood, and agree with the information set forth in this Site Management Plan (SMP), and will follow the guidance in this plan.
Kleinfelder has prepared this SMP for the purpose of communicating the current and/or future Property Owner's and contractor's requirement to comply with applicable laws, regulations, and procedures related to the disturbance or handling of any suspected impacted material prior to and during general construction activities. The SMP also includes contingency protocols and procedures in the event unexpected impacts are encountered during the Site redevelopment and construction activities. For any questions regarding this SMP please contact Kleinfelder's Jeremy Scott at 925-503-8345.

Date	Printed Name	Signature	Company Name

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Alameda High School Swim Center Construction

DAILY AIR MONITORING LOG

Date: _____ **Weather:** _____ **Background Concentration:** _____

Monitoring Equipment: _____ **Serial Number:** _____

Location	Time	Wind Direction	Wind Speed (MPH)	Dust Visible? Y or N	Current Concentration	Mitigation Measures & Comments

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Alameda High School Swim Center Construction

Soil Import/Export Log

Date	Import/Export?	Volume	Destination/Source	Profile Reference	Waste Ticket/ Manifest #

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Environmental Health Department
Alameda County Health

RONALD BROWDER, Director

LOCAL OVERSIGHT PROGRAM (LOP)
For Hazardous Materials Releases

DILAN ROE, Chief, Land & Water Protection Division
Phone: 510.567.6767 | Email: dilan.roe@acgov.org

PARESH KHATRI, LOP Manager
Phone: 510.777.2478 | Email: paresh.khatri@acgov.org

February 17, 2025

Alameda Unified School District
c/o Monty Patterson
2060 Challenger Drive
Alameda, CA 94501

Subject: **Request for Revisions to Data Gap Evaluation Work Plan**
Cleanup Program Site (CPS) Case No. RO0003666
GeoTracker Global ID T10000022988
Alameda High School Swim Center
2253 Encinal Avenue, Alameda, CA 94501
Assessor Parcel Numbers (APNs) 71-216-35-4 4 and 71-217-1-2

Dear Responsible Parties,

Alameda County Environmental Health Department (ACEHD) has reviewed the case file for the subject CPS case (the "Case") associated with the Alameda High School (AHS) located at the above referenced property (the "Site"). ACEHD is providing regulatory oversight of the Case under a Voluntary Remedial Action Agreement (VRAA) entered into by ACEHD and Alameda Unified School District (AUSD) dated December 23, 2024.

The Case was opened by ACEHD following notification on December 9, 2024 from AUSD via email stating the following:

> *"AUSD is voluntarily informing and updating ACEHD on the status of our Alameda High School Swim Center construction project. This project is part of the Measure B bond program that was approved by the citizens of Alameda in 2022. Construction and demolition of the old pools began in June 2024. During excavation we discovered areas of lead-impacted fill soil on the site. We have carefully planned the removal of the impacted fill soil within the project area to facilitate construction of the new swim center. An environmental consultant, Kleinfelder, has developed a comprehensive site specific "Soils Management Plan" for the excavation and removal of this soil. These plans include ACC Environmental soil characterization and testing, oversight and air monitoring as required by Cal OSHA regulations. An environmental firm, Professional Asbestos & Lead Services (PALS), has been hired by our General Contractor, Alten Construction, to remove and transport the lead impacted soil to the Clean Harbors, Buttonwillow Landfill Facility. The off-hauling operations started on December 2, 2024 and are expected to be concluded by December 13, 2024. Trucks are being loaded approximately between the hours of 7:00 am to 10:00 am daily, Monday to Friday."*

Following receipt of the email, ACEHD met with AUSD and their contractors and environmental consultants on December 19, 2024, to discuss regulatory oversight of the lead contaminated soil at AHS and current Site conditions (the "Meeting"). During the Meeting ACEHD requested that no further work be conducted on the Swim Center construction project until construction plans and all environmental documents were submitted to ACEHD by uploading to the Case file on the State Water Resources Control Board's (SWRCB) GeoTracker website, including a Stormwater Pollution

Prevention Plan (SWPPP), reports documenting soil characterization, excavation, and waste disposal activities conducted prior to the Meeting, and a data gap evaluation work plan.

Subsequent to the meeting, review of the requested documents, and follow-up conversations ACEHD became aware of two other AUSD projects at the AHS associated with the Swim Center construction project involving subsurface work including a new fence project and a new utility project. A timeline of the soil characterization and excavation activities conducted to date associated with the projects and ACEHD notification of contaminated soil is provided in **Attachment A**.

This letter provides ACEHD's review and comment on the documents listed below submitted by AUSD as requested by ACEHD, as well as a request for submittal of additional documents and initiation of community outreach prior to resuming subsurface work on the projects.

I. DOCUMENTS REVIEWED

ACEHD's review the Case file included, but was not limited to, the following documents, prepared on your behalf and submitted to ACEHD:

Documents prepared before ACEHD notification:

- *Soil Management Plan, Alameda High School Swim Center Modernization, 2200 Central Avenue, Alameda, CA 94501,* dated November 21, 2024, prepared by Kleinfelder (the "SMP").
- *Summary of Waste Characterization Soil Sampling, Alameda High School Swim Center Modernization, 2200 Central Avenue, Alameda, CA 94501,* dated November 27, 2024, prepared by ACC (the "SWCR-2).

Documents prepared after ACEHD notification:

- *Construction Site Stormwater Management and Condition Overview, Alameda High School Swim Center Modernization Project, 2200 Central Avenue, Alameda, California,* dated December 20, 2024, prepared by Alten Construction (the "CSSM").
- *(Revised) Construction Site Stormwater Management and Condition Overview, Alameda High School Swim Center Modernization Project, 2200 Central Avenue, Alameda, California,* dated January 6, 2025, prepared by Alten Construction (the "Revised CSSM").
- *Soil Characterization, Alameda High School Fencing Project, 2200 Central Avenue, Alameda, California 94501,* dated January 6, 2025, prepared by ACC (the "Fencing Project Report").
- *Interim Remedial Action Completion Report, Alameda Unified School District, Alameda High School – Swim Center Modernization, 2200 Central Avenue, Alameda, California,* dated January 10, 2025, dated prepared by ACC (the "IRACR") including the following appendices:
  - Appendix A-1: *Alameda High School Swim Center Modernization Plans*, dated May 24, 2024, prepared by Quattrocchi Kwok Architects

- Appendix A-2:*Remaining Work Schedul*e, dated January 10, 2025, prepared by Alten (the "Gannt Chart")
- Appendix B*: Soil Waste Characterization Report, Alameda High School Swim Center Modernization 2200 Central Avenue, Alameda, California 94501* dated September 16, 2024 prepared by ACC Environmental Consultants (ACC). This document was prepared before ACEHD notification.
- Appendix E: *Data Gap Evaluation Work Plan,* dated January 10, 2025, prepared by ACC

- *Interim Remedial Action Completion Report, Addendum: Field Notes & Dust Monitoring Data, Alameda Unified School District, Alameda High School – Swim Center Modernization, 2200 Central Avenue, Alameda, California*, dated January 10, 2025, prepared by ACC (the "ICACR Adden")

A summary of information in the above listed documents in provided in **Attachment A** and ACEHD's comments on the document is provided in **Attachment B**.

II. ACEHD FINDINGS

ACEHD's review of the documents indicate the following:

- Fill material was placed on-site prior to construction of the existing school and generally extends to between 1 and 3 feet (ft) below ground surface (bgs) but appears to extend deeper at some locations. The fill material was likely used to fill in areas of potential former building footings, crawl spaces, utility channels, uneven areas of the Site, etc. The fill material consists of grey-brown silty-sand with gravel and debris and can be readily distinguished from the underlying native soils consisting of brown/light-brown/yellowish-brown fine-grain well-sorted native sand.

- Fill and soil samples have been collected between August and December 2024 for waste characterization for off-Site disposal at a landfill and to confirm concentrations at the bottom of the excavated areas. Samples have been analyzed for Total Petroleum Hydrocarbons (TPH) as Gasoline (TPH-g), TPH as diesel (TPH-d), and TPH as motor oil (TPH-mo), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Organochlorine Pesticides (OCPs), Polychlorinated Biphenyls (PCBs), Asbestos, California Administrative Manual 17 (CAM-17) Metals, Solubility Threshold Limit Concentration (STLC) and Toxicity Characteristic Leaching Procedure (TCLP), as warranted based on exceedances of California Department of Toxic Substances Control (DTSC) hazardous waste criteria. Not all samples were analyzed for the full list of chemicals identified above.

- Concentrations of multiple potential chemicals of concern (PCOCs) exceeding the San Francisco Bay Regional Water Quality Control Board's (RWQCB) 2019 Environmental Screening Levels (ESLs) for Direct Exposure Human Health Risk Levels and Terrestrial Habitat Exposure Levels have been detected in samples collected from the soil and/or fill material during excavation of the Swim Center construction project and fencing project:

    1. Lead up to 1,400 milligrams per kilogram (mg/kg)

2. Arsenic up to 15 mg/kg
3. Benzo(a)pyrene up to 0.2 mg/kg
4. PCBs up to 1.2 mg/kg
5. Dieldrin up to 0.0855 mg/kg.

- Approximately 4,430 tons of soil has been excavated without regulatory oversight and transported and disposed of at the Clean Harbors landfill in Buttonwillow, California as non-RCRA California hazardous waste (Class I).
- On December 17, 2024, after the completion of the Class I soil off-haul, confirmation samples were collected from the current ground surface across the exposed excavation areas. Soil samples were collected in glass jars from the excavation floor in a grid pattern with approximate spacing of 50 feet (ft). A total of 26 confirmation soil samples were collected following soil removal activities and analyzed for lead and PCBs only on a dry weight basis.
    - At three of the locations (C-7, C-12, and C-18), lead was found at concentrations between 93 and 270 mg/kg, exceeding the ESLs for Direct Exposure Human Health Risk Levels for residential and construction worker of 80 mg/kg and 160 mg/kg, respectively.
        - The lead STLC and TCLP results were all less than the DTSC hazardous waste threshold for lead of 5.0 milligrams per Liter (mg/L), and 5.0 mg/L, respectively
    - At C-7, PCBs were detected at a concentration of 1.2 mg/kg, exceeding the residential and commercial ESLs for Direct Exposure Human Health Risk Level of 0.23 mg/kg and 0.94 mg/kg, respectively, and the Terrestrial Habitat Level of 1.1 mg/kg.
- ACEHD considers the laboratory analytical results to be qualitative in nature due to data quality issues during sample collection and analysis including but not limited to:
    - With exception of the confirmation soil samples collected on December 17, 2024, all soil samples were analyzed on a wet-weight basis and are, therefore, considered biased low when compared to ESLs, which are based on a dry-weight basis.
    - The majority of samples were collected with gloved hands and were placed in glass jars and submitted to an analytical laboratory for analysis. Glass jars are not the appropriate containers for laboratory analysis of PCOCs with vapor forming compounds and therefore concentrations of these PCOCs are considered biased low.
- The lateral and vertical extent of the PCOC impacted soil and fill material beneath AHS is unknown and likely extends beneath areas adjacent to Swim Center and fencing construction projects including but not limited to the baseball field and in the excavation footprints of the utility project.

