



REQUEST FOR BIDS

BURLINGAME HIGH SCHOOL PARKING EXPANSION PROJECT

**LOCATED
1 MANGINI WAY
BURLINGAME, CA 94010**

**BID DUE DATE
April 14, 2026**

**SAN MATEO UNION HIGH SCHOOL DISTRICT
650 NORTH DELAWARE STREET
SAN MATEO, CA 94401**

Prepared by:
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Burlingame, CA 94010

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INSTRUCTIONS TO BIDDERS

Each bid proposal submitted to the San Mateo Union High School District (“District”) for the **Burlingame High School Parking Expansion project** (“Project”) must be submitted in accordance with the following instructions:

1. Deadline for Receipt of Proposals. Bid proposals **must be electronically** submitted to the District’s, Capital Facilities and Construction Manager, **Tina Martinez**, tmartinez@smuhd.org no later than **Tuesday, April 7th by 2:00pm**. The District suggests that **bids be emailed** in order to ensure their timely receipt. Any bids received after the time stated shall not be opened and shall be returned, to the bidder. A hard copy can be delivered post email submission.
2. Bidders Conference. A MANDATORY bidder’s conference will be held on **Thursday, March 12, 2026 and Thursday, March 19, 2026 at 10:00 AM** for the purpose of acquainting all prospective bidders with the bid documents and the work site. All prospective bidders will meet at: 1 Mangini Way, Burlingame, CA 94010.
3. Requests for Information. Any questions relative to the bid should be in writing and directed to Capital Facilities and Construction Specialist: **Jasmine Andrade**, JAndrade@smuhd.org.
4. Bid Proposal Forms. Bid proposals must be made on the form provided by the District. All items on the form should be filled out. Numbers should be stated in figures, and the signatures of all individuals must be in long hand. The completed form should be without interlineations, alterations, or erasures.
5. Execution of Forms. Each bid must give the full business address of the bidder and must be signed by the bidder or bidder’s authorized representative with his or her usual signature. Bids by partnerships must furnish the full names of all partners and must be signed in the partnership name by a general partner with authority to bind the partnership in such matters. Bids by corporations must be signed with the legal name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation in this matter. The name of each person signing shall also be typed or printed below the signature. When requested by the District, satisfactory evidence of the authority of the officer signing on behalf of the corporation shall be furnished. A bidder's failure to properly sign required forms may result in rejection of the bid. All bids must include the bidder's contractor license number(s) and expiration date(s).

6. Bid Security. Bid proposals should be accompanied by a certified or cashier's check or bid bond for an amount not less than ten percent (10%) of the bid amount, payable to the order of the District. A bid bond must be secured by an admitted surety company, licensed in the State of California, and satisfactory to the District. The bid security shall be given as a guarantee that the bidder will enter into the Contract if awarded the work, and in the case of refusal or failure to enter into the contract within ten (10) calendar days after notification of the award of the contract or failure to provide payment and performance bonds and proof of insurance as required by the Contract Documents, the District shall have the right to award to another bidder and declare the bid security forfeited. The District reserves the right to declare the bid bond forfeited and to pursue all other remedies in law or equity relating to such breach including, but not limited to, seeking recovery of damages for breach of contract. Failure to provide bid security, or bid security in the proper amount, will result in rejection of the bid.
7. Withdrawal of Bid Proposals. Bid proposals may be withdrawn by the bidders prior to the time fixed for the opening of bids, but may not be withdrawn for a period of ninety (90) days after the opening of bids, except as permitted pursuant to Public Contract Code section 5103.
8. Addenda or Bulletins. Any addenda or bulletins issued prior to bid time shall form a part of the drawings and Specifications issued to bidders for the preparation of their proposals and shall constitute a part of the Contract Documents. No addenda will be issued in response to bidder requests received later than five (5) days before the scheduled opening of bids, but the District reserves the right to issue addenda prior to bid the subject to the limitations of Public Contract Code section 4104.5.
9. Bonds. The successful bidder shall be required to submit payment and performance bonds as specified in the Contract Documents. All required bonds shall be calculated on the maximum total purchase price as awarded, including additive alternates, if applicable. A bidder's failure to submit the bonds as requested shall result in rejection of the bid proposal.
10. Rejection of Bids and Award of Contract. The District reserves the right to waive any irregularities in the bid, the right to accept or reject any and all bids, or to accept or reject any portion or combination thereof, or to abandon the work entirely, when to do so is in its own best interest. The Contract will be awarded, if at all, within sixty (60) calendar days after opening of Bids, to the "best value" bidder complying with the requirements of the Contract Documents, subject to Governing Board approval. The time for awarding the Contract may be extended by the District.

11. Execution of Contract. The successful bidder shall, within ten (10) calendar days of notice of award of the contract, sign and deliver to the District the executed contract along with the bonds and certificates of insurance required by the Contract Documents. The Agreement is included in this document. In the event the bidder to whom an award is made fails or refuses to execute the contract within ten (10) calendar days from the date of notification that the contract has been awarded to the bidder, or fails to provide the bonds and certificates as required, the District may declare the bidder's bid deposit or bond forfeited as damages caused by the failure of the bidder to enter into the contract, and may award the work to the next "best value" responsive bidder, or may reject all bids and, at its sole discretion, call for new bids.
12. Drawings and Specifications. Each bidder shall be required to return to the District all drawings and Specifications in an un-mutilated condition and without any marks or annotations. All drawings, Specifications and other documents used or prepared during the project shall be the exclusive property of District.
13. Evidence of Responsibility. Upon the request of the District, a bidder shall submit promptly to the District satisfactory evidence showing the bidder's financial resources, the bidder's experience in the type of work being required by the District, the bidder's organization available for the performance of the contract and any other required evidence of the bidder's qualifications to perform the proposed contract. The District may consider such evidence before making its decision awarding the proposed contract. Failure to submit evidence of a bidder's responsibility to perform the proposed contract may result in rejection of the bid.
14. Taxes. Taxes shall be included in the bid prices. The District will pay only the State sales and use taxes. Federal excise taxes are not applicable to school districts.
15. Bid Exceptions. All exceptions which are taken in response to this bid must be stated clearly. The taking of bid exceptions or providing false, incomplete or unresponsive statements may result in the disqualification of the bid. Allowance of exceptions will be determined by the governing board, whose decisions shall be final. Any bid exceptions or additional conditions requested after bid closure, which are not detailed within the bid response, may result in disqualification of the bid. No oral or telephonic modification of any bid submitted will be considered and a sealed telegraphic modification may be considered only if received prior to opening of bids. Faxed bids or modifications will not be accepted.
16. Discounts. Any discounts which the bidder desires to provide the District must be stated clearly on the bid form itself so that the District can calculate properly the net cost of the bid proposal. Offers of discounts or additional services not delineated on

the bid form will not be considered by the District in the determination of the lowest responsible bidder.

17. Quantities. The quantities shown are approximate. The District reserves the right to increase or decrease quantities as desired.
18. Prices. Bidders must quote prices F.O.B. unless otherwise noted. Prices should be stated in the units specified and bidders should quote each item separately.
19. Samples. On request, samples of the products being bid shall be furnished to the District.
20. Special Brand Names/Substitutions. In describing any item, the use of a manufacturer or special brand does not restrict bidding to that manufacturer or special brand, but is intended only to indicate quality and type of item desired, except in those instances where the product is designated to match others in use on a particular public improvement either completed or in the course of completion or as otherwise provided in subdivision (b) of Section 3400 of the Public Contract Code, bidders may furnish any material, product, thing or service of comparable quality or utility. Substitute products will be considered either prior to or after the award of the contract in accordance with Section 3400 of the Public Contract Code and as set forth in either the Supplemental Conditions or the Specifications. All data substantiating the proposed substitute as an "equal" item must be submitted with the written request for substitution. The District reserves the right to make all decisions on product and vendor selection.
21. Container Costs and Delivery. All costs for containers shall be borne by the bidder. All products shall conform to the provisions set forth in the federal, county, state and city laws for their production, handling, processing and labeling. Packages shall be so constructed in ensure safe transportation to point of delivery.
22. Bid Negotiations. A bid response to any specific item of this bid with terms such as "negotiable," "will negotiate," or similar, will be considered in accordance with the RFP.
23. Prevailing Law. In the event of any conflict or ambiguity between these instructions and state or federal law or regulations, the latter shall prevail. Additionally, all equipment to be supplied or services to be performed under the bid proposal shall conform to all applicable requirements of local, state and federal law, including, but not limited to, California Labor Code Sections 1771, 1778 and 1779.

24. Governing Law and Venue. In the event of litigation, the Contract Documents, Specifications and related matters shall be governed by and construed in accordance with the laws of the State of California, with venue in the state court within the county in which the Project is located.
25. Subcontractors. Pursuant to the Subletting and Subcontracting Fair Practices Act, Public Contract Code Sections 4100-4114, inclusive, every bidder shall, on the enclosed Subcontractor List Form set forth:
- a. The name and location of the place of business of each Subcontractor who will perform work or labor or render service to the bidder in or about the work or fabricate and install work in an amount in excess of one-half (1/2) of the one percent (1%) of the bidder's total bid.
 - b. If the bidder fails to specify a Subcontractor for any portion of the work to be performed under the contract in excess of one-half (1/2) of one percent (1%) of the bidder's total bid, bidder agrees that bidder is fully qualified to and will perform that portion of the work. The successful bidder shall not, without the consent of the District or compliance with Public Contract Code Sections 4100 - 4114, either:
 - 1) Substitute any person as Subcontractor in place of the Subcontractor designated in the original bid;
 - 2) Permit any subcontract to be voluntarily assigned or transferred or allow the work to be performed by anyone other than the original Subcontractor listed in the bid; or
 - 3) Sublet or subcontract any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid as to which the bidder's original bid did not designate a Subcontractor.
26. Examination of Contract Documents and Work Site. Before submitting a bid proposal, bidders shall examine the Contract Documents, the drawings, and the Specifications. Bidders shall visit the site of the proposed work and shall fully inform themselves of all conditions in and about the work site, the building or buildings, if any, and any work that may have been done thereon. However, no bidder shall visit the site without prior authorization. All bidders are requested to contact the District Superintendent or designee for coordination of site visits. Submission of a bid proposal constitutes acceptance of the terms of this provision.

27. Form of Contract. The bidder selected by the District will be required to execute a contract provided by the District in form and substance substantially similar to that included in the bidding package. The contract and other documents are subject to the approval of the District and its legal counsel.
28. Licenses. Each bidder, and their Subcontractors, if any, must possess all appropriate and required licenses or other permits to perform the work as identified in the Contract Documents. Upon request, each bidder shall furnish the District with evidence demonstrating possession of the required licenses or permits. Failure to promptly submit such evidence to the District's satisfaction may result in rejection of the bid.
29. Denial of Right to Bid. Contractors who have failed to complete the Contractor's Pre-Qualification Questionnaire and/or receive an acceptable score shall be denied the right to bid on this public work contract. Contractors or Subcontractors who have violated state law governing public works shall be denied the right to bid on this public work contract pursuant to California Labor Code Section 1777.7.
30. Bidders Interested in More Than One Bid. No person, firm, or corporation shall be allowed to make, or file, or be interested in more than one bid unless alternate bids are specifically called for. A person, firm, or corporation that has submitted a subproposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or from submitting a prime proposal.
31. Contractor's State License Board. Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P. O. Box 26000, Sacramento, California 95826.
32. Fingerprinting. By law it is the District's responsibility to determine whether a contractor must provide fingerprint certification. Pursuant to Education Code section 45125.2, the District considers the totality of the circumstances in order to determine if fingerprinting of employees of a contractor working on a school site is required. Factors to be considered include the length of time the contractor's employees are on school grounds, whether students are in proximity with the location where the contractor's employees are working, and whether the contractor's employees are working alone or with others. A determination regarding whether fingerprint certification is required is contained in the General Conditions.
33. Disabled Veterans Participation Goals. This contract is / is not X subject to DVBE. If this project is subject to DVBE, then in accordance with Education Code

section 17076.11, this District has a participation goal for disabled veteran business enterprises (“DVBE”) of at least 3 percent per year of the overall dollar amount of funds allocated to the District by the State Allocation Board pursuant to the Leroy F. Greene School Facilities Act of 1998 for construction or modernization and expended each year by the District. Prior to, and as a condition precedent for final payment under any contract for such project, the Contractor shall provide appropriate documentation to the District identifying the amount paid to disabled veteran business enterprises in conjunction with the contract, so that the District can assess its success at meeting this goal. The Office of Small Business and DVBE Certification (OSDC), <http://www.dgs.ca.gov/pd/Programs/OSDS.aspx>, is an information resource to assist bidders in locating Disabled Veteran Business Enterprises. (Please note: while the OSDC may be used as a resource, the DVBE Program administered by OSDC applies to state contracts, not local agency (school district) contracts.)