- In order to evaluate the adequacy of the proposed scope of work presented in the Data Gap Investigation Work Plan, additional documentation of the fencing and utility construction plans is required.

DELIVERABLE REQUEST

Based on our review, ACEHD requests submittal of additional documents addressing ACEHD's comments in accordance with the requirements and compliance dates provided in the Deliverable Request section below.

Please prepare and submit the following documents to the Case file on the State Water Resources Control Board's GeoTracker website in accordance with *Responsible Party(ies) Legal Requirements/Obligations* included as **Attachment D**:

1. Construction Project Technical Memorandum
Compliance Date: March 14, 2025
File Name: RO3666_CPTM_YYYY-MM-DD

ACEHD understands there are three separate construction projects with permits from the City of Alameda that involve subsurface work that are either currently in progress or are anticipated to begin in the near future, including:

a. Swim Center Modernization Project (in progress, on hold).

b. New Subsurface Utility Installation (pending).

c. New Fence and Gate (pending).

A review of the Case files on Geotracker indicates that only plans for the Swim Center Modernization Project have been uploaded. ACEHD requests submittal of a technical memorandum listing each of the permit numbers and describing each of the projects and a figure showing the current Site map with each parcel delineated and identifying the extent of work for each project. ACEHD requests that the memo and demolition, grading and Site development permit application plan sets for each project be uploaded to the Case file on GeoTracker.

2. Construction Gannt Chart
Compliance Date: March 14, 2025
File Name: RO3666_Gannt_Chart_YYYY-MM-DD

ACEHD requests submittal of a Gannt chart for all three projects. While Section 4.5 of the IRACR provides a list of future construction activities associated with the Swim Center and New Tennis Court project and Appendix A-2 of IRACR presents a Gannt chart for these planned future construction activities, the text and the chart do not match up. For example, the drilling and installation of 13 dewatering wells, placement of a baker tank, certification of the equipment enclosure pad and the mass excavation listed in Section 4.5 are not included in the Gannt chart. ACEHD requests submittal of a revised Gannt chart that includes all of the construction projects listed in Item 1 above, that includes line items for all

tasks, work phases and predecessor and successor links conducted to date and scheduled for the duration of subsurface work. The Gannt chart must include line items for subsurface characterization and corrective actions including submittal of work plans and corrective action plans, ACEHD review time, and a minimum of one revision cycle. The Gannt chart must also include line items for community outreach.

3. Revised Data Gap Evaluation Work Plan
Compliance Date: March 28, 2025
File Name: RO3666_DGIWP_YYYY-MM-DD

ACEHD requests submittal of a revised DGIWP that includes the following:

a. Plan view figures with sufficient cross section alignments through each element of excavation for the three projects listed in Comment 1 with the location of all samples collected to date, areas where imported fill was brought to the Site, the recent demolition and grading activities, and proposed sampling locations.

b. Figures providing cross sections along each of the alignments discussed in subitem a, above, presenting the total planned excavation depth, the current excavation depth where excavation has already occurred, the original surface prior to excavation, depth to anticipated groundwater, lithology from observations in boring logs and excavations, soil sample locations and depths collected to date and proposed to fully characterize the columns in the excavation area. The cross sections must show the depths of imported fill brought to the Site during demolition and grading activities.

c. A summary table with type of subsurface material (recent imported fill, historic fill, native soil) with analytical laboratory results for all soil samples collected organized in one foot intervals (0 to 1 feet, 1 to 2 feet, etc.) referenced to the original ground surface.

d. A summary table with type of subsurface material (recent imported fill, historic fill, native soil) for proposed soil samples within each one foot interval to the total depth of the construction zone.

The work plan must also include a sampling strategy that addresses ACEHD's comments in **Attachment B** and the comments below:

a. Due to the lack of regulatory oversight during soil sample collection, the use of non-industry standard operating procedures of soil sample collection (e.g. glass jars, collection of samples from an auger bucket versus boreholes), lack of laboratory analyses, uncertainty in soil management during excavation, stockpiling and off-site disposal, potential migration of contaminated stormwater to areas not covered by hardscape, and the number of errors in the documents provided to ACEHD as discussed in this attachment, ACEHD considers all data collected to date to be qualitative in nature. Therefore, the DGIWP must include a comprehensive sampling

strategy that is based on a grid over each excavation area and across exposed surfaces including but not limited to the baseball field and areas where soil was stockpiled. The sampling strategy must also include sufficient number of samples throughout the entire depth of all construction zones for each project.

b. Laboratory Analyses. Samples collected between September 26 and October 1, 2024, and confirmation soil samples collected on December 17, 2024, were not analyzed for SVOCs and OCPs even though benzo(a)pyrene was detected above the San Francisco Bay Regional Water Quality Control Board's (RWQCB) residential environmental screening level (ESL) for 0.11 milligrams per kilogram (mg/Kg) in a surface soil sample at ACC-SS-1d and dieldrin was detected above the RWQCB's residential ESL of 0.037 mg/Kg in a sample from stockpile SP-1. The DGIWP must include analyses for all potential constituents of concern (PCOC) identified in previous sampling events including for total petroleum hydrocarbons (TPH) as diesel (TPH-d), TPH as motor oil (TPH-mo), TPH as gasoline (TPH-g), volatile organic compounds (VOCs), organochloride pesticides (OCPs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) California Administrative Manual 17 (CAM17) metals, chromium VI and asbestos at all proposed sampling locations, including samples for the remaining soil excavation in the area of the Swim Center, as well as in the new utility and fence project excavation areas.

c. Imported Fill Characterization. ACEHD understands that fill material to be used in the grading and construction of the projects is currently stockpiled elsewhere. The DGIWP must include a sampling strategy to characterize all fill proposed to be imported to the Site in accordance with the ACEHD Fill Import / Export Characterization Requirements dated August 19, 2019, and provided in **Attachment C**.

4. Revised Stormwater Pollution Prevention Plan
Compliance Date: March 21, 2025
File Name: RO3666_SWPPP_YYYY-MM-DD

ACEHD requests submittal of a revised SWPPP that includes the following:

a. A figure displaying the locations where field parameter readings were/are collected and the location of the clogged storm drain.

b. An updated Layout and Erosion Control Plan that displays all items identified in the text of SWPPP and that references the SWPPP.

c. Sampling plan for analyses of CAM17 metals, PCBs, SVOCs and OCP.

d. All inspection field logs for the project to date organized chronologically.

5. Miscellaneous Memorandum
Compliance Date: March 7, 2025
File Name: RO3666_Misc_Memo_YYYY-MM-DD

ACEHD requests submittal of a memorandum that includes the following:

a. The results of the water sample collected from the excavated area at the former swimming pool on December 23, 2024.

b. All missing waste disposal manifests identified in Attachment B.

6. Public Outreach Plan
Compliance Date: March 21, 2025
File Name: RO3666_PUB_OUTREACH_PLN_YYYY-MM-DD

ACEHD requires that AUSD hire a community outreach specialist to facilitate public participation with stakeholders regarding the results of Site investigations and proposed cleanup actions. Community outreach activities include meetings, distribution of fact sheets and responding to comments.

CLOSING

If you have any questions regarding this correspondence, please contact me at 510-567-6704 and erdmann.rogge@acgov.org.

Sincerely,



Erdmann Rogge, PG 7871
Senior Project Manager and Geologist
Local Oversight Program for Hazardous Materials Releases

ENCLOSURES:

Attachment A Summary of Submittals
Attachment B ACEHD Comments on Submittals
Attachment C ACEHD Soil Import/Export Characterization Requirements
Attachment D Responsible Party(ies) Legal Requirements/Obligations

DISTRIBUTION LIST:

Electronic File, GeoTracker
Ronald Browder, ACEHD, Director (Sent via E-mail to: ronald.browder@acgov.org)
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Justin Long, City of Alameda (Sent via E-amil to: jlong@alamedaca.gov)
Bill Lindemann, Quattrocchi Kwok Architects, Senior CA Project Manager (Sent via E-mail to: Billl@qka.com)

Attachment A

Summary of Submittals

Environmental Health Department
Alameda County Health

Summary of Submittals

Alameda County Environmental Health Department (ACEHD)'s evaluation included, but was not limited to, the review of the following documents, submitted to ACEHD on behalf of the responsible party (RP):

Documents prepared before ACEHD notification:

1. *Soil Waste Characterization Report, Alameda High School Swim Center Modernization 2200 Central Avenue, Alameda, California 94501* dated September 16, 2024 prepared by ACC Environmental Consultants (ACC).
2. *Soil Management Plan, Alameda High School Swim Center Modernization, 2200 Central Avenue, Alameda, CA 94501,* dated November 21, 2024, prepared by Kleinfelder (SMP).
3. *Summary of Waste Characterization Soil Sampling, Alameda High School Swim Center Modernization, 2200 Central Avenue, Alameda, CA 94501,* dated November 27, 2024, prepared by ACC.

Documents prepared after ACEHD notification:

4. *Construction Site Stormwater Management and Condition Overview, Alameda High School Swim Center Modernization Project, 2200 Central Avenue, Alameda, California,* dated December 20, 2024, prepared by Alten Construction (CSSM).
5. *(Revised) Construction Site Stormwater Management and Condition Overview, Alameda High School Swim Center Modernization Project, 2200 Central Avenue, Alameda, California,* dated January 6, 2025, prepared by Alten Construction (Revised CSSM).
6. *Soil Characterization, Alameda High School Fencing Project, 2200 Central Avenue, Alameda, California 94501,* dated January 6, 2025, prepared by ACC (Fencing Project Report).
7. *Interim Remedial Action Completion Report, Alameda Unified School District, Alameda High School – Swim Center Modernization, 2200 Central Avenue, Alameda, California,* dated January 10, 2025 , prepared by ACC (IRACR).

SUMMARY OF SUBMITTAL(S)

Timeline of field work activities:

Based on the submitted reports, ACEHD understands that the field work activities conducted at the Site during demolition and excavation activities associated with the Swim Center project (prior to ACEHD oversight) between July and December 2024 were as follows:

- On July 19, 2024, the demolition of the old swimming pool and adjacent tennis court started. The demolition activities included removal of all hardscape at the project Site within the footprint of the swim center project.
- On August 7, 2024, the hardscape material was transported for recycling to Argent Materials in Oakland.

- On August 20, 2024, ACC collected surface soil samples at four locations at the former swimming pool and tennis court area. Samples were analyzed for waste characterization on a wet-weight basis for total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-d), TPH as motor oil (TPH-mo), volatile organic compounds (VOCs), metals, semi-volatile organic compounds (SVOCs), organochloride pesticides (OCPs) and polychlorinated biphenyls (PCBs).
- Soil was excavated as part of the Swim Center project from August 26 to September 5, 2024. The existing rock in the excavated area was stockpiled in the former swimming pool area. Excavated soil was stockpiled at the former tennis court area. In addition, clearing and grubbing of the mound area in the southeast corner of the baseball field took place, followed by grading and subgrade compaction.
- On September 4, 2024, additional soil samples and stockpile samples were collected with hand tools and an excavator. Soil samples were collected from five locations, one surface location (PS-1) and four locations at depth (TP-1 through TP-4). In addition, four stockpile samples were collected (TC-1 through TC-4). All samples were analyzed for waste characterization on a wet-weight basis.
    i. Samples collected from TP-1 through TP-3 were analyzed for TPH-g, VOCs, lead and SVOCs.
    ii. Samples collected from TP-4 were analyzed for lead.
    iii. A composite sample for locations TP1 through TP-3 and PS-1 was analyzed for TPH-d, TPH-mo, metals, OCPs and PCBs.
    iv. Stockpile soil samples were analyzed for lead.

  The results were used to delineate the area and depth of lead-impacted soil to be excavated.
- On September 26, 2024 soil samples were collected from two stockpiles.
    i. Samples were analyzed for waste characterization on a wet-weight basis for TPH-g, TPH-d, TPH-mo, metals, SVOCs, OCPs and PCBs.
- On September 26, September 30 and October 1, 2024, additional soil samples were collected at eight locations (DV-1 through DV-8). Sampling locations were potholed with an excavator and samples were collected by hand and placed in containers.
    i. Samples were analyzed for waste characterization on a wet-weight basis for TPH-g, TPH-d, TPH-mo, lead, SVOCs, OCPs and PCBs.

  The results were also used to delineate the area and depth of lead-impacted soil to be excavated.
- During a storm event on November 22, 2024, pH and turbidity field parameters were collected at a stormwater runoff location at the proposed new tennis court area.
- From December 2 to 17, 2024 lead-impacted soil was excavated. Fenceline air monitoring was conducted during that time. “Excavated soil was temporarily stockpiled or directly loaded into trucks for transport off-site using the excavator”.

- On December 11, 2024, additional hardscape material was transported to Argent Materials in Oakland.
- During a storm event on December 16, 2024, pH and turbidity field parameters were collected at a stormwater runoff location at the southwest edge of the fence by the proposed new tennis court area.
- On December 17, 2024, discrete confirmation soil samples were collected from 26 locations at the excavation floor (C-1 through C-26).
    i. Samples were analyzed for waste characterization on a dry-weight basis for lead, and PCBs.
- On December 19, 2024, ACEHD met with Alameda Unified School District (AUSD) and their consultants and opened an environmental cleanup case due to the documented contamination of soil with lead, PCBs, SVOCs and OCPs. At the meeting ACEHD requested that AUSD stop work on the Swim Center project, stabilize the Site to prevent migration of stormwater and dust potentially impacted with contaminated soil, install a Baker tank as contingency measure for containment of stormwater to prevent overflowing from the excavation areas, submit a Stormwater Pollution Prevention Plan (SWPPP), submit reports documenting field investigation and excavation and disposal of contaminated soil, and submit a work plan to further characterize contaminated soil.
- On December 20, 2024, silt fencing sandbags and fiber rolls were placed along the southwest fencing of the project Site.
- On December 23, 2024, a sample of the standing water in the excavated area of the former swimming pool was collected.
- On December 27, 2024, a visual inspection of the Site identified a drain along Oak Street as clogged. A comment on the Visual Inspection Field Log for that day indicates that AUSD was made aware of the clog "several times".

CSSM and Revised CSSM

The CSSM was submitted by AUSD to ACEHD for review and comment on December 20, 2024, and following comments provided by ACEHD on December 27, 2024, was revised on January 6, 2025 (Revised CSSM). The Revised CSSM outlines "key preventive measures that have been put in place" to prevent stormwater runoff from the Site, and includes the Site's Stormwater Pollution Prevention Plan (SWPPP) dated May 10, 2024 and prepared by Brelje & Race Consulting Engineers, Division of the State Architect (DSA)-Approved Project Plan Sheets, Qualified SWPPP Practitioner (QSP) Visual and Effluent Sampling Logs, and Alten Construction Inc. Jobsite SWPPP Training records. The Revised CSSM documents and states:

a. A drone flight photo and a photo taken on December 20, 2024, both displaying a stockpile currently onsite in the mount area in the southeast corner of the former baseball field.
b. Section 7.7.2 of the SWPPP defines pH and turbidity field parameter readings as analytical constituents that are part of the "sampling and analysis of runoff" for the project and minimum requirements for sample collection are provided in Table 7-11. Measurements are to be recorded during any qualifying precipitation event as defined in Section 7.3 and following the definition of the State Water Resources Control Board's (SWRCB) National

Pollution Discharge Elimination System (NPDES) 2022 Construction Stormwater General Permit (2022 CGP) as "any weather pattern that is forecast to have a 50 percent or greater probability of precipitation and quantitative precipitation forecast of 0.5 inches or more within a 24-hour period". Section 7.7.2, states that "sampling locations will be identified and updated by the QSP and shown on the Water Pollution Control Drawing to reflect active discharge locations characteristic of site runoff", and includes Table 7-9 "Turbidity and pH Runoff Sample Locations" that have a "Sample Location Latitude and Longitude" field. Field parameter readings for pH and turbidity will be recorded in Effluent Sampling Field Log sheets.

c. Per the Effluent Sampling Field Log Sheets for November 22 and December 16, 2024, the location where stormwater run-off field parameters were measured is at the proposed new tennis court area close to a fence.

d. As of January 6, 2025, the results of the December 23, 2024 water sample collected from the area of the excavation at the former swimming pool had not been received. Alten Construction will share the results with United Rentals to determine the appropriate treatment filtration system needed and provide the appropriate Baker tank for the project.

IRACR

The IRACR dated January 10, 2025, was prepared following ACDEH's request during the meeting held on December 19, 2024. The report summarizes construction and excavation activities conducted from July to December 2024, and includes a Data Gap Investigation (DGI) Work Plan (DGIWP) as an appendix, and provided the following information, evaluations, and statements:

a. Three figures presenting excavation depths conducted between August and December 2024:

- The planned excavation depths for the Swim Center project, presented in Figure 5.
- The estimated excavation depth for the excavation conducted between December 2 and 17, 2024, presented in Figure 6.
- The post-excavation depth where confirmation sampling took place, presented in Figure 8.

b. A figure displaying the stockpile management area for the work conducted between December 2 and 17, 2024.

c. A Gannt chart for future construction activities.

d. Asbestos cement piping (150-feet long) was discovered during the excavation activities conducted from December 2 to 17, 2024, and removed and disposed of off-site.

e. Lead was detected in confirmation soil samples collected on December 17, 2024, had exceedances of the San Francisco Bay Regional Water Quality Control Board's (RWQCB) residential environmental screening levels (ESLs) for lead of 80 milligrams per kilogram (mg/Kg) at sampling locations C-7, C-12 and C-18. The lead concentration at C-18 was also above the construction worker ESL of 160 mg/Kg.

f. PCBs were detected in confirmation samples collected on December 17, 2024, at concentrations exceeding the residential ESL for PCBs at C-7. PCBs were also detected in soil samples collected at the surface samples ACC-SS-1a, ACC-1b, ACC-SS-1c, at sampling location DV-6 at 7 feet (ft) below ground surface (bgs) and in a sample from stockpile SP-1.

g. Dieldrin was detected at a concentration of 0.0855J mg/Kg, above the RWQCB's residential ESL of 0.037 mg/Kg in a sample from stockpile SP-1.

h. Benzo(a)pyrene was detected at surface soil sample ACC-SS-1d at a concentration of 0.2 mg/Kg, above the RWQCB's residential ESL of 0.11 mg/Kg.

i. Lead and PCB-impacted soil that remains within the excavated are "will be removed as part of planned construction activities and additional soil confirmation sampling is recommended".

j. The DGIWP proposes:

- Advancement of ten borings for additional soil sampling to delineate the extent of contaminated soil at 0.5 ft below the current base of the excavation in the vicinity of confirmation soil sampling locations C-7, C-12 and C-18. Samples are proposed to be analyzed for lead and PCBs.
- Advancement of nine borings for soil confirmation sampling every 50 feet along the current excavation sidewalls. Samples will be collected at the vertical center of the fill, at the first encountered native soil and 3 ft below the top of native soil. If no fill material is encountered, samples will be collected at depths of 0.5 and 4 ft bgs. Samples are proposed to be analyzed for TPH-d, TPH-mo, TPH-g, VOCs, OCPs, SVOCs, PCBs, CAM17 metals, chromium VI and asbestos.
- Collection of soil samples for waste characterization purposes approximately every 50 feet and analyses for TPH-d, TPH-g, VOCs, SVOCs, OCPs, PCBs, CAM17 metals chromium VI and asbestos.
- The remaining soil to be excavated as part of the Swim Center construction project is proposed to be analyzed for waste characterization for TPH-d, TPH-mo, VOCs and CAM 17 metals.
- Advancement of four borings for collection of soil samples to assess conditions at the proposed new tennis court in the location of the former baseball field mount. Samples will be collected at the vertical center of the fill, at the first encountered native soil and 3 ft below the top of native soil. If no fill material is encountered, samples will be collected at depths of 0.5 and 4 ft bgs. Samples are proposed to be analyzed for TPH-d, TPH-mo, TPH-g, VOCs, OCPs, SVOCs, PCBs, CAM17 metals, chromium VI and asbestos.
- Preparation of a report that includes figures, tables, a comparison against applicable RWQCB ESLs.

Fencing Project Report

The Fencing Project Report summarizes the soil characterization investigation conducted at the neighboring property to the north of the Site at 2200 Central Avenue in Alameda (APN 71-217-1-2) and that also belongs to the AHS. The investigation was conducted in support of a project to install fencing and gate improvements at four locations on the property. At each location one soil boring was advanced by hand to depths up to 1.5 ft bgs and samples were analyzed TPH-g, TPH-d, TPH-mo, VOCs, SVOCs, OCP, PCBs, CAM17 metals and asbestos. Soil sampling analytical results contained

arsenic in concentrations up to 15 mg/Kg, total chromium up to 66 mg/Kg, lead up to 150 mg/Kg and dieldrin up to 0.013 mg/Kg.

Attachment B

ACEHD Comments on Submittals

Environmental Health Department
Alameda County Health

ACEHD Comments on Submittals

Soil Stockpiles and Waste Manifests

1. Section 2.3 of the Interim Remedial Action Completion Report (IRACR) states that soil excavated between August 26 and September 5 "was stockpiled in the region of the former tennis court"; however, Figure 4 shows the location of stockpiles TC-1 through TC-4, where samples were collected on September 4, 2024, on the western half of the former swimming pool area. Additional clarification is required to confirm where the stockpiles generated during excavation activities were placed.

2. It is unclear when the stockpiles generated from the excavation conducted between August 26 and September 5, 2024, were removed from the Site. Waste disposal manifests for waste generated during this time period is not provided in any of the submitted reports. Alameda County Environmental Health Department (ACEHD) requests submittal of the waste disposal manifests for soil excavated between August 26 and September 5, 2024.

3. Soil excavated for collection of samples on September 26, 2024, were placed in stockpiles SP-1 and SP-2. Samples were also collected for waste characterization from both stockpiles on the same day. It is unclear where the soil excavated on September 30 and October 1 was placed and if the soil was characterized prior to off-site disposal. The IRACR does not mention if or when these two stockpiles were removed from the Site and no waste disposal manifest for the waste generated between September 26 and October 1, 2024 is provided in any of the submitted reports. ACEHD requests clarification where soil excavated on September 30 and October 1 was placed and submittal of waste disposal manifests for the stockpiles of soil excavated between September 26 and October 1, 2024.