34. Labor Compliance Program. This contract is_/ is not X subject to a labor compliance program, as described in subdivision (b) of Section 1771.5 of the Labor Code. If this contract is subject to the requirements of Section 1771.7 of the Labor Code, the District is required initiate and enforce a labor compliance program, as described in subdivision (b) of Section 1771.5 of the Labor Code. The law requires that District’s labor compliance program shall include, but not be limited to, the following requirements:
- a. All bid invitations and public works contracts shall contain appropriate language concerning the requirements of this chapter.
 - b. A pre-job conference shall be conducted with the contractor and Subcontractors to discuss federal and state labor law requirements applicable to the contract.
 - c. Project contractors and Subcontractors shall maintain and furnish, at a designated time, a certified copy of each weekly payroll containing a statement of compliance signed under penalty of perjury.
 - d. The District shall review, and, if appropriate, audit payroll records to verify compliance with this chapter.
 - e. The District shall withhold contract payments when payroll records are delinquent or inadequate.

- f. The District shall withhold contract payments equal to the amount of underpayment and applicable penalties when, after investigation, it is established that underpayment has occurred.

The District has adopted a labor compliance program, which has been submitted to the Director of the Department of Industrial Relations for approval as required by the State Allocation Board. A copy of the labor compliance program as currently adopted by the District is included with these bid documents. The labor compliance program which is approved by the Director of the Department of Industrial Relations will be incorporated by reference into the Contract and it will be enforced as required by state law and regulations and the Director of the Department of Industrial Relations.

In accordance with subdivision (b)(1) of Section 1771.5 of the Labor Code, the following notice is given: Contractor and any Subcontractors are required to review and comply with the provisions of the California Labor Code, Part 7, Chapter 1, beginning with Section 1720, and the regulations of the Department of Industrial Relations implementing those provisions as more fully discussed in the Contract Documents and the Labor Compliance Program. These statutory and regulatory provisions contain specific requirements, for example, concerning the determination and payment of prevailing wages, retention, inspection and auditing of payroll records, use of apprentices, payment of overtime compensation, securing of workers' compensation insurance, and various criminal penalties or fines which may be imposed for violations of the requirements of the chapter. Submission of a bid constitutes Contractor's representation that it has thoroughly reviewed these requirements.

The project is subject to compliance monitoring and enforcement by the California Department of Industrial Relations. In accordance with SB 854, all bidders, contractors and subcontractors working at the site shall be duly registered with the Department of Industrial Relations at time of bid opening and at all relevant times. Proof of registration shall be provided as to all such contractors with bid proposal.

35. Intentionally Omitted.
36. Bid Protest. **Any bid protest** must be in writing and received by the District Office before 5:00 p.m. no later than two (2) working days following Bid opening and must comply with the following requirements:
- a. The bid protest must contain a complete statement of the basis for the protest, legal argument with citation to relevant legal authority and all supporting documentation.

- b. The party filing the protest must have actually submitted a bid for the Project. A Subcontractor of a bidder submitting a bid for the Project may not submit a bid protest. A bidder may not rely on the bid protest submitted by another bidder but must timely pursue its own protest.
- c. The protest must refer to the specific portion or portions of the “Contract Documents,” defined as the Contract, any Amendment thereto, Technical Specifications and Drawings, Supplementary General Conditions, General Conditions, Instructions to Bidders, Notice Inviting Bids, Disabled Veteran Business Enterprises Requirements (if applicable), Labor Compliance Program (if applicable), Bid Form, all addenda, required bond(s), and insurance certificates, completed Bidder’s Questionnaire, Notice to Proceed upon which the protest is based and state.
- d. The protest must include the name, address and telephone number of the person or legal counsel representing the protesting bidder if different from the protesting bidder.
- e. The bidder filing the protest must concurrently transmit a copy of the bid protest document and all supporting documentation, as required above, (“Bid Protest Documents”) to the District legal counsel: Sean B. Absher, Stradling Yocca Carlson & Rauth, 44 Montgomery Street, Suite 4200, San Francisco, CA 94104-4803, 415-283-2242 phone, 415-283-2255 fax and to all other bidders with a direct financial interest which may be affected by the outcome of the protest, including all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- f. The bidder whose bid has been protested may submit a written response to the bid protest. Such response shall be submitted to the District no later than 5 p.m., no later than one (1) working day after receipt of the Bid Protest Documents. Such response shall also be transmitted concurrently to the protesting bidder and to all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- g. District rules and procedures related to speaker time limits at Board of Trustee public meetings will be strictly enforced. Argument by legal counsel representing any bid protester will be limited to the matters and contents contained in the bid protest and any documents submitted in support of the bid protest
- h. The procedure and time limits set forth in this section are mandatory and are the bidder’s sole and exclusive administrative remedy in the event of bid protest. The bidder’s failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a writ of mandate, Government Code Claim or other legal proceeding. A bidder

may not rely on a protest submitted by another bidder, but must timely pursue its own protest.

- i. If the District determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards by the District.
- j. A “working day” for purposes of this section means a weekday during which the District’s office is open and conducting business, regardless of whether or not school is in session.
- k The District reserves the right to shorten the time period for submitting and responding to a bid protest, whenever the District or its designee determines it is in the District’s best interest to do so. Prospective bidders will be notified by addenda of any such change.

BID FORM AND PROPOSAL

To: Governing Board of the San Mateo Union High School District ("District" or "Owner")

From: _____
(Proper Name of Bidder)

The undersigned declares that Bidder has read and understands the Contract Documents, including, without limitation, the Notice to Bidders and the Instructions to Bidders, and agrees and proposes to furnish all necessary labor, materials, and equipment to perform and furnish all work in accordance with the terms and conditions of the Contract Documents, including, without limitation, the Drawings and Specifications of Bid No. _____, for the following project known as:

("Project" or "Contract") and will accept in full payment for that Work the following total lump sum amount, all taxes included:

_____dollars	\$ _____
BASE BID	
<i>Total costs for all labor and materials for the execution of the work described in the contract documents. Bidder acknowledges and agrees that the Base Bid excludes the OCIP costs shown below.</i>	

Descriptions of allowances are primarily scope definitions and do not necessarily detail the full range of materials and processes needed to complete the construction

_____dollars	\$ _____
ALLOWANCE #1	
10% of the BASE BID shown above, to allow for unforeseen items.	

Fifteen thousand _____dollars	\$ <u>25,000.00</u>
ALLOWANCE #2	
For additive costs associated with changes to the scope of the work as a result of the plan check revisions from the review by the Division of the State Architect (DSA). All Bidders shall include this Alternate, with the understanding that the final cost for the revisions associates with the DSA review shall be negotiated with the successful bidder, prior to the execution of the Contract.	

Twenty-five thousand _____ dollars \$ 20,000.00
ALLOWANCE #3

For additive to remove and replace existing sod. Replacement will likely be necessary, due to stockpiling of existing soils, and re-distribution on site, in order to avoid off-haul of soil.

_____ dollars \$ _____
Total BID = BASE BID + ALLOWANCE #1 + ALLOWANCE #2 + ALLOWANCE #3

The Total BID shall be the basis for selection of the lowest qualified Bid

Additional Detail Regarding Calculation of Base Bid

1. **Unit Prices.** The Bidder's Base Bid includes the following unit prices, which the Bidder must provide and the District may, at its discretion, utilize in valuing additive and/or deductive change orders (Unit Prices shall include all labor, materials, services, profit, overhead, insurance, bonds, taxes, and all other incidental costs of Contractor, subcontractors, and suppliers):

SCHEDULE OF UNIT PRICES

<u>Item No.</u>	<u>Description</u>	<u>Unit of Measure</u>	<u>Estimated Quantity</u>	<u>Unit Price</u>	<u>Total Cost = Unit Price x Estimated Quantity (Included in Base Bid)</u>
<u>1</u>	<u>Cost for additional grading of one (1) cubic yard of additional earthwork, as specified in the grading plans</u>	<u>cubic yard (c.y.)</u>	<u>one</u>	\$ _____	\$ _____
<u>2</u>	<u>Cost per square foot for replacement of the arsenic soils "warning barrier": assume PVC coated steel hex wire</u>	<u>Square foot (s.f.)</u>	<u>one</u>	\$ _____	\$ _____

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<u>3</u>	<u>Cost per square foot to remove and replace existing sod, as a result of stockpiling, and re-distribution of surplus soils on site.</u>	<u>Square foot (s.f.)</u>	<u>one</u>	\$ _____	\$ _____
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Where scope of Work is decreased, all Work pertaining to the item, whether specifically stated or not, shall be omitted, and where scope of Work is increased, all work pertaining to that item required to render same ready for use on the Project in accordance with intentions of the Drawings and Specifications shall be included in the above agreed-upon price amount.

2. **Allowance.** The Bidder's Base Bid and each alternate (if any) shall include a ten percent (10%) allowance for unforeseen items.

The above allowance shall only be allocated for unforeseen items relating to the Work. Contractor shall not bill for or be due any portion of this allowance unless the District has identified specific work, Contractor has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has prepared an Allowance Expenditure Directive incorporating that work. Contractor hereby authorizes the District to execute a unilateral deductive change order at or near the end of the Project for all or any portion of the allowance not allocated.

3. **OCIP.** Bidder specifically acknowledges and understands that if it is awarded the Contract, that it and its subcontractors shall participate in and comply with the owner-controlled or wrap-up insurance program (OCIP). Bidder and all of its subcontractors are required to exclude the cost of insurance provided by the OCIP from its bid price for the proposed scope of work, including subcontracted work whether or not the subcontractor is identified at the time of the bid. The excluded amount must be shown separately below:

Excluded Cost of Insurance

	dollars	\$ _____
Deductive		

4. The undersigned has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this Proposal, understands the construction and project management function(s) is described in the Contract Documents, and that each Bidder who is awarded a contract shall be in fact a prime contractor, not a subcontractor, to the District, and agrees that its Proposal, if accepted by the District, will be the basis for the Bidder to enter into a contract with the District in accordance with the intent of the Contract Documents.

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5. The undersigned has notified the District in writing of any discrepancies or omissions or of any doubt, questions, or ambiguities about the meaning of any of the Contract Documents, and has contacted the Construction Manager before bid date to verify the issuance of any clarifying Addenda.
6. The undersigned agrees to commence work under this Contract on the date established in the Contract Documents and to complete all work within the time specified in the Contract Documents.
7. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
8. It is understood that the District reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of ninety (90) days.
9. The following documents are attached hereto:
 - Bid Bond on the District's form or other security
 - Designated Subcontractors List
 - Site Visit Certification
 - Non-Collusion Declaration
 - Iran Contracting Act Certification
 - OCIP Insurance forms

10. Receipt and acceptance of the following Addenda is hereby acknowledged:

No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____

11. Bidder acknowledges that the license required for performance of the Work is a _____ license.
12. Bidder hereby certifies that Bidder is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.
13. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with all requirements of the Department of Industrial Relations.
14. Bidder hereby certifies that its bid includes sufficient funds to permit Bidder to comply with all local, state or federal labor laws or regulations during the Project, including payment of prevailing wage, and that Bidder will comply with the provisions of Labor Code section 2810(d) if awarded the Contract
15. [Bidder agrees to comply with all requirements of the Project Labor Agreement].

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16. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with the Davis Bacon Act, applicable reporting requirements, and any and all other applicable requirements for federal funding. If a conflict exists, the more stringent requirement shall control.
17. Bidder represents that it is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the Work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the Work that may create, during the Work, unusual or peculiar unsafe conditions hazardous to persons and property.
18. Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the Work with respect to such hazards.
19. Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Gov. Code, § 12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the Contractor may be subject to criminal prosecution.
20. The undersigned Bidder certifies that it is, at the time of bidding, and shall be throughout the period of the Contract, licensed by the State of California to do the type of work required under the terms of the Contract Documents and registered as a public works contractor with the Department of Industrial Relations. Bidder further certifies that it is regularly engaged in the general class and type of work called for in the Contract Documents.

Furthermore, Bidder hereby certifies to the District that all representations, certifications, and statements made by Bidder, as set forth in this bid form, are true and correct and are made under penalty of perjury.

Dated this _____ day of _____ 20 ____

Name of Bidder: _____

Type of Organization: _____

Signed by: _____

Title of Signer: _____

Address of Bidder: _____

Taxpayer Identification No. of Bidder: _____

Telephone Number: _____

Fax Number: _____

E-mail: _____ Web Page: _____

Contractor's License No(s): No.: _____ Class: _____ Expiration Date: _____

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No.: _____ Class: _____ Expiration Date: _____

No.: _____ Class: _____ Expiration Date: _____

Public Works Contractor Registration No.: _____

END OF DOCUMENT

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SCHOOL DISTRICT**

BID FORM AND PROPOSAL

SAN MATEO UNION HIGH SCHOOL DISTRICT
BURINGAME HIGH SCHOOL PARKING EXPANSION PROJECT

SUBCONTRACTOR LIST FORM

In accordance with the provisions of Public Contract Code section 4104 each bidder shall list below the name and location of place of business for each Subcontractor who will perform a portion of the Contract work in an amount in excess of 1/2 of 1 percent of the total contract price. In each such instance the nature of the work to be subcontracted shall be described.

[illegible]

WORKERS' COMPENSATION CERTIFICATE

Labor Code Section 3700 in relevant part provides:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
- (b) Be securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees."

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract and will require all Subcontractors to do the same.

Contractor

By: _____

In accordance with Article 5 (commencing at Section 1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this Contract.

NONCOLLUSION AFFIDAVIT

To be executed by bidder and submitted with bid.

State of California)
County of _____) ss

_____, being first duly sworn, deposes and says that he or she is _____ of _____ the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date: _____

Signature

State of _____
County of _____

On _____ before me, _____, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

SAN MATEO UNION HIGH SCHOOL DISTRICT
BURINGAME HIGH SCHOOL PARKING EXPANSION PROJECT

BID BOND

Know all persons by these presents, that we _____
as principal ("Principal"), and _____, as surety ("Surety")
are firmly bound unto the San Mateo Union High School District ("District"), in the penal
sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the said
District for the work described below for the payment of which sum in lawful money of the
United States, well and truly to be made, we bind ourselves, our heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is such that whereas the Principal has submitted the
accompanying bid ("Bid") dated _____, for the
following project ("Project"): **BURLINGAME HIGH SCHOOL PARKING
EXPANSION** Now, therefore, if the Principal does not withdraw its Bid within the
period specified or if no period be specified within sixty
(60) days after Bid opening; and if the Principal is awarded the Contract and within the
period specified, or, if no period is specified, within ten (10) days after the prescribed forms
are presented to him or her for signature, and fails to enter into a written contract with
District, in accordance with the Bid as accepted, or fails to provide the proof of required
insurance, performance bond and the payment bond by an admitted surety within the time
prescribed, or in the event of unauthorized withdrawal of the Bid, if the Principal pays
District the difference between the amount specified in the Bid and the amount for which
District may procure the required work and/or supplies, if the latter amount is in excess of
the former, together with all costs incurred by District in again calling for bids, then the
above obligation shall be void and of no effect, otherwise to remain in full force.

Surety, for value received, hereby stipulates and agrees that no change, extension of time,
alteration or addition to the term of the Contract or the call for bids, or to the work to be
performed thereunder, or the Specifications accompanying the same shall in any way affect
its obligation under this bond, and it does hereby waive notice of any such change,
extension of time, alteration or addition to the terms of the Contract or the call for bids, or to
the work, or to the Specifications.

In the event suit is brought upon this bond by District and judgment is recovered, the Surety
shall pay all costs incurred by District in such suit, including reasonable attorney's fees.

In witness whereof the above-bounden Parties have executed this instrument under their
several seals this _____ day of _____, the name and
corporate seal of each corporate Party being hereunder affixed and these presents duly
signed by its undersigned representative, pursuant to the authority of its governing body.

(Corporate Seal)

Principal

By _____

Title _____

(Corporate Seal)

Surety

Attach Attorney-In-Fact
Certificate

By _____

Title _____

To be signed by Principal and Surety and Acknowledgment and Notary Seal to be attached.

BIDDER'S QUESTIONNAIRE

BURLINGAME HIGH SCHOOL PARKING EXPANSION

TO THE BIDDER:

In making its award the Board of Trustees will take into consideration Bidder's experience, financial responsibility and capability. The following questionnaire is a part of the bid. Any bid received without this completed questionnaire may be rejected as nonresponsive. The Board of Trustees will use, but will not be limited to, the information provided herein for evaluating the qualifications of the bidder and the bidder's organization to carry out satisfactorily the terms of the contract. The questionnaire must be filled out accurately and completely and submitted with the bid. Any errors, omissions or misrepresentation of information may be considered as a basis for the rejection of the bid and may be grounds for the termination of any subsequent contract executed as a result of the bid or bids involved.

A. Description of Bidder's Organization

1. Firm Name _____
2. Address _____
3. Telephone Number _____
4. Type of Organization
 - a. Corporation? Yes _____ No _____

If yes, list officers and positions, and state in which incorporated.

If Bidder corporation is a subsidiary, give name and address of parent corporation:

- b. Partnership? Yes _____ No _____

If yes, list partner's names and residence addresses

General Partners:

Limited Partners:

c. Individual Proprietorship? Yes _____ No _____

If yes, list name and address of proprietor:

B. Nature of Operations

1. How long have you been engaged in the contracting business under your present business name? _____
2. How many years of experience does your business have in construction work similar to that called for under this bid? _____
3. Have you now contracts, or have you ever contracted, to provide construction for any school district, community college district or county office of education in the State of California? Yes _____ No _____
 - a. If "yes," on a separate, attached sheet, provide the following information on construction you have had with school districts, community college districts, or county offices of education during the last three (3) years that were satisfactorily completed (name five (5) contracts):

1. Year contract awarded
2. Type of work
3. Contract completion time called for/actual completion time
4. Contract price
5. For whom performed, including person to call for reference and phone number
6. Location of work
7. Number of stop notice claims filed
8. For each contract list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
9. Amount of liquidated damages assessed

- b. On a separate, attached sheet, provide the following information on construction contracts of a similar nature as called for in this bid that you have had with parties other than school districts, community college districts and county offices of education during the last three (3) years which were satisfactorily completed (name five (5) contracts):

1. Year contract awarded
2. Type of work
3. Contract completion time called for/actual completion time
4. Contract price
5. For whom performed, including person to call for reference and phone number
6. Location of work
7. Number of stop notice claims filed
8. For each contract list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
9. Amount of liquidated damages assessed

- c. List all construction contracts that you have failed to satisfactorily complete and the reasons for this.

C. Financial and Credit Data

1. If your bid is considered for award, and if requested by the District, will you supply the following data? Yes ____ No ____
 - a. Names and addresses of any banks where you regularly do business.

- b. The names and addresses of any banks, finance companies, dealers, suppliers, or others where you have notes or contracts payable.
 - c. Give credit references, including at least three trade or industry suppliers with whom you regularly deal.
- 2. Would you submit on request a balance sheet for the past three (3) years?
Yes _____ No _____
- 3. Where have you engaged in the construction business, or any other type of business in the last five years?

<u>Name of Business</u>	<u>Location</u>	<u>Type of Business</u>	<u>Years in Business</u>
-------------------------	-----------------	-------------------------	--------------------------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

If any of the business endeavors referred to above is no longer operating, or you are no longer associated with them, please give brief details:

- 4. The following surety companies may be contacted as references as to the financial responsibility and general reliability of the bidder (provide name of surety company, person to contact and phone number):

<u>Surety Name</u>	<u>Contact Person</u>	<u>Phone Number</u>
--------------------	-----------------------	---------------------

_____	_____	_____
-------	-------	-------

I certify under penalty of perjury that the foregoing is true and correct. Executed at

_____ California, on _____, 2024. _

Signature of Bidder: _____

Name (*print*): _____

Signature: _____

NOTICE OF AWARD

To:

Project Name: Burlingame High School Parking Expansion

The District has considered the bid submitted by you for the above-described work in response to its Notice Inviting Bids, dated _____.

You are hereby notified that your bid has been accepted for items in the amount of:

(\$ _____).

You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor's Performance Bond, Payment Bond and certificates of insurance within ten (10) days from the date of receipt of this Notice.

If you fail to execute the Agreement and to furnish the bonds within ten (10) days from the date of receipt of this Notice, District will be entitled to consider all your rights arising out of its acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The District will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the District.

Dated this _____ day of _____ 2026.

By _____
Authorized District Signature

Receipt of this above Notice of Award is hereby acknowledged by:

_____, this is the _____
day of _____, 2026.

By _____
Title _____

SAN MATEO UNION HIGH SCHOOL DISTRICT
BURLINGAME HIGH SCHOOL PARKING EXPANSION PROJECT

CARB CERTIFICATION

All awarding bodies are required per the California Air Resources Board (CARB) to obtain valid Certificates of Reported Compliance (“CRC”) from all contractors and listed subcontractors before awarding a project. Bidders are required to submit the enclosed CARB Compliance Certification, along with proof of bidder and subcontractor certification with their bid submittal.

[See Next Page for Certification Form]

CARB COMPLIANCE CERTIFICATION

This form to be submitted with bid **submittal** at due date and time established in bid paperwork.

CALIFORNIA AIR RESOURCES BOARD (CARB)

<https://ww2.arb.ca.gov/>

For any project awarded after January 1, 2024, under the newly added requirements, Public Works Awarding Bodies will now be required to obtain valid **Certificates** of Reported Compliance ("CRC") from all contractors and listed subcontractors before awarding the project. The Public Works Awarding Body will be required to retain CRCs for three years after the project is complete, and the CRCs are subject to CARB review upon five calendar days' notice.

The Regulations apply to all **"Public** Works Awarding Bodies," which is broadly defined as "any public agency (state, county, city, school board, water district, etc.), or **official** thereof, in the state of California, that awards or enters into a contract for the erection, construction, alteration, repair, removal, or improvement of any **public** structure, building, road, or other public lands, property, or improvement of any kind."