4. Figure 2 of the IRACR is the same as Figure 2 of the Soil Management Plan (SMP) and includes a proposed stockpile management area for soil excavated during field work activities that took place between December 2 and 17, 2024. The Construction Site Stormwater Management and Condition Overview (CSSM) includes photographic documentation that shows a stockpile located to the west of the proposed stockpile management area and it is not underlain by polyethylene sheeting outside this area. ACEHD requests clarification about where stockpiles were placed during the excavation activities and if polyethylene sheeting was placed underneath the stockpiles prior to disposal off-site.

5. In an email dated January 6, 2027, Alameda Unified School District (AUSD) confirmed that the stockpile shown in a photo in the CSSM and Revised CSSM is not underlain by polyethylene sheeting and stated that per the SMP "soil that is profiled as clean is not required to be placed on polyethylene sheeting". "The soil stockpiled in the new tennis court area is soil that remains after rough grading in the new tennis court area" that took place between August 26 and September 5, 2024. "This soil was sampled when it was temporarily stockpiled on the western portion of the swimming pool area". "This stockpiled soil is dissimilar in nature to the non-native fill that was observed in the subgrade in the swimming pool area". The SMP was not submitted to ACEHD for review and comment until December 9, 2024, prior to its implementation. The email seems to infer that stockpiles SP-2 (sampled September 26, 2024) and TC-1 (sampled September 4, 2024) may have been combined into one and moved to the area of the proposed new tennis court; however, Figure 4 of the IRACR

shows five stockpiles on the western half of the former swimming pool area. Furthermore, per Tables 1, 2 and 3 of the IRACR, soil samples collected from stockpile TC-1 were not analyzed for total petroleum hydrocarbons (TPH) as gasoline (TPH-g), TPH as diesel (TPH-d), TPH as motor oil (TPH-mo), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organochloride pesticides (OCPs), asbestos and the full list of California Administrative Manual 17 (CAM17) metals and stockpile SP-2 was not analyzed for the full list of VOCs. Also, it is not known if the stockpile west of the proposed new tennis court area will be disposed of off-site or is intended for re-use during construction. The stockpile must be characterized for all required analytical methods depending on its intended purpose and confirmatory soil samples must be collected from underneath the stockpile once the stockpile has been removed.

6. New Tennis Court. It is unclear which areas of the proposed new tennis court area were excavated or filled. Figure 5 of the IRACR indicates that up to one foot and six inches of soil would be excavated during the project. Appendix D of the SMP presents a cut and fill plan prepared on August 22, 2024 that indicates that certain areas of the proposed new tennis court area would receive soil to increase elevation in that area of the project. Grading and subgrade compaction took place between August 26 and September 5, 2024 in this area of the project and, subsequently, the area was proposed for stockpiling of soil during the December 2 to 17, 2024, excavation activities. No stockpiles are currently present in the area of the proposed new tennis court as per photo documentation provided in the CSSM. ACEHD requests that soil samples be collected in fill material placed in this area.

Soil Sample Depths and Locations

1. Tables 1 through 3 of the IRACR mention a Sample ID "PS", while Figure 6 of the IRACR displays a location "PS-1". ACEHD requests clarification to confirm that the sample with the sample ID "PS" was collected from sampling location "PS-1".

2. Section 3.1 of the IRACR states that "additional surface and stockpile sampling" was conducted on September 4, 2024. Figure 6 of the IRACR indicates that samples were collected from TP-1, TP-2 and TP-3 at 1, 2 and 3 feet (ft) below ground surface (bgs) at each location. The sampling depths at these locations match the depth designation in Table 2 of the IRACR. However, Tables 1, 3 and 4 of the IRACR indicate that samples were collected from 8 and 12 ft bgs at these locations. ACEHD requests clarification to determine if samples collected from sampling locations TP-1 through TP-3 were soil surface samples or samples collected at depth, and what the sampling depth intervals were.

3. It is unclear if the sampling depths for the locations where soil samples were collected between September 4 and October 1 are referenced relative to the original ground surface elevation or to the surface elevation after the excavation activities conducted between August 26 and September 5, 2024. Furthermore, it is also unclear what ground surface elevation was used to determine the depth intervals relative to the confirmation samples collected on December 17, 2024. ACEHD requests that all analytical results for all sampling locations be presented relative to the original ground surface elevation.

4. Swimming Pool Excavation. Figure 8 of the IRACR is not mentioned in the text of the document. Furthermore, there is no discussion comparing and evaluating the "estimated excavation depth" displayed in Figure 6 of the IRACR to the "approximate excavation depth" shown in Figure 8 of IRACR and the confirmation soil sampling locations shown on Figure 9

of the IRACR. Furthermore, Figure 8 of the IRACR seems to indicate that the soil excavation went to a depth of 2 to 3 ft in the area where soil samples collected at 3 ft bgs at DV-8 had a lead concentration of 208 milligrams per kilogram (mg/Kg), above the San Francisco Bay Regional Water Quality Control Board's (RWQCB) construction worker environmental screening Level (ESL) for lead of 160 mg/Kg. No confirmation soil sample was collected in the vicinity of the DV-8 and the Data Gap Investigation Work Plan (DGIWP) does not include additional soil sampling in the vicinity of DV-8. The IRACR does not provide information on whether excavation target depths were achieved, if there were any deviations from the proposed target excavation depths and the rationale for the selection of the confirmation soil sampling locations. Additional characterization is required to delineate impacts in the vicinity of DV-8.

5. Asbestos Concrete Piping. It is unclear where and at what depth within the excavated area from December 2 to 17, 2024, the 150-ft segment of asbestos-concrete piping was uncovered. Furthermore, confirmation soil samples collected at the base of the excavation on December 17, 2024, did not include analysis for asbestos. ACEHD requests a figure depicting the location and depth of the uncovered asbestos-piping in relationship to the confirmation soil sampling locations.

6. Utility Trench Project. The DGIWP proposes collection of soil samples for waste characterization purposes approximately every 50 feet along the proposed length of the utility trenches but does not state if soil samples will be collected from borings and if so at what depths samples will be collected. ACEHD requests that construction depths for the utility trenches be provided and that soil is characterized at discrete depths prior to excavation.

7. Delineation of Contamination at the Site. The extent of historic fill material across the whole property has not been assessed. Surface samples collected within the Swim Center project construction area had concentrations of lead and benzo(a)pyrene above direct exposure residential ESLs and detections of polychlorinated bi phenyls (PCBs); however, it is unknown if these and other potential constituents of concern (PCOC) are present at the rest of the property. ACEHD requests that soil samples be collected at surface and at depth on a grid in those areas of the property that are not covered by hardscape where fill material may be present and may have been impacted by stormwater runoff with potentially contaminated soil, and were not assessed in between August and December 2024, including the current baseball field. Samples collected from these areas must be analyzed for CAM17 metals, SVOCs, OCPs and PCBs.

8. The DGIWP proposes collection of additional soil samples for delineation of contaminated soil in the area of the excavation (Section E3.1), confirmation soil samples along the current excavation sidewalls (Section E3.2), soil waste characterization for remaining soil excavation (Section E3.3) and soil samples for assessment of conditions as the proposed new tennis court area (Section E3.4); however, Figure E-1 of the DGIWP presents locations for "delineation of soil impacts", "soil waste characterization" and "baseline soil assessment". In addition, some of the delineation sampling locations listed in the text of the DGIWP are presented as soil waste characterization locations on Figure E-1 of the DGIWP. Furthermore, distribution of the soil sampling locations in the vicinity of C-7, C-12 and C-18 do not provide proper lateral delineation to assess the extent of remaining contamination in the current

excavation. Additional soil samples are required to laterally delineate contaminated soil within the current excavation and soil that will be excavated to achieve final depths.

9. The Fencing Project Report indicates that shallow soil samples collected at parcel 71-217-1-2 contained arsenic exceeding San Francisco Bay Area background concentrations of 11 mg/ Kg and lead concentrations exceeding direct contact residential ESL of 80 mg/Kg. The collection of samples was limited to four locations and no investigation was conducted to determine the extent of contamination in shallow soil in areas not covered by hardscape at the property. Additional soil samples are required to laterally and vertically delineate potentially contaminated soil within the proposed excavation.

Laboratory Analytical Results

1. Per Section 4.3 of the IRACR "lead concentrations were found at concentrations between 93 and 270 mg/Kg" at soil confirmation sampling locations C-7, C-12 and C-18. Following California Department of Toxic Substances Control (DTSC) hazardous waste criteria determination, all three samples were analyzed for lead by the Soluble Threshold Limit Concentration (STLC) method. As documented in the laboratory analytical report with the Work Order number 2412F72 and in accordance with the DTSC hazardous waste criteria determination, samples collected from soil confirmation sampling location C-13 where lead was detected at a concentration of 65 mg/Kg were also submitted to the lab for lead analysis by the STLC method. However, Table 4 of the IRACR does not have any lead STLC analytical results for C-13. Furthermore, the lead STLC result for soil confirmation sampling location C-18 does not match the result in the laboratory analytical report. The result reported for C-18 in Table 4 of the IRACR matches the results for C-13 shown in the laboratory analytical report. Also, the incorrect ESL values for PCBs are presented in Table 4 of the IRACR. ACEHD requests that all reported analytical results presented in the tables of the report be cross referenced against the laboratory analytical results and revised where applicable.

CSSM

1. While the Revised CSSM includes Effluent Sampling Field Log sheets, it does not provide any detailed information on the location where field parameter readings were collected on November 22 and December 16, 2024, when qualifying precipitation events took place. The location information is not included in Table 7-9 of the Stormwater Pollution Prevention Plan (SWPPP) that is attached to the CSSM and it is not displayed on the "Layout and Erosion Control Plan" (Sheet C5) provided in Attachment A of the SWPPP, as stated in Section 7.7.2.2 of the SWPPP. ACEHD requests a figure displaying the location where field parameter readings were collected and that the Layout and Erosion Control Plan be updated to display all items identified in the text of SWPPP and that reference Sheet C5 for their location.
2. The results of the water sample collected from the excavated area at the former swimming pool on December 23, 2024, must be provided to ACEHD for review.
3. Figure 2 of the Revised CSSM shows two storm drains along Oak Street. It is unclear from the field notes provided in the Visual Inspection Field Log for December 27, 2025, which of the two drain was clogged during the visual inspection. ACEHD requests clarification about which storm drain was clogged and what the current status of the drain is.

4. A drone flight photo and a photo taken on December 20, 2024, both displaying a stockpile currently onsite in the mount area in the southeast corner of the former baseball field. ACEHD notes that the photo does not show the stockpile underlain by polyethylene sheeting.