Certificates of Reported Compliance ("CRC") are required at time of bid submittal and must be included with bid proposal by stated due date / time. Proof of bidder and subcontractor certification is to be attached to this page at the time of bid submittal.

The ARB Diesel Off-road Online Reporting System (DOORS) reporting system is where you are able to obtain the Certificates of Reported Compliance: [DOORS \(ca gov\)](https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/road-zone). There is also an additional website that provides more information on the regulation along with FAQs and user guides. The website of the Off-Road Zone <https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/road-zone>

Questions, please call the DOORS Hotline at 877-593-6677 or email doors@arb.ca.gov. Please note, at this time DOORS staff has limited access to documents received via mail and fax is unavailable.

[Fact Sheet: Contracting Requirements | California Air Resources Board](https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-contracting-requirements)
<https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-contracting-requirements>

[Fact Sheet Renewable Diesel Fuel Requirements | California Air Resources Board](https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-renewable-diesel-fuel-requirements)

[Fact Sheet: Added Vehicle Restrictions and Tier Phase-Out Requirements | California Air Resources Board](https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-added-vehicle-restrictions-and-tier-phase-out-requirements)
<https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-added-vehicle-restrictions-and-tier-phase-out-requirements>

Bidder Acknowledges CARB Compliance: _____
(Signature of authorized representative)

Company Name: _____

CARB Compliance Certification

SAN MATEO UNION HIGH SCHOOL DISTRICT
BURINGAME HIGH SCHOOL PARKING EXPANSION PROJECT

NOTICE TO PROCEED

To:

Date:

PROJECT: Burlingame High School Parking Expansion

You are hereby notified to commence work in accordance with the Agreement dated, _____, 2026, on _____, 2026. Contractor shall fully complete Procurement of equipment before the expiration of 90 calendar days and all the work before the expiration of calendar days from the starting date.

Liquidated damages for the Contractor's failure to complete the Contract within the time fixed for completion are established in the amount of \$1,000.00 per calendar day

By: _____
Authorized District Signature

BOND AND INSURANCE INFORMATION

*(To be submitted to Insurance/Bonding
Company by Successful Bidder)*

Contractor _____

District and Address _____

Project Title and Location _____

Date of Bid _____ Amount _____

Performance Bond: 100% (See attached bond form/2 originals required)

Payment Bond: 100% (See attached bond form/2 originals required)

Time for Completion _____

Liquidated Damages _____

Number of executed contracts needed _____

Description _____ of _____ Work:

Contract includes the following insurance requirements:

INSURANCE

- a. Contractor shall obtain insurance acceptable to District from a company or companies acceptable to District. All required insurance must be written by an admitted company licensed to do business in the State of California at the time the policy is issued. All required insurance shall be equal to or exceed an A VIII rating as listed in Best's Insurance Guides' latest edition. On a case-by-case basis, District may accept insurance written on a company listed on the State of California Department of Insurance List of Eligible Surplus Lines ("LESLI List") with a rating of A VIII or above as listed in Best's Insurance Guides' latest edition. Required

documentation of such insurance shall be furnished to the District at the time Contractor returns the executed Contract. Contractor shall not commence work nor shall it allow its employees or Subcontractors or anyone to commence work until all insurance required hereunder has been submitted and approved and a notice to proceed has been issued.

b. Contractor shall take out and maintain at all times during the life of this Contract, up to the date of acceptance of the work by the District, the following policies of insurance.

1) Public Liability Insurance: Personal injury and replacement value property damage insurance for all activities of the Contractor and its Subcontractors arising out of or in connection with this Contract, written on a comprehensive general liability form including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, in an amount no less than \$2,000,000 combined single limit personal injury and property damage for each occurrence.

2) Builders' Risk Insurance: Contractor shall procure and maintain builders' risk insurance (all-risk coverage) on a one hundred percent completed value basis on the insurable portion of the project for the benefit of the District, and the Contractor and Subcontractor as their interest may appear. In projects involving no structural change or building construction, this requirement may be waived at District's option.

c. Endorsements:

1) The Public Liability Policy specified above shall be endorsed with the following specific language:

“The District is named as additional insured for all liability arising out of the operations by or on behalf of the named insured, and this policy protects the additional insured, its officers, agents and employees against liability for bodily injuries, deaths or property damage or destruction arising in any respect directly or indirectly in the performance of the Contract.”

2) The certificates must state that the insurance is under an occurrence based, and not a claims-made, policy (policies). Both the Public Liability Policy and the Builders' Risk Policy specified above shall be endorsed with the following specific language:

i. The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured and the coverages afforded shall apply as though separate policies have been issued to each insured.

ii. The insurance provided herein is primary and no insurance held or owned by the District shall be called upon to contribute to a loss.

iii. Coverage provided by this policy shall not be reduced or canceled without thirty (30) days written notice given to the Owner by certified mail.

iv. This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

d. Documentation:

Within ten (10) days following issuance of the Notice of Award of the Contract, the following documentation of insurance shall be submitted to District for approval prior to issuance of the Notice to Proceed. Certificates of insurance showing the limits of insurance provided, certified copies of all policies, and signed copies of the specified endorsements for each policy. At the time of making application for an extension of time, the Contractor shall submit evidence that the insurance policies will be in effect during the requested additional period of time.

e. If the Contractor fails to maintain such insurance, the District may take out such insurance to cover any damages of the above-mentioned classes for which the District might be held liable on account of the Contractor's failure to pay such damages, and deduct and retain the amount of the premiums from any sums due the Contractor under the Contract.

f. Workers' Compensation Insurance:

1) Within ten (10) days following issuance of the Notice of Award of the Contract, the Contractor to whom it is awarded shall furnish to the District satisfactory proof that the Contractor and all Subcontractors it intends to employ, have procured, for the period covered by the proposed Contract, full workers' compensation insurance and employer's liability with limits of at least \$1,000,000 with an insurance carrier satisfactory to the District for all persons whom they may employ in carrying out the work contemplated under this Contract in accordance with the Workers' Compensation Insurance and Safety Act, approved May 26, 1913, and all acts amendatory or supplemental thereto (the "Act"). Such insurance shall be maintained in full force and effect during the period covered by the Contract. In the event the Contractor is self-insured, Contractor shall furnish a Certificate of Permission to Self-Insure, signed by the Department of Industrial Relations Administration of Self-Insurance, Sacramento, California.

- 2) If the Contractor fails to maintain such insurance, the District may take out compensation insurance to cover any compensation which the District might be liable to pay under the provisions of the Act, by reason of any employee of the Contractor being injured or killed, and deduct and retain the amount of the premiums for such insurance from any sums due the Contractor under the Contract.
- 3) If an injury occurs to any employee of the Contractor for which the employee, or the employee's dependents in the event of the employee's death, is entitled to compensation from the District under the provisions of the Act, or for which compensation is claimed from the District, the District may retain out of the sums due the Contractor under this Contract, an amount sufficient to cover such compensation, as fixed by the Act, until such compensation is paid, or until it is determined that no compensation is due, and if the District is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid.
- 4) The policies represented by the certificates must contain the provision (and the certificates must so state) that the insurance cannot be canceled until thirty (30) days after written notice of intended revocation has been given to the District by certified mail.

The Contract includes the following hold harmless language:

Contractor shall indemnify, defend with counsel acceptable to District, and hold harmless to the full extent permitted by law, District and its Board of Trustees, officers, agents, architect, construction manager, employees and volunteers from and against any and all liability, loss, damage, claims, expenses and costs (including, without limitation, attorney fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the project or its failure to comply with any of its obligations contained in these Contract Documents, except such Liability caused by the active negligence, sole negligence or willful misconduct of the District. Such indemnification shall extend to all claims, demands, or liabilities occurring after completion of the project as well as during the progress of the work. Pursuant to California Public Contract Code Section 9201, District shall timely notify Contractor of receipt of any third-party claim relating to this project.

SUPPLEMENTARY GENERAL CONDITIONS

[SEE ATTACHED]

**PREVAILING WAGE AND
RELATED LABOR REQUIREMENTS CERTIFICATION**

PROJECT/CONTRACT NO.: **Burlingame High School Parking Expansion** between the San Mateo Union High School District ("District") and _____
_____("Contractor" or "Bidder") ("Contract" or "Project").

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

[IF THIS PROJECT USES FEDERAL FUNDS, DISTRICT SHOULD INCLUDE THE FOLLOWING] I hereby certify that I will also conform to the Federal Labor Standards Provisions regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon and Related Act requirements, Contract Work Hours and Safety Standards Act requirements, and any and all other applicable requirements for federal funding for all Work on the above Project.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

THIS FORM IS TO BE SUBMITTED ONLY UPON AWARD OF CONTRACT

END OF DOCUMENT

**CRIMINAL BACKGROUND INVESTIGATION/
FINGERPRINTING CERTIFICATION**

PROJECT/CONTRACT NO.: *Burlingame High School Parking Expansion Project*
between the San Mateo Union High School District ("District") and _____
("Contractor" or "Bidder") ("Contract" or "Project").

The undersigned does hereby certify to the governing board of the District as follows:

That I am a representative of the Contractor currently under contract with the District; that I am familiar with the facts herein certified; and that I am authorized and qualified to execute this certificate on behalf of Contractor.

Contractor certifies that it has taken at least one of the following actions with respect to the construction Project that is the subject of the Contract (check all that apply):

- ☐ The Contractor is a sole proprietor and intends to comply with the fingerprinting requirements of Education Code section 45125.1(k) with respect to all Contractor's employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and hereby agrees to the District's preparation and submission of fingerprints such that the California Department of Justice may determine that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1. No work shall commence until such determination by DOJ has been made.

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District and undertake to prepare and submit Contractor's fingerprints as if he or she was an employee of the District.

Date: _____

District Representative's Name and Title: _____

District Representative's Signature: _____

- ☐ The Contractor, who is not a sole proprietor, has complied with the fingerprinting requirements of Education Code section 45125.1 with respect to all Contractor's employees and all of its Subcontractors' employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and the California Department of Justice has determined that none of those employees has been convicted of a felony, as that term is defined in Education Code section 45122.1. A complete and accurate list of Contractor's employees and of all of its subcontractors' employees who may come in contact with District pupils during the course and scope of the Contract is attached hereto; and/or
- ☐ Pursuant to Education Code section 45125.2, Contractor has installed or will install, prior to commencement of Work, a physical barrier at the Work Site, that will limit contact between Contractor's employees and District pupils at all times; and/or

- ☐ Pursuant to Education Code section 45125.2, Contractor certifies that all employees will be under the continual supervision of, and monitored by, an employee of the Contractor who the California Department of Justice has ascertained, or as described below, will ascertain, has not been convicted of a violent or serious felony. The name and title of the employee who will be supervising Contractor's and its subcontractors' employees is:

Name: _____

Title: _____

NOTE: If the Contractor is a sole proprietor, and elects the above option, Contractor must have the above-named employee's fingerprints prepared and submitted by the District, in accordance with Education Code section 45125.1(k). No work shall commence until such determination by DOJ has been made.

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District and undertake to prepare and submit Contractor's fingerprints as if he or she was an employee of the District.

Date: _____

District Representative's Name and Title: _____

District Representative's Signature: _____

- ☐ The Work on the Contract is either (i) at an unoccupied school site and no employee and/or subcontractor or supplier of any tier of the Contract shall come in contact with the District pupils or (ii) Contractor's employees or any subcontractor or supplier of any tier of the Contract will have only limited contact, if any, with District pupils and the District will take appropriate steps to protect the safety of any pupils that may come in contact with Consultant's employees, subcontractors or suppliers so that the fingerprinting and criminal background investigation requirements of Education Code section 45125.1 shall not apply to Contractor under the Contract.

As an authorized District official, I am familiar with the facts herein certified, and am authorized to execute this certificate on behalf of the District.

Date: _____

District Representative's Name and Title: _____

District Representative's Signature: _____

Contractor's responsibility for background clearance extends to all of its employees, Subcontractors, and employees of Subcontractors coming into contact with District pupils regardless of whether they are designated as employees or acting as independent contractors of the Contractor.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

***THIS FORM IS TO BE SUBMITTED ONLY UPON AWARD OF CONTRACT
END OF DOCUMENT***

- b. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990 and Health and Safety Code section 11362.3.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

THIS FORM IS TO BE SUBMITTED ONLY UPON AWARD OF CONTRACT

END OF DOCUMENT

DRUG-FREE WORKPLACE CERTIFICATION

(Government Code Sections 8350 *et seq.*)

This Drug-Free Workplace Certification is required pursuant to Government Code Sections 8350 *et seq.*, the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or services from any State agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract awarded by a State agency may be subject to suspension of payments or termination of the contract, or both, and the contractor may be subject to debarment from future contracting if the state agency determines that specified acts have occurred.

Pursuant to Government Code Section 8355, every person or organization awarded a contract or grant from a State agency shall certify that it will provide a drug-free workplace by doing all of the following:

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition;*
- (b) Establishing a drug-free awareness program to inform employees about all of the following:*
 - (1) The dangers of drug abuse in the workplace;*
 - (2) The person's or organization's policy of maintaining a drug-free workplace;*
 - (3) The availability of drug counseling, rehabilitation and employee-assistance programs;*
 - (4) The penalties that may be imposed upon employees for drug abuse Violations;*
- (c) Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required by subdivision (a) and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.*

I, the undersigned, agree to fulfill the terms and requirements of Government Code Section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required by Section 8355(a) and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the Owner determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of Section 8355, that the contract or grant awarded herein is subject to suspension of payments, termination, or both. I further understand that should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of Section 8350 *et seq.*

I acknowledge that I am aware of the provisions of Government Code Section 8350, *et seq.* and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

Name of Contractor

Signature

Print Name

SAN MATEO UNION HIGH SCHOOL DISTRICT
BURINGAME HIGH SCHOOL PARKING EXPANSION PROJECT

DIR VERIFICATION

VERIFICATION

I, the undersigned, am the petitioner in the above-entitled action. I have read the foregoing **Petition Appealing Administrative Director's IMR Determination** and know the contents of said petition. I certify that the contents are true of my own knowledge, except for those matters which are stated upon my information and belief, and as to those matters, I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

Executed on _____ at _____, California.
(Date) (City)

Signature: _____

Print Name: _____

Date: _____

Attorney (if any) for Petitioner

Petitioner's Signature

DIVISION 01 – TECHNICAL SPECIFICATIONS
BY DTA Architects

SEE ATTACHED

DOCUMENT 01 11 00**SUMMARY OF WORK****1. GENERAL****1.1. RELATED DOCUMENTS AND PROVISIONS**

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Submittals; and
- 1.1.5. Temporary Facilities and Controls.

1.2. SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS

The Work shall consist of the following:

- 1.2.1. Selective demolition and construction necessary for the San Mateo UHSD Burlingame High School Parking Lot Enhancement for a new twenty -three stall (23) stall paved parking lot and slurry seal over thirty-nine (39) existing parking stalls; including irrigation rerouting, minor landscaping and demo, excavation, on-site stock piling and backfill, paving and striping.
- 1.2.2. The Project will involve the "phasing" and barricading of work areas as enumerated in these Specifications, and in the construction drawings. Maintain fire lane and access for emergency vehicles to school campus during all phases of construction.

Project Schedule

- 1.2.3. The Project shall be completed under the following Phases.

Project Start / Mobilization	June 1, 2026
Phase 1 Completion: Begin all project scope. Complete the slurry seal, re-striping, accessible parking, and all work related to the existing parking on the East side of the Lot, as well as the drive aisle. Re-open the East side parking & drive aisle for start of school.	August 1, 2026
Phase 2 Completion: complete the installation of new parking on the West side of the Lot (grading, paving, striping, etc.) as well as relocation of the irrigation, placement of soil as shown in Civil Plans, placement of mesh warning barrier, and placement of new sod.	Sept. 30, 2026

1.3. CONTRACTS

Perform the Work under a single, fixed-price Contract.

1.4. DEFERRED APPROVAL ITEMS

- 1.4.1. All items that are subject to subsequent review and approval by the Division of the State Architect shall be as indicated below. No deferred approval items shall be installed until the Contractor has complied with all the processes in the Contract Documents, including Division 01 Document "Submittals."
- 1.4.2. Deferred approval items for this Project are the following: N/A

1.5. SPECIAL PROJECT REQUIREMENTS

- 1.5.1. Hours of Work: Work is to be performed during regular work hours. Contractor shall coordinate its operations with activities taking place at each campus such as summer school. Contractor shall ensure that there are no disruptions to such activities.

1.6. WORK BY OTHERS

- 1.6.1. Work to be performed and completed prior to the start of the Project:
 - 1.6.1.1. Asbestos removal/abatement.
 - 1.6.1.2. Lead paint removal/abatement.

1.7. CODES, REGULATIONS AND STANDARDS

- 1.7.1. The codes, regulations, and standards adopted by the State and federal agencies having jurisdiction shall govern minimum requirements for the Project. Where codes, regulations, and standards conflict with the Contract Documents, these conflicts shall be brought to the immediate attention of the District and the Architect.
- 1.7.2. Codes, regulations, and standards are as published effective as of date of bid opening, unless otherwise specified or indicated.

1.8. EXAMINATION OF EXISTING CONDITIONS

- 1.8.1. Contractor shall be held to have examined the Project Site and acquainted itself with the conditions of the Site and of the streets and roads approaching the Site.
- 1.8.2. Prior to commencement of Work, Contractor shall survey the Site and existing buildings and improvements to observe existing damage and defects such as cracks, sags, broken, missing or damaged glazing, other building elements and Site improvements, and other damage.
- 1.8.3. Should Contractor observe cracks, sags, and other damage to and defects of the Site and adjacent buildings, paving, and other items not indicated in the Contract Documents, Contractor shall immediately report same to the District and the Architect.

1.9. CONTRACTOR'S USE OF PREMISES

- 1.9.1. Contractor shall take all reasonable precautions for the safety of the students and the school employees throughout the duration of the Project.
- 1.9.2. If unoccupied and only with District's prior written approval, Contractor may use the building(s) at the Project Site without limitation for its operations, storage, and office facilities for the performance of the Work. If the District chooses to beneficially occupy any building(s), Contractor must obtain the District's written approval for Contractor's use of spaces and types of operations to be performed within the building(s) while so occupied. Contractor's access to the building(s) shall be limited to the areas indicated.

- 1.9.3. If the space at the Project Site is not sufficient for Contractor's operations, storage, office facilities and/or parking, Contractor shall arrange and pay for any additional facilities needed by Contractor, at no expense to District.
- 1.9.4. Contractor shall not interfere with others use of or access to occupied portions of the building(s) or adjacent property.
- 1.9.5. Contractor shall maintain corridors, stairs, halls, and other exit-ways of building clear and free of debris and obstructions at all times.
- 1.9.6. No one other than those directly involved in the demolition and construction or specifically designated by the District or the Architect shall be permitted in the areas of Work during demolition and construction activities.

1.10. PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- 1.10.1. The Drawings show above-grade and below-grade structures, utility lines, and other installations that are known or believed to exist in the area of the Work. Contractor shall locate these existing installations before proceeding with excavation and other operations that could damage same; maintain them in service, where appropriate; and repair damage to them caused by the performance of the Work. Should damage occur to these existing installations, the costs of repair shall be at the Contractor's expense and made to the District's satisfaction.
- 1.10.2. Contractor shall be alert to the possibility of the existence of additional structures and utilities. If Contractor encounters additional structures and utilities, Contractor will immediately report to the District for disposition of same as indicated in the General Conditions.

1.11. UTILITY SHUTDOWNS AND INTERRUPTIONS

- 1.11.1. Contractor shall give the District a minimum of three (3) days written notice in advance of any need to shut off existing utility services or to effect equipment interruptions. District will set exact time and duration for shutdown, and will assist Contractor with shutdown. Work required to re-establish utility services shall be performed by the Contractor.
- 1.11.2. Contractor shall obtain District's written approval as indicated in the General Conditions in advance of deliveries of material or equipment or other activities that may conflict with District's use of the building(s) or adjacent facilities.

1.12. STRUCTURAL INTEGRITY

- 1.12.1. Contractor shall be responsible for and supervise each operation and work that could affect structural integrity of various building elements, both permanent and temporary.
- 1.12.2. Contractor shall include structural connections and fastenings as indicated or required for complete performance of the Work.

END OF DOCUMENT

DOCUMENT 01 12 10

CONTRACT FORMS AND SUBMITTALS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Submittals; and
- 1.1.5. Construction Schedule.

2. REQUIREMENTS OF THE DISTRICT

2.1. Contractor shall utilize the District's forms as indicated below. This requirement also applies to submittals, including the requirement that the Contractor and its Subcontractors, as indicated, utilize the software, internet and specific programs on this Project as indicated herein.

2.2. DISTRICT APPROVAL OF ALL FORMS

All forms identified below shall be submitted and approved by the District.

- 2.2.1. **Request for Information.** Contractor shall comply with all applicable provisions in Contract Documents relating to Requests for Information. Contractor shall submit all of its Requests for Information using District's Form attached hereto.
- 2.2.2. **Construction Directive.** Contractor shall comply with all applicable provisions in Contract Documents relating to Changes in the Work. All Construction Directives shall be issued using District's Form attached hereto.
- 2.2.3. **Price Request.** Contractor shall comply with all applicable provisions in Contract Documents relating to Price Requests. All Price Requests shall be issued using District's Form attached hereto.
- 2.2.4. **Proposed Change Order.** Contractor shall comply with all applicable provisions in Contract Documents relating to Changes in the Work. Contractor shall submit all of its Proposed Change Orders using District's Form attached hereto.
- 2.2.5. **Change Order.** Contractor shall comply with applicable provisions in Contract Documents relating to Changes in the Work. All Change Orders shall be issued using District's Form attached hereto.

2.3. CONTRACTOR SUBMITTALS

All submittals required by the Contract Documents shall be submitted using the programs, processes and software indicated below. If no specific program or format is indicated, then Microsoft Word or Microsoft Excel is acceptable.

2.3.1. Preliminary Construction Schedule

2.3.1.1. Utilize Primavera P6 Project Management® software (latest version) by Oracle (PCM) (<http://www.oracle.com/us/industries/engineering-and-construction/index.html>) or another program if pre-approved by the District.

2.3.2. Schedule of Values

2.3.2.1. Utilize PCM or another program if pre-approved by the District.

2.3.3. Contractor's Completed Subcontractor List

2.3.4. Contractor's Safety Plan

2.3.5. Schedule of Submittals

2.3.5.1. Utilize PCM or another program if pre-approved by the District.

2.3.6. Operations and Maintenance Manual & Instructions

END OF DOCUMENT

DOCUMENT 01 20 00

PRICE AND PAYMENT PROCEDURES

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any).

1.2. DESCRIPTION

- 1.2.1. This Document contains procedures to be followed by the Contractor to request payment.
- 1.2.2. **IF THERE IS ANY INCONSISTENCY IN THIS DOCUMENT WITH THE PROVISIONS IN THE GENERAL CONDITIONS AND THE SPECIAL CONDITIONS THAT THE CONTRACTOR SHALL COMPLY WITH RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES (e.g., "PAYMENTS," "SCHEDULE OF VALUES"), THOSE PROVISIONS IN THE GENERAL CONDITIONS AND THE SPECIAL CONDITIONS SHALL TAKE PRECEDENCE.**

1.3. SECTION INCLUDES

- 1.3.1. Schedule of Values.
- 1.3.2. Application for Payment.