Attachment C

ACEHD Soil Import/Export Characterization Requirements

ALAMEDA COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH LOCAL OVERSIGHT PROGRAM	**Revision Date:** August 9, 2019
	ISSUE DATE: August 1, 2018
	Previous Revisions: October 25, 2018
SUBJECT: Soil Import/Export Characterization Requirements	

INTRODUCTION:

This document has been prepared by Alameda County Department of Environmental Health (ACDEH) for environmental cleanup sites regulated by ACDEH to provide requirements for the characterization of soil to determine its suitability for use at another site. These requirements have been prepared by ACDEH to ensure that unsuitable soil is not imported to environmental cleanup sites or exported from environmental cleanup sites to properties with sensitive land uses. This document is for characterization of soil only and does not address requirements for characterization of other fill material including, but not limited to: crushed rock, pea gravel, recycled concrete, or flowable material.

This document addresses both human health and ecological risk associated with exposure pathways to fill material and identifies fill sources which are unsuitable for use as fill material based on current and historic land use activities. The protocols and criteria presented in this document are intended to be sufficiently conservative to be applicable to all soil fill import sites regardless of land use or other site characteristics. Alternative criteria for soil characterization and suitability may be proposed for consideration by ACDEH via submittal of a site-specific soil import/export management plan and associated supporting technical documents.

This document was prepared using the structure presented in the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) Clean Imported Fill Material Information Advisory (October 2001) and modified to incorporate use of the San Francisco Bay Regional Water Quality Control Boards (Water Board's) Environmental Screening Levels (ESLs), criteria provided to ACDEH by designated Groundwater Basin Managers within Alameda County; and accepted industry practices for soil characterization.

Section 1 of this document discusses criteria for assessing and identifying potentially suitable fill material sources. **Section 2** discusses the evaluation of the suitability of potential fill material. **Section 3** discusses ACDEH's fill import suitability determination process. **Section 4** describes the conditions and reporting requirements for importing suitable fill material.

1. ASSESSMENT OF POTENTIALLY SUITABLE FILL MATERIAL SOURCES

Suitable fill material ("Clean Soil") as defined in this document is soil that will not have an adverse effect on human health or the environment when imported to the receiving site. Clean Soil must consist solely of natural earth material (e.g., soil, clay, silt, sand, gravel, rock) and must have concentrations of naturally occurring chemicals that do not exceed background levels at the receiving site and concentrations of man-made chemicals that do not exceed applicable risk based screening levels for human health risk, ecological risk (aquatic and terrestrial receptors), and concerns for nuisance and gross contamination.

Prior to collecting analytical data to confirm suitability of potential fill material, potential source areas should be screened based on historical land use and material composition. Historic and current land use at, and in the vicinity of, the parcel containing the proposed fill material should be evaluated for environmental impacts to determine the applicable laboratory analysis that should be conducted to characterize the fill material. This assessment consists of the review of historical records and typically includes conducting a phase one environmental site assessment (Phase I ESA) or preliminary environmental assessment (PEA) within six months of the assessment. The assessment should be sufficient to identify Recognized Environmental Conditions (RECs). RECs are typically associated with the

production, use, storage, transport, recycling, or disposal of hazardous material or waste at or in the vicinity of the parcel being evaluated and are used to determine what potential contaminants may be present and therefore should be analyzed for.

Fill material from parcels with the following conditions are not suitable for use as a proposed fill material source without additional evaluation and approval from ACDEH beyond what is required in this guidance:

a. Regulated environmental cleanup sites; or

b. Unaddressed or insufficiently addressed RECs; or

c. Current or historic industrial land uses; or

d. Current or historic unacceptable commercial land uses. Unacceptable commercial land uses are operations that generate revenue through, or that significantly involve:

   i. Manufacturing, repairing, or restoring operations; or

   ii. Providing maintenance services; or

   iii. The use, storage, transport, or disposal of hazardous material or waste.

e. Material containing animal or human waste or debris such as lumber, metal, or refuse.

2. EVALUATION OF FILL MATERIAL SUITABILITY

Proposed fill material source areas that are considered potentially suitable based on the initial screening of historic and current land use must be sampled, analyzed, and meet applicable environmental and human health risk levels before a final determination of the suitability of the proposed fill material can be made. Sampling protocols and strategies, and laboratory analyses vary based on conditions at the location being sampled, the type of compounds that are being evaluated, and the volume of fill material. Samples must be collected and analyzed in a manner sufficient to characterize the lateral and vertical extents of the proposed fill material source area. Minimum sampling and analysis requirements to evaluate the suitability of a proposed fill material source area are derived from various regulatory guidance documents, industry best practices, and requirements from designated Groundwater Basin Managers within Alameda County which are described in further detail below.

2.1. Minimum Analytical Requirements

Minimum analytical requirements for characterization of potentially suitable fill material proposed for import to a destination (a) outside of the jurisdiction of Zone 7 Water Agency (Zone 7); or (b) within the jurisdiction of Zone 7 are provided in Table 1a and Table 1b, respectively. Sampling and laboratory analysis must be conducted in accordance with the following requirements:

a. All analysis must performed in accordance with the United States Environmental Protection Agency's (USEPA's) SW-864 Compendium;

b. Analysis of samples must be completed and reported by an analytical laboratory accredited by the California State Environmental Laboratory Accreditation Program and the National Environmental Laboratory Accreditation Program;

c. The laboratory reporting limits must not exceed the screening levels adopted by ACDEH as described in Section 2.4 below;

d. The laboratory reporting limits must be reported on a dry-weight basis; and

e. The results of the laboratory analysis must be reported in a standard laboratory data package, including a summary of the quality control and quality assurance sample results and chain of custody documentation.

2.2. Minimum Sampling Requirements

Sampling for the characterization of potentially suitable fill material must be conducted under the direct charge of a professional engineer or geologist licensed in the state of California ("Qualified Professional") and in accordance with industry best practices including, but not limited to those discussed in the subsections below.

2.2.1. Vapor Forming Compounds

Vapor forming compounds consist of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) that readily form a vapor when exposed to air. In order to minimize volatilization of VOCs and SVOCs during sample collection, and ensure that analytical results are representative of the proposed fill material, discrete samples must be collected and analyzed in accordance with USEPA Method 5035. Composite sampling is not acceptable for the evaluation of VOCs and SVOCs.

2.2.2. Composite Sampling

Composite sampling is acceptable under the following conditions:

a. Analysis is for non-vapor forming chemicals;

b. The composite sample is comprised of roughly equivalent masses of each of the discrete samples;

c. Sufficient mass of discrete samples from each of the composited locations are submitted so as to allow for analysis of the discrete samples; and

d. Each of the discrete samples that comprise the composite sample must be analyzed in the event that the composite sample exceeds the applicable screening level.

2.2.3. In Situ Characterization

Pre-excavation (e.g., In Situ) characterization of potentially suitable fill material must meet the minimum requirements provided in Table 2a (for import to a destination outside of the jurisdiction of Zone 7 Water Agency's jurisdiction) and Table 2b (for import to a destination within the Zone 7 Water Agency's jurisdiction). Additional requirements include:

- Characterization of soil lithology in the proposed source area using the Unified Soil Classification System from the ground surface to the total depth of the proposed excavation for the fill material. The characterized soil lithology at each sample location must be presented as a soil boring log and must be reviewed and stamped by a Qualified Professional.
- Collection and analysis of at least one sample from each sample location for every five feet below ground surface that the proposed fill area extends.
- Characterization of layers of proposed fill material that exhibit significantly different geological characteristics or lithologies as separate sources. For example, if soil at a site generally consists of clay from the ground surface to a depth of 3 feet below ground surface with interbedded silts and sands beyond, the clay layer should be characterized and managed as one source and the interbedded silts and sands should be characterized as a second source.
- Use of direct push technology for sample collection and analyses for VOCs and SVOCs. Samples collected for analysis of non-vapor forming compounds may be collected using direct push technology, augers, or from a bucket, sidewall, or base sample from "pot hole" excavations.

2.2.4. Stockpile Characterization

The minimum sample quantities for the characterization of potentially suitable fill material that have been excavated and stockpiled are based on the total volume of the stockpiled fill material and are summarized in Table 3. Stockpiles must be generated from the same source area, must be segregated by fill material composition, and be located on the parcel generating the proposed fill material. Samples being analyzed for VOCs and SVOCs must be collected from at least 1 foot below the exposed surface of the stockpile.

2.3. Conditions Requiring Additional Sampling and Analysis

In addition to the minimum sampling requirements identified above, the following conditions, if present, require additional sampling and analysis as indicated:

1. **Evidence of Contamination** – Samples must be collected and analyzed from any locations where there is evidence of contamination such as strong odors, staining, observable sheen or free product, stressed vegetation, and/or elevated responses from field screening instruments such as a photoionization detector.
2. **Contaminants Associated with Surface Deposition** – When characterization for contaminants associated with surface deposition (e.g., pesticides, herbicides, fungicides, asbestos, and lead) are required for fill material characterization, representative samples must be collected from surface and near surface soils in accordance with the following:
    - For in situ characterization, one sample should be collected from each of the following intervals from each sample location: 0 to 6 inches below ground surface; 6 inches to 2 feet below ground surface; and 2 feet to 3 feet below ground surface; and
    - For stockpiled fill material, fill material from the surface and near surface (0 to 3 feet below ground surface) must be segregated from other fill material and characterized as a separate potential fill source.
3. **Groundwater and Saturated Soil** – If groundwater or saturated soil is encountered during fill characterization or excavation, the following additional samples must be collected and analyzed:
    - One soil sample per sample location from immediately above the saturated soil (i.e., the capillary fringe); and
    - One groundwater sample from each soil boring, excavation, or dewatering well in which groundwater is encountered.
4. **Dewatering** – If dewatering is conducted to support excavation of potentially suitable fill material, characterization of the fill material must be conducted after dewatering has been implemented and soil is no longer saturated.

2.4. Screening Levels

To be considered suitable fill material, analytical results of the fill characterization sampling must be less than applicable environmental and human health risk based screening levels.

2.4.1. Default Screening Levels

ACDEH has adopted the Regional Water Board's Tier 1 Environmental Screening Levels (ESLs) dated January 2019 (Revison 2) as default screening levels for all constituents with the following exception:

- **Arsenic**: the screening level for arsenic adopted by ACDEH is 11.00 milligrams of arsenic per kilogram of sample. This concentration is based on the upper estimate (99th percentile) for regional background levels of arsenic in the urbanized San Francisco bay region[3].

The use of Tier 1 ESLs as a default screening level is applicable to all sites regardless of land use or other site characteristics.

2.4.2. Alternative Screening Levels

In the event that fill characterization fails the default screening levels, alternative screening levels may be proposed for consideration by ACDEH via submittal of a site-specific soil import/export management plan. The soil import management plan must include a site-specific risk assessment for the receiving location and associated supporting technical documents.

The use of hazardous waste characteristic of toxicity levels (California Code of Regulations Title 22 Section 66261.24) as a screening level to evaluate the suitability of the import of soils is unacceptable for all sites except for appropriately designed and permitted treatment, storage, disposal, or recycling facilities.