1.4. SCHEDULE OF VALUES

- 1.4.1. Provide a breakdown of the Contract Price with enough detail to facilitate continued evaluation of Applications for Payment and Progress Reports.
- 1.4.2. Contractor must update and resubmit the Schedule of Values before the next Invoice or Application for Payment when Change Orders or Construction Change Directives result in a change in the Contract Price.
- 1.4.3. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. Comply with the provisions in the General Conditions regarding the Schedule of Values.
 - 1.4.3.1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - 1.4.3.1.1. Application for Payment forms.

- 1.4.3.1.2. Submittal Schedule.
 - 1.4.3.1.3. Contractor's Construction Schedule.
 - 1.4.3.2. Submit the Schedule of Values to District as indicated in the Contract Documents and, if an updated Schedule of Values is needed, then no later than ten (10) days before the date scheduled for submittal of the next Application(s) for Payment.
 - 1.4.3.3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- 1.4.4. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1.4.4.1. Identification: Include the following Project identification on the Schedule of Values:
 - 1.4.4.1.1. Project name and location.
 - 1.4.4.1.2. Name of District's Representative.
 - 1.4.4.1.3. District's contract number (_____).
 - 1.4.4.1.4. District's name and address.
 - 1.4.4.1.5. Date of submittal.
 - 1.4.4.2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - 1.4.4.2.1. Related Specification document, section or division.
 - 1.4.4.2.2. Description of the Work.
 - 1.4.4.2.3. Name of subcontractor.
 - 1.4.4.2.4. Name of manufacturer or fabricator.
 - 1.4.4.2.5. Name of supplier.
 - 1.4.4.2.6. Change Orders (numbers) that affect value.
 - 1.4.4.2.7. Dollar value.
 - 1.4.4.2.7.1. Percentage of the Contract Price to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1.4.4.3. Provide a breakdown of the Contract Price in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.

Provide several line items for principal subcontract amounts, where appropriate. Include separate line items under required principal subcontracts for operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training.

1.4.4.4. Round amounts to nearest whole dollar; total shall equal the Contract Price.

1.4.4.5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

1.4.4.6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

1.4.4.7. Allowances (if any): Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

1.4.4.8. Each item in the Schedule of Values and Applications for Payments shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

1.4.5. Schedule Updating: Update and resubmit the Schedule of Values before the next Application for Payment if there is a change in the Contract Price.

1.5. APPLICATIONS FOR PAYMENT

1.5.1. **Form:** Contractor shall utilize AIA Form G702 - Application and Certificate for Payment and AIA Form G703 - Continuation Sheet, or District-approved form with the same information as these AIA forms.

1.5.2. **Content and Format:** District shall use Schedule of Values for listing items in its Application for Payment.

1.5.3. Each Application for Payment shall be consistent with previous applications and payments as certified and paid for by District.

END OF DOCUMENT

DOCUMENT 01 21 00

ALLOWANCES

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISION

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions including without limitation, Contract Terms and Definitions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any).
- 1.1.4. Agreement;
- 1.1.5. Bid Form; and

1.2. SUMMARY

- 1.2.1. **THE SPECIFIC ALLOWANCES FOR THIS PROJECT ARE AS LISTED IN THE AGREEMENT.**
- 1.2.2. This Document includes administrative and procedural requirements governing Allowances.
- 1.2.3. Certain items are specified in the Contract Documents by Allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements may be issued by Change Order or similar document.

1.3. SELECTION AND PURCHASE

- 1.3.1. At the earliest practical date after award of the Contract, Contractor shall advise District of the date when final selection and purchase of each product or system described by an Allowance must be completed to avoid delaying the Work.
- 1.3.2. At District's request, obtain proposals for each Allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- 1.3.3. Purchase products and systems selected by District from the designated supplier.

1.4. SUBMITTALS

- 1.4.1. Submit proposals for purchase of products or systems included in Allowances, in the form specified for Change Orders.
- 1.4.2. Submit invoices or delivery slips to show actual quantities of materials delivered to the Site for use in fulfillment of each Allowance.

- 1.4.3. Coordinate and process submittals for Allowance items in same manner as for other portions of the Work.

1.5. COORDINATION

Coordinate Allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6. PAYMENT FOR ALLOWANCES

- 1.6.1. Allowance shall include all-inclusive cost to Contractor of specific products and materials under Allowance and Contractor may bill its time, materials, and other items in the identical structure as a Change Order.

1.7. UNUSED MATERIALS

- 1.7.1. Return unused materials purchased under an Allowance to manufacturer or supplier for credit to District, after installation has been completed and accepted.
- 1.7.2. If requested, prepare and deliver unused material for storage by District when it is not economically practical (as determined by District) to return the material for credit. If directed, deliver unused material to District's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

2. EXECUTION

2.1. EXAMINATION

Examine products covered by an Allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

2.2. PREPARATION

Coordinate materials and their installation for each Allowance with related materials and installations to ensure that each Allowance item is completely integrated and interfaced with related work.

END OF DOCUMENT

DOCUMENT 01 23 00

ALTERNATES AND UNIT PRICING

1. ALTERNATES AND UNIT PRICES

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Bid Form and Proposal; and
- 1.1.5. Instruction to Bidders.

2. ALTERNATES

2.1. DESCRIPTION

An amount proposed by Contractor and stated in its Bid Form for certain work defined in the Instruction to Bidders, Bid Form or Contract Documents that may be added to or deducted from the Base Bid amount. The acceptance or rejection of any of the alternates is strictly at the option of the District and subject to District's acceptance of Contractor's stated prices contained in this Proposal.

The cost or credit for each alternate is the net addition to or deduction from the Contract Price to incorporate the alternate into the Work. No other adjustments are made to the Contract Price.

2.2. GENERAL:

- 2.2.1. Coordination: Contractor shall modify or adjust adjacent work as necessary to completely integrate work of the alternate into the Project.
 - 2.2.1.1. Include as part of each alternate, miscellaneous devices, accessories and similar items incidental to or required for a complete installation whether or not indicated as part of the alternate.
 - 2.2.1.2. Include as part of each alternate, the costs of related coordination, modification, or adjustments.
- 2.2.2. If District accepts an alternate, Contractor shall perform the work of the alternate under the same conditions as other Work required by Contract Documents.
- 2.2.3. Notification: Immediately following award of the Contract, Contractor shall notify all of its Subcontractor(s) in writing of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

- 2.2.4. Schedule of Alternates: A Schedule of Alternates is included at the end of this Document. Specifications referenced in the Schedule of Alternates contain requirements for materials necessary to achieve the Work described under each alternate.

3. UNIT PRICING

3.1. DESCRIPTION

An amount proposed by Contractor and stated in its Bid Form for certain work defined in the Instruction to Bidders and Bid Form that may be priced by unit. The acceptance or rejection of any of the unit prices is strictly at the option of the District and subject to District's acceptance of Contractor's stated prices contained in the Bid Form and may be subsequently negotiated prior to incorporation on Change Order(s).

3.2. GENERAL

Contractor shall completely state all required figures based on Unit Prices required in the Bid Form. Where scope of Work is decreased, all Work pertaining to the item, whether specifically stated or not, shall be omitted and where scope of Work is increased, all work pertaining to that item required to render same ready for use on the Project in accordance with intention of Drawings and Specifications shall be included in an agreed upon price amount.

3.3. UNIT PRICES

Furnish unit prices for each of the named items on a square foot, lineal foot, or per each basis, as requested and applicable. Unit prices shall include all labor, materials, services, profit, overhead, insurance, bonds, taxes, and all other incidental costs of Contractor, subcontractors, and supplier(s).

4. EXECUTION

4.1. SCHEDULE OF ALTERNATES

END OF DOCUMENT

DOCUMENT 01 25 10

PRODUCT OPTIONS AND SUBSTITUTIONS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any); and
- 1.1.4. Instructions to Bidders.

1.2. DOCUMENT INCLUDES

- 1.2.1. Product options.
- 1.2.2. Limitations on Substitutions.
- 1.2.3. Regulatory Requirements.
- 1.2.4. Substitution Representation.
- 1.2.5. Submittal Procedure.
- 1.2.6. District's Review.

1.3. DEFINITIONS

- 1.3.1. Requests for changes in products, materials, or equipment required by Contract Documents proposed by the Contractor prior to and after award of the Contract are considered requests for substitutions. Contractor must refer to the Instructions to Bidders, the General Conditions and the Special Conditions for limitations on when requests for substitution(s) are permitted on Project. The following are not considered substitutions:
 - 1.3.1.1. Revisions to Contract Documents requested by the District or Architect.
 - 1.3.1.2. Specified options of products, materials, and equipment included in Contract Documents.
- 1.3.2. Whenever in the Specifications any material, product, thing, or service is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be used for the purpose of facilitating the description

of the material, product, thing, or service, and shall be deemed to be followed by the words "or equal," except:

1.3.2.1. When designated to match other material, product, thing, or service in use on a particular public improvement either completed or in the course of completion;
or

1.3.2.2. When designated as a field test or experiment.

1.4. PRODUCT OPTIONS

1.4.1. **Products Specified by Reference Standards or by Description Only:** Any Product meeting those standards or description.

1.4.2. **Products Specified by Naming One or More Manufacturers with or without Provision for Substitution:** Products of manufacturers named and meeting specifications with substitution of Products or manufacturer only when submitted under provisions of this section.

1.5. LIMITATIONS ON SUBSTITUTIONS

1.5.1. **Requests for substitution prior to bid or after bid, shall only be permitted as indicated in and in accordance with requirements specified in the Instructions to Bidders and the Special Conditions.**

1.5.2. The Bid shall be based upon the standards of quality established by those items of equipment and/or materials which are specifically identified in the Contract Documents.

1.5.3. Burden of proof of merit of requested substitution is the responsibility of the Contractor.

1.5.4. It is the sole responsibility of Contractor to submit the proper content of any requests for substitutions. Incomplete submittals will be rejected.

1.6. REGULATORY REQUIREMENTS

1.6.1. It shall be the responsibility of Contractor to obtain all regulatory approvals required for proposed substitutions.

1.6.2. All regulatory approvals shall be obtained for proposed substitutions prior to submittal of substitution request to Architect.

1.6.3. All costs incurred by the District in obtaining regulatory approvals for proposed substitutions to include the costs of the Architect and any authority having jurisdiction over the Project shall be reimbursed to the District. Costs of these services shall be reimbursed regardless of final acceptance or rejection of substitution.

1.6.4. Substitutions of materials or work procedures which affect the health, safety and welfare of the public shall have prior approval of the Division of the State Architect (DSA) field representative.

1.7. SUBSTITUTION REPRESENTATION

- 1.7.1. In submitting a request for substitution, Contractor makes the representation that:
- 1.7.2. Contractor has investigated the proposed substitution and determined that it meets or exceeds the quality level of the specified product;
- 1.7.3. Contractor has determined that all components of the proposed substitution are identical and fully interchangeable with the product name and number specified;
- 1.7.4. Contractor will provide the same warranty or guarantee for the substitution as for the specified product;
- 1.7.5. Contractor will coordinate installation and make changes to other work which may be required for the work to be completed with no additional cost to the District;
- 1.7.6. Contractor waives claims for additional cost or time extension which may subsequently become apparent; and
- 1.7.7. Contractor will reimburse District for the cost of District's and Architect's review or redesign services associated with substitution request.