3. ACDEH FILL MATERIAL IMPORT SUITABILITY DETERMINATION PROCESS

To obtain a determination from ACDEH that a proposed fill material is suitable, ACDEH requires submittal of a technical report (the "Fill Material Characterization Report") documenting the characterization of the proposed fill material. This technical report must contain, at a minimum, the following elements:

1. A cover letter from the owner of the proposed fill source material with the following statement: "I have read and acknowledge the content, recommendations, and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH". This cover letter must be signed by the owner of the proposed fill source material or a legally authorized representative of the owner of the proposed fill source material;
2. A statement that fill material characterization was conducted under the responsible charge of a Qualified Professional. This statement must be accompanied by the signed and dated seal of the Qualified Professional with responsible charge;
3. Narrative identifying and summarizing the following elements:
    a. The location, assessor's parcel number, and physical address of the proposed fill material source area;
    b. A summary of historical land uses and operations conducted at and in the vicinity of the proposed fill material source area with citations for supporting documentation;
    c. Identification and description of any identified RECs;
    d. A summary of fill material characterization efforts conducted, including a description of sampling and analysis and applicable geology and hydrogeology within the proposed fill material source area;
    e. A summary of the results of analytical sampling; and
    f. Recommendations and conclusions for the suitability of the proposed fill material.
4. Tables summarizing the site characterization analytical data;
5. A completed Proposed Fill Material Source Characterization Summary Form. A copy of this form is provided in pdf in Attachment A. An excel spreadsheet of this form is available on request;
6. Figure(s) depicting the following elements:
    a. Sample locations;

b. Parcel lines and parcel numbers;

c. Lateral extent(s) and depth(s) of the proposed fill material source area(s);

d. Location of any identified RECs;

e. Location of known current and historic infrastructure including structures, roadways, utilities, and any above ground or below ground storage tanks.

7. Boring logs depicting the geology, sample depths, and any encountered groundwater from each sample location;

8. Copies of laboratory analytical data;

9. Copies of supporting environmental documents such as Phase I ESA, PEA, or historic subsurface investigation reports.

The Fill Material Characterization Report and supporting documentation must be submitted to ACDEH via email to deh.loptoxic@acgov.org and uploaded to the State Water Resources Control Board's GeoTracker database. ACDEH will review the Fill Material Characterization Report and will issue a directive letter that (a) determines that the proposed fill material is suitable for import/export; (b) requests additional characterization; or (c) determines that the proposed fill material is not suitable for import/export. ACDEH's determination will include conditions described in Section 4 and may include additional conditions or requirements.

4. CONDITIONS OF ACDEH FILL MATERIAL IMPORT SUITABILITY DETERMINATION

As a condition of import/export, a technical report be submitted to ACDEH via email and uploaded to GeoTracker documenting the import/export of soil (the "Soil Import Summary Report"). The report must be uploaded to the GeoTracker information repositories for both the fill material source area and the destination. Please note that for locations importing soil from multiple sources, a single report can be submitted that documents import from multiple sources. For locations in which soil import activities last more than one year, a Soil Import Summary Report must be submitted on a semi-annual basis for the duration of import activities. The Soil Import Summary Report must contain the following elements at a minimum:

1. A cover letter from the owner of the proposed fill source material that states, at a minimum, the following: "I have read and acknowledge the content, recommendations, and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH." This cover letter must be signed by the owner of the proposed fill source material or a legally authorized representative of the owner of the proposed fill source material;

2. The technical report must include a statement that fill material characterization was conducted under the responsible charge of a Qualified Professional. This statement must be accompanied by the signed and dated seal of the Qualified Professional with responsible charge;

3. Summary tables of soil import logs. These logs must include the following information for each delivery of fill material: arrival date, manifest number or truck tag, quantity of fill material delivered, originating facility, and profile number;

4. A figure depicting the location and depth of imported soil. If fill material from multiple sources has been imported, the location and depth of imported soil from each source must be distinguished;

5. Copies of all manifests or other documentation of soil import as an appendix; and

6. Copies of all fill characterization profiles as an appendix.

5. CLOSING

If you have questions or comments regarding the requirements presented in this document, please contact ACDEH's Local Oversight Program for Releases of Hazardous Materials at 510-567-6700.

This document was prepared by, or under the direction of, the undersigned.

Dilan Roe

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ENCLOSURES

Tables

Table 1a	Minimum Required Analyses for Characterization of Fill Material for Off-Site Reuse for Receiving Facilities Located outside of Zone 7 Water Agency Jurisdictional Boundaries
Table 1b	Minimum Required Analyses for Characterization of Fill Material for Off-Site Reuse for Receiving Facilities Located within Zone 7 Water Agency Jurisdictional Boundaries
Table 2a	Minimum Required Sample Density and Spacing for In Situ (Pre-excavation) Characterization of Proposed Fill Material Sources for Receiving Facilities Located outside of Zone 7 Water Agency's Jurisdictional Boundaries
Table 2b	Minimum Required Sample Density and Spacing for In Situ (Pre-excavation) Characterization of Proposed Fill Material Sources for Receiving Facilities Located within Zone 7 Water Agency's Jurisdictional Boundaries
Table 3	Minimum Required Sample Density and Spacing for Stockpile (Post-Excavation) Characterization of Proposed Fill Material Sources

Appendices

Appendix A	Proposed Fill Material Source Characterization Summary Form

REFERENCES

1. DRAFT Technical Reference Document: Characterization and Reuse of Petroleum Hydrocarbon Impact Soil as Inert Waste. San Francisco Bay Regional Water Quality Control Board. October 2006.
2. Environmental Screening Levels (ESLs) revision 2. San Francisco Bay Regional Water Quality Control Board. January 2019.
3. Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region. Duverge. December 2011
4. Information Advisory: Clean Imported Fill Material. Department of Toxic Substances Control (DTSC). October 2001.
5. Interim Guidance for Sampling Agricultural Properties revision 3. Department of Toxic Substances Control. August 7, 2008.
6. Preliminary Endangerment Assessment Guidance Manual. Department of Toxic Substances Control. January 1994. Revised October 2015.

TABLES

Table 1a
Minimum Required Analyses for Characterization of Fill Material for Off-Site Reuse
for Receiving Facilities Located outside of Zone 7 Water Agency Jurisdictional Boundaries

		Current and Historic Land Use At or Within 500 Feet of Fill Source Area			Current and Historic Land Use at Parcel(s) Containing Fill Source Area			
Laboratory Analysis[1]	**Analytical Method**	Major Roadway or Freeway	Mining Area or Rock Quarry	Regulated Cleanup Site and RECs	Agricultural	Residential / Acceptable Commercial[2]	Existing Historic Engineered Fill[3]	Industrial / Unacceptable Commercial
California Title 22 Metals [4]	USEPA 6010B and/or USEPA 7471A	X (Lead Only)	X	Additional As Required	X	X	X[5]	N/A
Asbestos	PLM or OSHA 191		X (PLM)	Additional As Required		X (OSHA 191)	X[5]	N/A
pH	USEPA 9045D		X	Additional As Required			X[5]	N/A
Pesticides	USEPA 8141A; and USEPA 8151A; and USEPA 8081A or 8080A			Additional As Required	X		X[5]	N/A
VOCs	USEPA 8260B with collection by USEPA 5035			Additional As Required		X	X[5]	N/A
SVOCs & PAHs	USEPA 8270C SIM	X (PAHs Only)		Additional As Required		X	X[5]	N/A
TPH	USEPA 8015M	X[5]	X[5]	Additional As Required	X[5]	X	X[5]	N/A
PCBs	USEPA 8082 or 8080A			Additional As Required		X	X[5]	N/A

Adapted from Department of Toxic Substances Control's Information Advisory Clean Imported Fill Material dated October 2001.

Notes:

(1) All analysis should be performed in accordance with USEPA SW-846 methods. A standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results must accompany all analytical reports;
(2) Acceptable commercial land use excludes any commercial use that generates revenue from manufacturing, repair/restoration, maintenance/cleaning, or the storage/transport of hazardous materials;
(3) Existing homogeneous engineered fill. Fill containing waste or debris or that is heterogeneous is not acceptable for off-site reuse.
(4) Include when Hexavalent Chromium analysis required by USEPA method 7199
(5) Analysis required by Alameda County Department of Environmental Health;

Abbreviations:

USEPA -United States Environmental Protection Agency
N/A – Not Acceptable for off-site re-use
PLM – Polarized Light Microscopy
OSHA – Occupational Safety and Health Administration Testing Method Number
SIM – Selected Ion Monitoring
VOCs – Volatile Organic Compounds
SVOCs – Semi-Volatile Organic Compounds
PAHs – Poly Aromatic Hydrocarbons
TPH – Total Petroleum Hydrocarbons as reported for gasoline range, diesel range, and motor oil range
PCBs – Polychlorinated Biphenyls;

Table 1b
Minimum Required Analyses for Characterization of Fill Material for Off-Site Reuse for Receiving Facilities Located within Zone 7 Water Agency Jurisdictional Boundaries

		Current and Historic Land Use At or Within 500 Feet of Fill Source Area			Current and Historic Land Use at Parcel(s) Containing Fill Source Area			
Laboratory Analysis[1]	**Analytical Method**	Major Roadway or Freeway	Mining Area or Rock Quarry	Regulated Cleanup Site and RECs	Agricultural	Residential / Acceptable Commercial[2]	Existing Historic Engineered Fill[3]	Industrial / Unacceptable Commercial
California Title 22 Metals [4]	USEPA 6010B and/or USEPA 7471A	X (Lead Only)	X	Additional As Required	X	X	X[5, 6]	N/A
Asbestos	PLM or OSHA 191		X (PLM)	Additional As Required		X (OSHA 191)	X[5, 6]	N/A
pH	USEPA 9045D		X	Additional As Required			X[5, 6]	N/A
Pesticides	USEPA 8141A; and USEPA 8151A; and USEPA 8081A or 8080A	X[6]	X[6]	Additional As Required	X	X[6]	X[5, 6]	N/A
VOCs	USEPA 8260B with collection by USEPA 5035			Additional As Required		X	X[5, 6]	N/A
SVOCs & PAHs	USEPA 8270C SIM	X (PAHs Only)		Additional As Required		X	X[5, 6]	N/A
TPH	USEPA 8015M	X[5, 6]	X[5, 6]	Additional As Required	X[5, 6]	X	X[5, 6]	N/A
PCBs	USEPA 8082 or 8080A			Additional As Required		X	X[5, 6]	N/A

Adapted from Department of Toxic Substances Control's Information Advisory Clean Imported Fill Material dated October 2001.

Notes:

(1) All analysis should be performed in accordance with USEPA SW-846 methods. A standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results must accompany all analytical reports;
(2) Acceptable commercial land use consist excludes any commercial use that generates revenue from manufacturing, repair/restoration, maintenance/cleaning, or the storage/transport of hazardous materials;
(3) Existing homogeneous engineered fill. Fill containing waste or debris or that is heterogeneous is not acceptable for off-site reuse.
(4) Include when Hexavalent Chromium analysis required by USEPA method 7199
(5) Analysis required by Alameda County Department of Environmental Health;
(6) Analysis required by Zone 7 Water Agency

Abbreviations:

USEPA -United States Environmental Protection Agency
N/A – Not Acceptable for off-site re-use
PLM – Polarized Light Microscopy
OSHA – Occupational Safety and Health Administration Testing Method Number
SIM – Selected Ion Monitoring
VOCs – Volatile Organic Compounds
SVOCs – Semi-Volatile Organic Compounds
PAHs – Poly Aromatic Hydrocarbons
TPH – Total Petroleum Hydrocarbons as reported for gasoline range, diesel range, and motor oil range
PCBs – Polychlorinated Biphenyls;

Table 2a

Minimum Required Sample Density and Spacing for In Situ (Pre-excavation) Characterization of Proposed Fill Material Sources for Receiving Facilities Located outside of Zone 7 Water Agency's Jurisdictional Boundaries

Requirements	Size of Contiguous Fill Source	Minimum Lateral Sample Distribution	Minimum Vertical Sample Distribution
(1) Additional lateral sample locations may be required to address identified RECs; (2) Additional samples must be collected from fill material that exhibits signs of potential contamination (*e.g.*, strong odor, staining, presence of sheen or free product, stressed vegetation in the vicinity, elevated response from photo-ionization detector); (3) Fill source area cannot be located on parcel(s) with historic industrial or unacceptable commercial land uses or parcel(s) associated with regulated environmental cleanup sites unless approved by regulatory oversight agency; (4) Samples that are collected, but not planned for analysis must be submitted with the samples planned for analysis under chain of custody to an appropriately certified analytical laboratory. The samples that are not planned for analysis must remain on hold with the laboratory until ACDEH has issued a determination regarding the suitability of fill material for import and released the un-analyzed samples for disposal; (5) When contaminants associated with surface deposition (e.g. pesticides, asbestos, and lead) are required to be evaluated, ACDEH requires the following additional samples be collected from each sample location: One sample from 0 to 6 inches bgs, One sample from 6 inches to 2 feet bgs, One sample from 2 feet to 3 feet bgs. One of these samples must be selected for analysis for each sample location; (6) If groundwater is encountered, ACDEH requires the following additional samples be collected and analyzed: One sample per Sample Location from immediately above the saturated fill material (i.e., the capillary fringe); One groundwater sample must be collected and analyzed for each boring, excavation, or dewatering well in which groundwater is encountered. (7) If dewatering will be conducted to support excavation below an existing water table, ACDEH requires that historically saturated fill material be samples after dewatering is in effect. (8) Composite sampling may or may not be appropriate, depending on the quality and homogeneity of the source/borrow area and compounds of concern.	≤2.0 acres	**4** sample locations. **AND** Sample Locations must be distributed throughout the fill material source area.	**1** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.
	≥2.0 acres <4.0 acres	**1** sample location per 0.5 acre. **AND** Sample Locations must be distributed throughout the fill material source area.	**1** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.
	≥4 acres <10.0 acres	**8** sample locations. **AND** Sample Locations must be distributed throughout the fill material source area.	**1** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.
	≥10.0 acres	**8** sample locations. **AND** Sample Locations must be distributed throughout the fill material source area.	**4** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.

Table 2b

Minimum Required Sample Density and Spacing for In Situ (Pre-excavation) Characterization of Proposed Fill Material Sources for Receiving Facilities Located within Zone 7 Water Agency's Jurisdictional Boundaries

Requirements	Size of Contiguous Fill Source	Minimum Lateral Sample Distribution	Minimum Vertical Sample Distribution
(1) Additional lateral sample locations may be required to address identified RECs (2) Additional samples must be collected from fill material that exhibits signs of potential contamination (*e.g.*, strong odor, staining, presence of sheen or free product, stressed vegetation in the vicinity, elevated response from photo-ionization detector) (3) Fill source area cannot be located on parcel(s) with historic industrial or unacceptable commercial land uses or parcel(s) associated with regulated environmental cleanup sites unless approved by regulatory oversight agency; (4) Samples that are collected, but not planned for analysis must be submitted with the samples planned for analysis under chain of custody to an appropriately certified analytical laboratory. The samples that are not planned for analysis must remain on hold with the laboratory until ACDEH has issued a determination regarding the suitability of fill material for import and released the un-analyzed samples for disposal; (5) When contaminants associated with surface deposition (e.g. pesticides, asbestos, and lead) are required to be evaluated, ACDEH requires the following additional samples be collected from each sample location: One sample from 0 to 6 inches bgs; One sample from 6 inches to 2 feet bgs; and One sample from 2 feet to 3 feet bgs. One of these samples must be selected for analysis for each sample location; (6) If groundwater is encountered, ACDEH requires the following additional samples be collected and analyzed: One sample per Sample Location from immediately above the saturated fill material (i.e., the capillary fringe); One groundwater samples must be collected and analyzed for each boring, excavation, or dewatering well in which groundwater is encountered. (7) If dewatering will be conducted to support excavation below an existing water table, ACDEH requires that, historically saturated fill material be samples after dewatering is in effect. (8) Composite sampling may or may not be appropriate, depending on the quality and homogeneity of the fill material and compounds of concern.	≤2.0 acres	**8** sample locations. **AND** Sample Locations must be distributed throughout the fill material source area.	**1** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.
	≥2.0 acres <4.0 acres	**1** sample location per 0.25 acre. **AND** Sample Locations must be distributed throughout the fill material source area.	**1** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.
	≥4 acres <10.0 acres	**16** sample locations. **AND** Sample Locations must be distributed throughout the fill material source area.	**1** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.
	≥10.0 acres	**16** sample locations. **AND** Sample Locations must be distributed throughout the fill material source area.	**4** sample collected and analyzed per sample location. **AND** **1** sample collected and analyzed for every 5 feet bgs. **AND** **1** sample collected from each layer exhibiting different geological characteristics or lithology encountered.

Table 3

Minimum Required Sample Density and Spacing for Stockpile (Post-Excavation) Characterization of Proposed Fill Material Sources for Receiving Facilities

Requirements	Size of Fill Source	Minimum Number of Fill Material Samples to be Collected
(1) Top Soil (0 to 6 inches bgs) and near surface soil (6 inches to 3 feet bgs) must be stockpiled separately if sampling for contaminants associated with surface deposition (e.g. pesticides, asbestos, and lead) (0-6 inches below ground surface) is required; (2) 4-point composite samples may be used in lieu of discrete samples for analysis other than VOCs and SVOCs, however, the total number of samples must be preserved; (3) VOC and SVOC samples are to be collected from fill material at least 1 foot into the stockpile;	$\leq$1,000 yd^3	**1** sample collected and analyzed per 250 cubic yards of stockpiled fill material.
	>1,000 yd^3 & <5,000 yd^3	**4** samples collected and analyzed for first 1,000 cubic yards **AND** **1** sample for each additional 500 cubic yards.
	$\geq$5,000 yd^3	**12** samples collected and analyzed for first 5,000 cubic yards **AND** **1** sample for each additional 1,000 cubic yards.

ATTACHMENT A

Proposed Fill Material Source Characterization Summary Form

Proposed Fill Material Source Characterization Summary Form

Associated APN	Historic Land Use and identification of RECs (check all that apply)											In-situ [e.g. Unexcavated] Fill Source Information (if applicable)					Stockpiled Fill Source Information (if applicable)		Fill Source Classification (check all that apply)					Fill Type (check all that apply)					Fill Destination (check all that apply)				Minimum Required Sampling[4]/ Actual Number of samples collected								
	Phase 1 ESA or PEA Conducted	Undeveloped	Agricultural	Residential	Acceptable Commercial [1]	Unacceptable Commercial [2]	Industrial	Existing Historic Fill	Regulated Environmental Cleanup Site [3]	Major Roadway / Freeway [3]	Mining Area or Rock Quarry [3]	Cell ID	Excavation Width (feet)	Excavation Length (feet)	Excavation Depth (feet)	Number of Soil Layers Identified	Stockpile ID	Stockpile Volume (yd^3)	Soil Pit	Quarry	Construction Site	Stockpile Yard	Recycling Facility	Soil	Aggregate (sand and/or gravel)	Crushed Asphalt	Crushed Concrete	Construction Debris	Unknown	Property within jurisdiction of Zone 7	Property within jurisdiction of ACWD	Property outside Zone 7 or ACWD jurisdiction	Permitted TSDF	California Title 22 Metals	Asbestos	pH	Pesticides	VOCs	SVOCs	PAHs	TPH	PCBs
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Are RECs, CRECs, or HRECs associated with any parcels? If so, what parcels, and what are the associated COCs?	
If Fill Source Area is a regulated environmental cleanup site, provide case identification information and regulatory oversight agency soil export requirements	

Notes:

(1) Commercial activities that do not meet the Unacceptable Commercial criteria. Typically, Acceptable Commercial facilities are retail, restaurants or service providers (professional, legal, integrated technology, etc..).

(2) Commercial activities that generate revenue through or that significantly involve manufacturing, repairing, restoring, or providing maintenance services or the transport, storage, and disposal of hazardous materials.

(3) Land use at or within 500 feet of the parcel(s) containing the fill source

(4) Does not include additional sampling that may be required by the regulatory oversight agency overseeing the environmental cleanup site where the fill source is located

* Fill inappropriate or not proposed for off-site reuse at this time and must be disposed of at a permitted TSDF. Please consult with a permitted TSDF for sampling requirements for acceptance by the TSDR.

ACWD Alameda County Water District

APN Assessors Parcel Number

AR As required by accepting permitted TSDR

CRECs Controlled Recognized Environmental Condition as defined in ASTM E1527-13

HREC Historic Recognized Environmental Condition as defined in ASTM E1527-13

REC Recognized Environmental Condition as defined in ASTM E1527-13

TSDF Treatment, Storage, or Disposal Facility, defined as a "Designated Facility" in Title 22, Section 66260.10 of the California Code of Regulations.

Zone 7 Zone 7 Water Agency

Attachment D

Responsible Party(ies) Legal Requirements / Obligations

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	**REVISION DATE:** May 19, 2020
	ISSUE DATE: July 25, 2012
	PREVIOUS REVISIONS: September 17, 2013, May 15, 2014, December 12, 2016, December 14, 2017
SECTION: ACDEH Procedures	**SUBJECT:** Responsible Party(ies) Legal Requirements / Obligations

REPORT & DELIVERABLE REQUESTS

Alameda County Department of Environmental Health (ACDEH) Cleanup Oversight Programs, Local Oversight Program (LOP) and Site Cleanup Program (SCP) require submission of all reports in electronic form to the State Water Board's (SWB) GeoTracker website in accordance with California Code of Regulations, Title 23, Chapter 30, Division3, Article 2, Section 3892 and Chapter 16, Article 11, Division 3.

Leaking Underground Fuel Tank (LUFT) Cases

Reports and deliverable requests are pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party (RP) in conjunction with an unauthorized release from a petroleum underground storage tank (UST) system.

Site Cleanup Program (SCP) Cases

For non-petroleum UST cases, reports and deliverables requests are pursuant to California Health and Safety Code Section 101480.

ELECTRONIC SUBMITTAL OF REPORTS

A complete report submittal includes the PDF report and all associated electronic data files, including but not limited to GEO_MAP, GEO_XY, GEO_Z, GEO_BORE, GEO_WELL, and laboratory analytical data in Electronic Deliverable Format™ (EDF). Additional information on these requirements is available on the State Water Board's website (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)

- Do not upload draft reports to GeoTracker
- Rotate each page in the PDF document in the direction that will make it easiest to read on a computer monitor.