1.8. SUBMITTAL PROCEDURE

- 1.8.1. Submit six (6) copies of each request.
- 1.8.2. Submit request using District's Substitution Request Form as indicated in Contract Forms and Submittals. Substitution requests that are not on District's required form shall be returned without review.
- 1.8.3. Limit each request to one proposed substitution.
- 1.8.4. Request to include sufficient data so that direct comparison of proposed substitution can be made.
- 1.8.5. Provide complete documentation for each request. Documentation shall include the following information, as appropriate, as a minimum:
 - 1.8.5.1. Statement of cause for substitution request.
 - 1.8.5.2. Identify product by specification section and article number.
 - 1.8.5.3. Provide manufacturer's name, address, and phone number. List fabricators, suppliers, and installers as appropriate.
 - 1.8.5.4. List similar projects where proposed substitution has been used, dates of installation and names of Architect and District.
 - 1.8.5.5. List availability of maintenance services and replacement materials.
 - 1.8.5.6. Documented or confirmation of regulatory approval.

- 1.8.5.7. Product data, including drawings and descriptions of products.
- 1.8.5.8. Fabrication and installation procedures.
- 1.8.5.9. Samples of proposed substitutions.
- 1.8.5.10. Itemized comparison of significant qualities of the proposed substitution with those of the product specified. Significant qualities may include size, weight, durability, performance requirements and visual effects.
- 1.8.5.11. Coordination information, including a list of changes or modifications needed to other items of work that will become necessary to accommodate proposed substitution.
- 1.8.5.12. Statement on the substitutions effect on the Construction Schedule.
- 1.8.5.13. Cost information including a proposal of the net reduction in cost to the Contract Price if the proposed substitution is accepted.
- 1.8.5.14. Certification that the substitution is equal to or better in every respect to that required by the Contract Documents and that substitution will perform adequately in the application intended.
- 1.8.5.15. Waiver of right to additional payment or time that may subsequently become necessary because of failure of substitution to perform adequately.
- 1.8.6. Inadequate warranty, vagueness of submittal, failure to meet specified requirements, or submittal of insufficient data will be cause for rejection of substitution request.

1.9. DISTRICT'S REVIEW

- 1.9.1. The District will accept or reject proposed substitution within a reasonable amount of time.
- 1.9.2. If a request is made prior to bid opening and the District has not completed its review, Contractor shall base its bid on the product specified only.
- 1.9.3. There shall be no claim for additional time for review of proposed substitutions.
- 1.9.4. Final acceptance of a substitution submitted prior to the date established for the receipt of bids will be in the form of an addendum.

END OF DOCUMENT

DOCUMENT 01 26 00

CONTRACT MODIFICATION PROCEDURES

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Allowances; ~~For replacement of faulty actuators or control valves or where proprietary VAV actuators with integral controls have been used.~~
- 1.1.5. Product Options and Substitutions; and
- 1.1.6. Project Coordination.

1.2. DESCRIPTION

- 1.2.1. This Document contains procedures to be followed by the Contractor to request changes in the Contract Time of the Contract Price.
- 1.2.2. **IF THERE IS ANY INCONSISTENCY IN THIS DOCUMENT WITH THE PROVISIONS IN THE GENERAL CONDITIONS AND THE SPECIAL CONDITIONS THAT THE CONTRACTOR SHALL COMPLY WITH RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES (e.g., "Change in the Work"), THOSE PROVISIONS IN THE GENERAL CONDITIONS AND THE SPECIAL CONDITIONS SHALL TAKE PRECEDENCE.**

1.3. SUMMARY

This Document specifies administrative and procedural requirements for handling and processing Contract modifications.

1.4. CONSTRUCTION CHANGE DIRECTIVE

The District may as provided by law, by Construction Directive and without invalidating the Contract, order changes in the Work consisting of additions, deletions, or other revisions.

1.5. PRICE REQUESTS

- 1.5.1. Do not consider Price Requests to be instructions either to stop work in progress or to execute the proposed change.
- 1.5.2. Within time specified in Price Request after receipt of Price Request, submit a quotation estimating cost adjustments to the Contract Price and the Contract Time necessary to execute the change.

- 1.5.2.1. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
- 1.5.2.2. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
- 1.5.2.3. Include costs of labor and supervision directly attributable to the change.
- 1.5.2.4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

1.6. PROPOSED CHANGE ORDERS

Contractor may propose changes by submitting a request for a change on District's Proposed Change Order form (PCO) to District.

- 1.6.1. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- 1.6.2. Comply with Contract Document requirements if the proposed change requires substitution of one product or system for product or system specified.

END OF DOCUMENT

DOCUMENT 01 26 10

REQUESTS FOR INFORMATION

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Documentation Requirements;
- 1.1.5. Electronic Data Transfer;
- 1.1.6. Submittals;
- 1.1.7. Contract Closeout and Final Cleaning;
- 1.1.8. Operation and Maintenance Data;
- 1.1.9. Warranties; and
- 1.1.10. Record Documents;

1.2. DESCRIPTION

This Document contains procedures to be followed by the Contractor to request Architect provide additional information necessary to clarify or amplify an item in the Contract Documents that Contractor thinks is not clearly shown or called for in the Drawings or Specifications or other portions of the Contract Documents, or to address issues that have arisen under field conditions.

1.3. PROCEDURES

- 1.3.1. Notification by Contractor:
 - 1.3.1.1. Submit all requirements for clarification or additional information, whether originated by the Contractor, a Subcontractor, or supplier at any tier, in writing to District as required by the Contract Documents.
 - 1.3.1.2. Number RFIs sequentially. Follow RFI number with sequential alphabetical suffix as necessary for each resubmission. For example, the first RFI would be "001." The second RFI would be "002."
 - 1.3.1.3. All RFIs shall reference all applicable Contract Document(s), including Specification section(s), detail(s), page number(s), drawing number(s), and sheet number(s), etc. Contractor shall make suggestions and interpretations of

the issue raised by each RFI. An RFI cannot modify the Contract Price, Contract Time, or the Contract Documents.

1.3.1.4. Limit each RFI to one subject.

1.3.1.5. Submit a RFI if one of the following conditions occurs:

1.3.1.5.1. Contractor discovers an unforeseen condition or circumstance that is not described in the Contract Documents.

1.3.1.5.2. Contractor discovers an apparent conflict or discrepancy between portions of the Contract Documents that appears to be inconsistent or is not reasonably inferred from the intent of the Contract Documents.

1.3.2. Contractor shall not:

1.3.2.1. Submit an RFI as a request for substitution.

1.3.2.2. Submit an RFI as a submittal.

1.3.2.3. Submit an RFI without first having thoroughly reviewed the Contract Documents.

1.3.2.4. Submit an RFI in a manner that suggests that specific portions of the Contract Documents are assumed to be excluded or by taking an isolated portion of the Contract Documents in part rather than whole.

1.3.2.5. Submit an RFI in an untimely manner without proper coordination and scheduling of Work related trades.

1.3.2.6. If Contractor submits an RFI contrary to the above, Contractor shall pay the cost of any review, which cost shall be deducted from the Contract Price.

1.3.3. Contractor shall be liable to the District for all costs incurred by the District associated with the processing, reviewing, evaluating and responding to any RFI, including without limitation, fees of the Architect and any other design consultant to the Architect or the District, that District reasonably determines:

1.3.3.1. Does not reflect adequate or competent supervision or coordination by the Contractor or any Subcontractor; or

1.3.3.2. Does not reflect the Contractor's adequate or competent knowledge of the requirements of the Work or the Contract Documents;

1.3.3.3. Requests an interpretation or decision of a matter where the information sought is equally available to the Contractor; or

1.3.3.4. Is not justified for any other reason.

1.4. RESPONSE TIME

- 1.4.1. Architect shall review RFIs and issue a response and instructions to Contractor within a reasonable time frame from the date the RFI is received and dated by the District.
- 1.4.2. Responses from the District will not change any requirement of the Contract unless so noted by the District in the response to the RFI. Should the Contractor contend that a response to an RFI causes a change to the Contract that requires a Change Order, the Contractor shall, before proceeding, give written notice to the District, indicating that the Contractor considers the District's response to the RFI to be a Change Order, as required by the Contract Documents.
- 1.4.3. Should Contractor direct its Subcontractors to proceed with the Work affected before receipt of a response from Architect, any portion of the Work which is not done in accordance with the Architect's ultimate interpretations, clarifications, instructions, or decisions is subject to removal or replacement at Contractor's sole expense and responsibility.

END OF DOCUMENT

DOCUMENT 01 31 00

COORDINATION AND PROJECT MEETINGS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS:

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any); and
- 1.1.4. Technical Specifications.

1.2. SECTION INCLUDES

- 1.2.1. Coordination Responsibilities of the Contractor.
- 1.2.2. Field Engineering Responsibilities of the Contractor.
- 1.2.3. Preconstruction Conference.
- 1.2.4. Progress Meetings.
- 1.2.5. Pre-Installation Conferences.
- 1.2.6. Post Construction Dedication.

1.3. COORDINATION RESPONSIBILITIES OF THE CONTRACTOR

- 1.3.1. Coordinate scheduling, submittals, and Work of the Specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- 1.3.2. Prior to commencement of a particular type or kind of Work examine relevant information, contract documents, and subsequent data issued to the Project.
- 1.3.3. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
- 1.3.4. Closing up of holes, backfilling, and other covering up operations shall not proceed until all enclosed or covered Work and inspections have been completed. Verify before proceeding.
- 1.3.5. Coordinate space requirements and installation of mechanical and electrical Work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and

conduit as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

- 1.3.6. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- 1.3.7. In locations where several elements of mechanical and electrical Work must be sequenced and positioned with precision in order to fit into available space, prepare coordination drawings showing the actual conditions required for the installation. Prepare coordination drawings prior to purchasing, fabricating, or installing any of the elements required to be coordinated.
- 1.3.8. Report to District all existing malfunctioning control devices, HVAC equipment and plumbing equipment discovered during Work. The malfunctioning equipment and devices shall be reported within one day of discovery. Compile for District a list of malfunctioning equipment and devices by date discovered, system, location and recommended solution for repair. Provide District updated list weekly.
- 1.3.9. Closing up of walls, partitions or furred spaces, backfilling, and other covering up operations shall not proceed until all enclosed or covered Work and inspections have been completed. Verify before proceeding.
- 1.3.10. Coordinate completion and cleanup of Work of separate sections in preparation for completion and for portions of Work designated for District's occupancy.
- 1.3.11. After District occupancy of Project, coordinate access to Site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of District's activities.
- 1.3.12. Coordinate all utility company Work in accordance with the Contract Documents.
- 1.3.13. Key Personnel Names: Within fifteen (15) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.4. PRECONSTRUCTION CONFERENCE

- 1.4.1. Construction Manager or Project Engineer will schedule a conference immediately after, and in no case more than fifteen (15) days after, receipt of fully executed Contract Documents prior to Project mobilization.
- 1.4.2. Mandatory Attendance: Construction Manager, Project Engineer, Project Inspector, Architect of Record, Civil Engineer, Contractor, Contractor's Project Manager, and Contractor's Job/Project Superintendent.