GEOTRACKER UPLOAD CERTIFICATION

Each report submittal is to include a GeoTracker Upload Summary Table with GeoTracker valid values[1] as illustrated in the example below to facilitate ACDEH review and verify compliance with GeoTracker requirements.

GeoTracker Upload Table Example

Report Title	Sample Period	PDF Report	GEO_ MAPS	Sample ID	Matrix	GEO _Z	GEO _XY	GEO_ BORE	GEO_WEL L	EDF
2016 Subsurface Investigation Report	2016 S1	✓	✓	Effluent	SO	☐	☐	☐	☐	✓
2012 Site Assessment Work Plan	2012	✓	✓			☐	☐	☐	☐	☐
2010 GW Investigation Report	2008 Q4	✓	✓	SB-10	W	✓	☐	☐	☐	✓
				SB-10-6	SO	☐	☐	☐	☐	✓
				MW-1	WG	✓	✓	✓	✓	✓
				SW-1	W	✓	✓	✓	✓	✓

[1] GeoTracker Survey XYZ, Well Data, and Site Map Guidelines & Restrictions, CA State Water Resources Control Board, April 2005

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	**REVISION DATE:** NA
	ISSUE DATE: December 14, 2017
	PREVIOUS REVISIONS: September 17, 2013, May 15, 2014, December 12, 2016
SECTION: ACDEH Procedures	**SUBJECT:** Responsible Party(ies) Legal Requirements / Obligations

ACKNOWLEDGEMENT STATEMENT

All work plans, technical reports, or technical documents submitted to ACDEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to the State Water Board's GeoTracker website." This letter must be signed by the Responsible Party, or legally authorized representative of the Responsible Party.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6731, 6735, and 7835) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately licensed or certified professional and include the professional registration stamp, signature, and statement of professional certification. Additional information is available on the Board of Professional Engineers, Land Surveyors, and Geologists website at: http://www.bpelsg.ca.gov/laws/index.shtml.

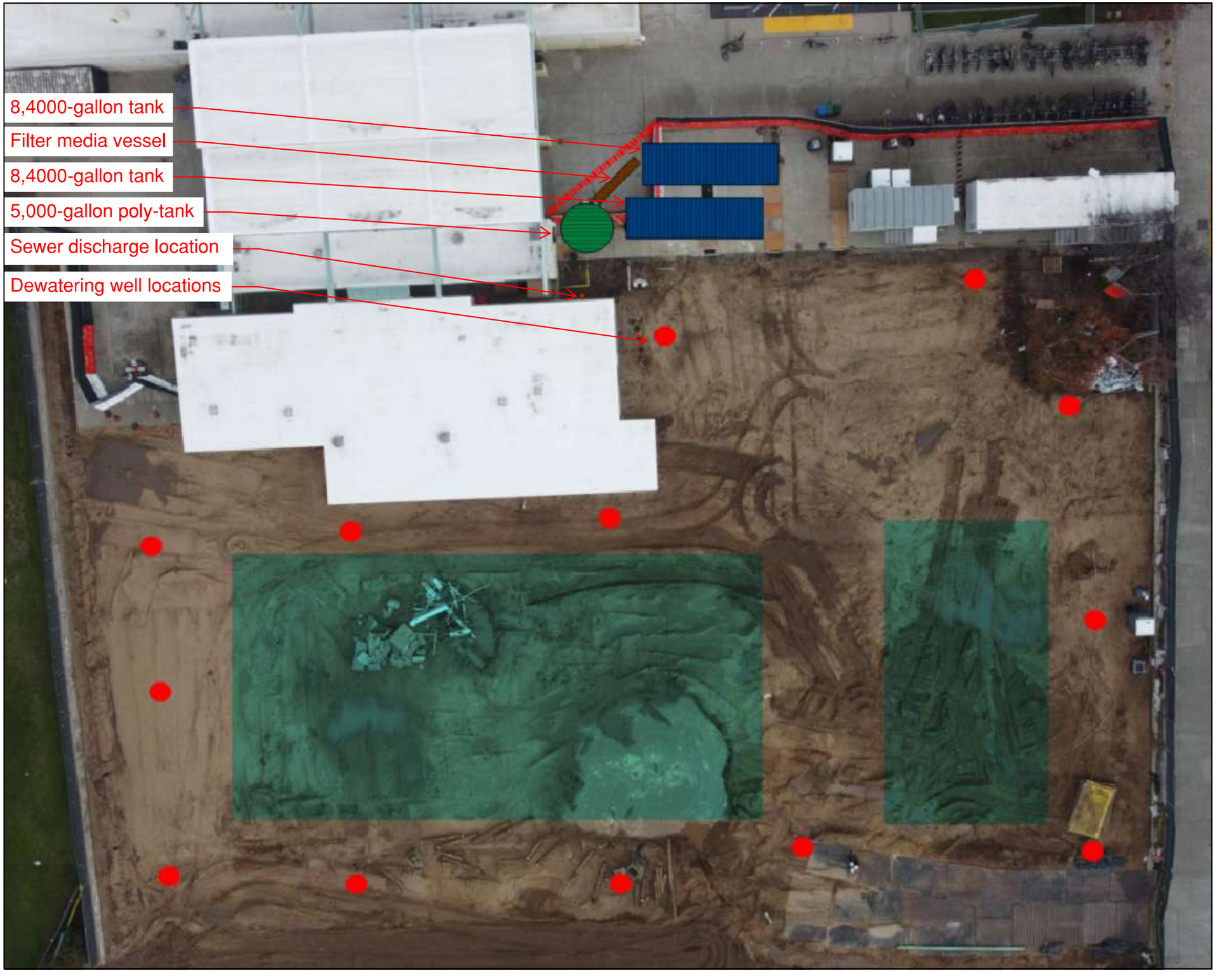
UNDERGROUND STORAGE TANK CLEANUP FUND

For LUFT cases, RP's non-compliance with these regulations may result in ineligibility to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse the cost of cleanup. Additional information is available on the internet at: https://www.waterboards.ca.gov/water_issues/programs/ustcf/

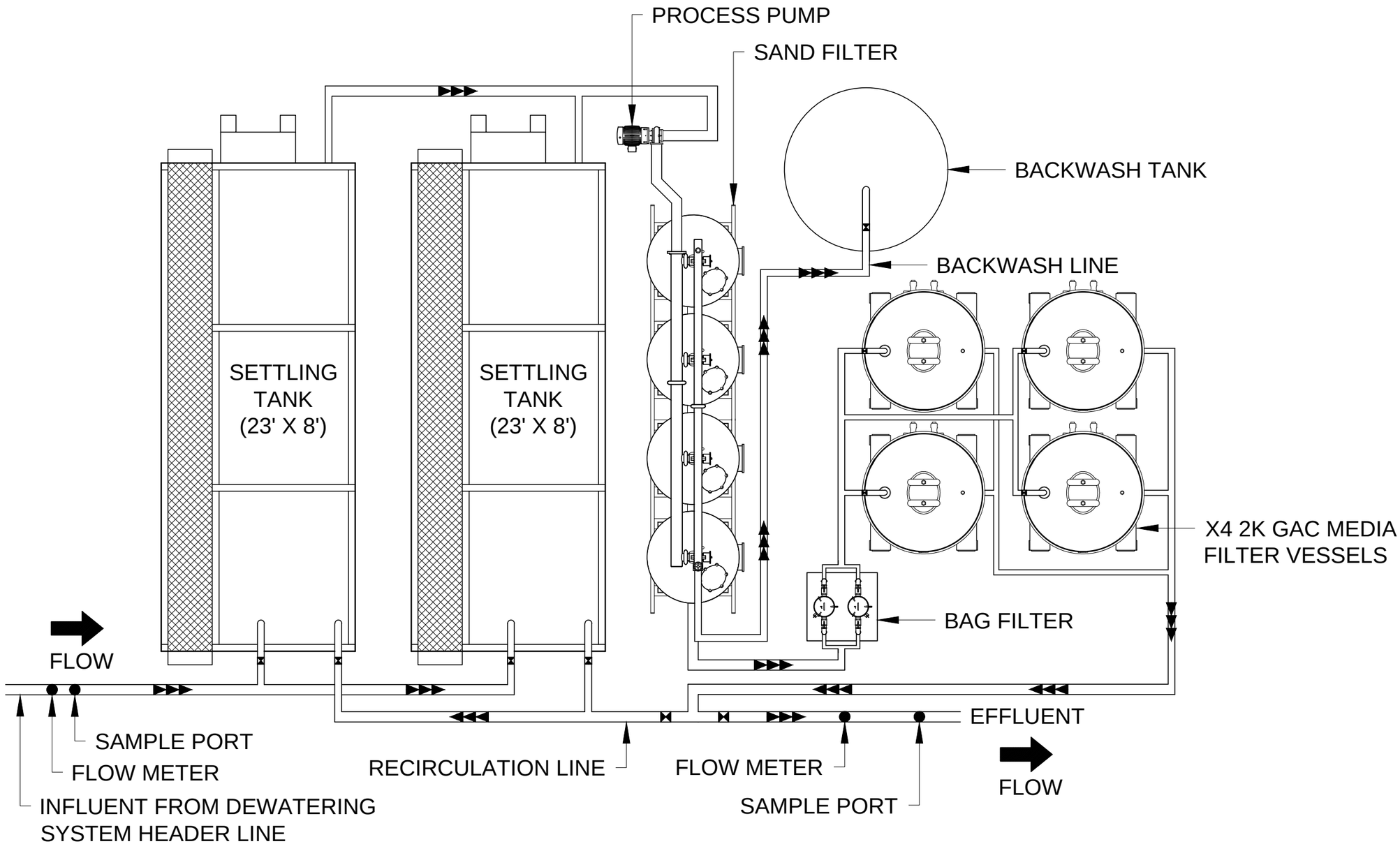
AGENCY OVERSIGHT

Significant delays in conducting site assessment/cleanup or report submittals may result in referral of the case to the Regional Water Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

Appendix R: Active Treatment System and Passive Treatment Plans


8,4000-gallon tank
Filter media vessel
8,4000-gallon tank
5,000-gallon poly-tank
Sewer discharge location
Dewatering well locations

GROUNDWATER TREATMENT SYSTEM DIAGRAM



*FIELD CONDITIONS MAY VARY

Active Treatment Systems, Inc.
WATER SOLUTIONS FOR THE ENVIRONMENT

6301 ANGELO CT.
UNIT 9
LOOMIS, CA 95650

916.652.9745
WWW.ATS-ENV.COM

All information contained in or disclosed by this document or drawing is considered confidential and proprietary by Active Treatment Systems, Inc. (ATS). All disclosures of the calculations and design information and reproduction of this document and all rental and sales rights are exclusively reserved by and to ATS and communications of this information to others is prohibited without the prior written consent of ATS.

PROJECT INFORMATION
ALAMEDA HIGH SCHOOL SWIM CENTER
ALAMEDA,CA
400 GPM GROUNDWATER TREATMENT SYSTEM TO SEWER SYSTEM

DRAWN BY	APPROVED BY	SCALE	DATE
SLD		NTS	4/28/2025

DRAWING NAME
GTS PFD

1

Appendix S: Construction General Permit

Copies of the Construction Stormwater General Permit may be downloaded from the State Water Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.