- 1.4.3. Optional Attendance: Utility company representatives.
- 1.4.4. Construction Manager shall preside at conference and the Project Architect shall prepare and record minutes and distribute copies.
- 1.4.5. Agenda:
 - 1.4.5.1. Execution of Owner-Contractor Agreement.
 - 1.4.5.2. Issue Notice to Proceed.
 - 1.4.5.3. Submission of executed bonds and insurance certificates.
 - 1.4.5.4. Distribution of Contract Documents.
 - 1.4.5.5. Submission of list of Subcontractors, list of Products, Schedule of Values, and Progress Schedule.
 - 1.4.5.6. Designation of responsible personnel representing the parties.
 - 1.4.5.7. Procedures for processing Change Orders.
 - 1.4.5.8. Procedures for Request for Information.
 - 1.4.5.9. Procedures for testing and inspecting.
 - 1.4.5.10. Procedures for processing applications for payment.
 - 1.4.5.11. Procedures for Project closeout.
 - 1.4.5.12. Use of Premises.
 - 1.4.5.13. Work restrictions.
 - 1.4.5.14. District's occupancy requirements or options.
 - 1.4.5.15. Responsibility for temporary facilities and controls.
 - 1.4.5.16. Construction waste management and recycling.
 - 1.4.5.17. Parking availability.
 - 1.4.5.18. Office, work and storage areas.
 - 1.4.5.19. Equipment deliveries and priority.
 - 1.4.5.20. Security.
 - 1.4.5.21. Progress cleaning.
 - 1.4.5.22. Review required submittals and (if applicable) LEED Certification requirements.

1.5. PROGRESS MEETINGS

- 1.5.1. Construction Manager shall schedule and administer meetings throughout progress of the Work at a minimum of every week.
- 1.5.2. Construction Manager or Project Engineer will make arrangements for meetings, prepare agenda, and preside at meetings. Project Architect shall record minutes (Field Reports), and distribute copies.
- 1.5.3. Attendance Required: Job Superintendent, Construction Manager, Project Engineer, Project Inspector, Architect of Record, Civil Engineer, Subcontractors, and suppliers as appropriate to agenda topics for each meeting.
- 1.5.4. Agenda:
 - 1.5.4.1. Review minutes of previous meetings (Field Reports).
 - 1.5.4.2. Review of Work progress.
 - 1.5.4.3. Field observations, problems, and decisions.
 - 1.5.4.4. Identification of problems which impede planned progress.
 - 1.5.4.5. Review of submittals schedule and status of submittals.
 - 1.5.4.6. Review of off-site fabrication and delivery schedules.
 - 1.5.4.7. Maintenance of construction schedule.
 - 1.5.4.8. Corrective measures to regain projected schedules.
 - 1.5.4.9. Planned progress during succeeding work period.
 - 1.5.4.10. Coordination of projected progress.
 - 1.5.4.11. Maintenance of quality and work standards.
 - 1.5.4.12. Effect of proposed changes on progress schedule and coordination.
 - 1.5.4.13. Other business relating to Work.
- 1.5.5. District has authority to schedule mandatory meetings other than those listed, as necessary.

1.6. PRE-INSTALLATION CONFERENCES

- 1.6.1. When required in individual specification section, Contractor shall convene a pre-installation conference prior to commencing Work of the section. Refer to individual specification section for timing requirements of conference.
- 1.6.2. Contractor shall require its Subcontractors and suppliers directly affecting, or affected by, Work of the specific section to attend.

- 1.6.3. Notify the Construction Manager, Project Engineer, Project Inspector, and Architect of Record four (4) days in advance of meeting date.
- 1.6.4. A pre-installation conference may coincide with a regularly scheduled progress meeting.
- 1.6.5. Contractor shall prepare agenda, preside at conference, record minutes, and distribute copies within two (2) days after conference to participants.
- 1.6.6. The purpose of the meeting will be to review Contract Documents, conditions of installation, preparation and installation procedures, and coordination with related Work and manufacturer's recommendations.
- 1.6.7. Pre-installation Schedule: As a minimum, Work being installed under the Contract Documents technical sections will require pre-installation conferences. Contractor shall review the technical specifications and add all additional requirements for pre-installation meetings contained in those sections.

1.7. POST CONSTRUCTION DEDICATION

- 1.7.1. Attendance Required: Project Superintendent, Contractor, Project Manager, major Subcontractors, Construction Manager, Project Engineer, Project Inspector, and Architect of Record.
- 1.7.2. Preparation prior to Dedication: Contractor and appropriate Subcontractors and suppliers shall:
- 1.7.3. Assist District in operation of mechanical devices and systems.
 - 1.7.3.1. Verify operation and adjust controls for communication systems.

END OF DOCUMENT

DOCUMENT 01 32 16

CONSTRUCTION SCHEDULE – NETWORK ANALYSIS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISION

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Coordination and Meetings; and
- 1.1.5. Submittals.

1.2. REFERENCES

- 1.2.1. Construction Planning and Scheduling Manual - A Manual for General Contractors and the Construction Industry, The Associated General Contractors of America (AGC).
- 1.2.2. CSI - Construction Specifications Institute MP-2-1 Master Format.
- 1.2.3. U.S. National Weather Service - Local Climatological Data.

1.3. PERFORMANCE REQUIREMENTS

- 1.3.1. Ensure adequate scheduling during construction activities so Work may be prosecuted in an orderly and expeditious manner within stipulated Contract Time.
- 1.3.2. Ensure coordination of Contractor and Subcontractors at all levels.
- 1.3.3. Ensure coordination of submittals, fabrication, delivery, erection, installation, and testing of products, materials and equipment.
- 1.3.4. Ensure on-time delivery of District furnished products, materials and equipment.
- 1.3.5. Ensure coordination of jurisdictional reviews.
- 1.3.6. Prepare applications for payment.
- 1.3.7. Monitor progress of Work.
- 1.3.8. Prepare proper requests for changes to Contract Time.
- 1.3.9. Prepare proper requests for changes to Construction Schedule.
- 1.3.10. Assist in detection of schedule delays and identification of corrective actions.

1.4. QUALITY ASSURANCE

- 1.4.1. Perform scheduling work in accordance with Construction Planning and Scheduling Manual published by the AGC.
- 1.4.2. Maintain one copy of Construction Planning and Scheduling Manual on Site.
- 1.4.3. In the event of discrepancy between the AGC publication and the Contract Documents, provisions of the Contract Documents shall govern.

1.5. QUALIFICATIONS

1.5.1. Scheduler:

- 1.5.1.1. Contractor shall retain a construction scheduler to work in enough capacity to perform all of the Contractor's requirements to prepare the Construction Schedule. The Scheduler shall plan, coordinate, execute, and monitor a cost/resource loaded CPM schedule as required for Project and have a minimum of five (5) years direct experience using Primavera Project Management.
- 1.5.1.2. Scheduler will cooperate with District and shall be available on site for monitoring, maintaining and updating schedules in a timely manner.
- 1.5.1.3. District has the right to reject the Scheduler based upon a lack of experience as required by this Document or based on lack of performance and timeliness of schedule submittals/fragnets on past projects. Contractor shall within seven (7) calendar days of District's rejection, propose another scheduler who meets the experience requirements stated above.

- 1.5.2. **Administrative Personnel:** Five (5) years minimum experience in using and monitoring schedules on comparable projects.

1.6. SUBMITTALS

- 1.6.1. Submit Short Interval Schedule at each Construction Progress Meeting.
- 1.6.2. Submit Time Adjustment Schedule within five (5) days of commencement of a claimed delay.
- 1.6.3. Submit Recovery Schedules as required for timely completion of Work or when demanded by the District.
- 1.6.4. Submit job cost reports when demanded by the District.
- 1.6.5. Submit one (1) reproducible and two (2) copies of each schedule and cost report.
- 1.6.6. Submit large format plotted schedules monthly or at the request of the District or Construction Manager.

1.7. REVIEW AND EVALUATION

- 1.7.1. Contractor shall participate in joint review of Construction Schedule and Reports with District and Architect.
- 1.7.2. Within seven (7) days of receipt of District and/or Architect's comments provide satisfactory revision to Construction Schedule or adequate justification for activities in question.
- 1.7.3. In the event that an activity or element of Work is not detected by District or Architect review, such omission or error shall be corrected by next scheduled update and shall not affect Contract Time.
- 1.7.4. Acceptance by District of corrected Construction Schedule shall be a condition precedent to making any progress payments.
- 1.7.5. Cost-loaded values of Construction Schedule shall be basis for determining progress payments.
- 1.7.6. Review and acceptance by District and Architect of Preliminary Construction Schedule or Construction Schedule does not constitute responsibility whatsoever for accuracy or feasibility of schedules nor does such acceptance expressly or impliedly warrant, acknowledge or admit reasonableness of activities, logic, duration, manpower, cost or equipment loading stated or implied on schedules.

1.8. FORMAT

- 1.8.1. Prepare diagrams and supporting mathematical analyses using Precedence Diagramming Method, under concepts and methods outlined in AGC Construction Planning and Scheduling Manual, or other method pre-approved by District.
- 1.8.2. **Listings:** Reading from left to right, in ascending order for each activity.
- 1.8.3. **Diagram Size:** 42 inches maximum height x width required.
- 1.8.4. **Scale and Spacing:** To allow for legible notations and revisions.
- 1.8.5. Illustrate order and interdependence of activities and sequence of Work.
- 1.8.6. Illustrate complete sequence of construction by activity.
- 1.8.7. Provide legend of symbols and abbreviations used.

1.9. COST AND SCHEDULE REPORTS

- 1.9.1. **Activity Analysis:** Tabulate each activity of network diagram and identify for each activity:
 - 1.9.1.1. Description.
 - 1.9.1.2. Interface with outside contractors or agencies.
 - 1.9.1.3. Number.

- 1.9.1.4. Preceding and following number.
- 1.9.1.5. Duration.
- 1.9.1.6. Earliest start date.
- 1.9.1.7. Earliest finish date.
- 1.9.1.8. Actual start date.
- 1.9.1.9. Actual finish date.
- 1.9.1.10. Latest start date.
- 1.9.1.11. Latest finish date.
- 1.9.1.12. Total and free float.
- 1.9.1.13. Identification of critical path activity.
- 1.9.1.14. Monetary value keyed to Schedule of Values.
- 1.9.1.15. Manpower requirements.
- 1.9.1.16. Responsibility.
- 1.9.1.17. Percentage complete.
- 1.9.1.18. Variance positive or negative.

1.9.2. **Cost Report:** Tabulate each activity of network diagram and identify for each activity:

- 1.9.2.1. Description.
- 1.9.2.2. Number.
- 1.9.2.3. Total cost.
- 1.9.2.4. Percentage complete.
- 1.9.2.5. Value prior to current period.
- 1.9.2.6. Value this period.
- 1.9.2.7. Value to date.

1.9.3. **Required Sorts:** List activities in sorts or groups:

- 1.9.3.1. By activity number.
- 1.9.3.2. By amount of float time in order of early start.

- 1.9.3.3. By responsibility in order of earliest start date.
- 1.9.3.4. In order of latest start dates.
- 1.9.3.5. In order of latest finish dates.
- 1.9.3.6. Application for payment sorted by Schedule of Values.
- 1.9.3.7. Listing of activities on critical path.

- 1.9.4. Listing of basic input data which generates schedule.

1.10. CONSTRUCTION SCHEDULE

- 1.10.1. Contractor shall develop and submit a cost loaded preliminary schedule of construction (or Preliminary Construction Schedule) as required by this Document and the Contract Documents. It shall be submitted in computer generated network format and shall be organized by Activity Codes representing the intended sequencing of the Work, and with time scaled network diagrams of activities. The Preliminary Construction Schedule shall include activities such as mobilization, preparation of submittals, specified review periods, procurement items, fabrication items, milestones, and all detailed construction activities.
- 1.10.2. Upon District's acceptance of the Preliminary Construction Schedule, Contractor shall update the accepted Preliminary Construction Schedule until Contractor's Construction Schedule is fully developed and accepted. Since updates to the Construction Schedule are the basis for payment to Contractor, submittal and acceptance of the Construction Schedule and updates shall be a condition precedent to making of monthly payments, as indicated in the General Conditions.
- 1.10.3. Failure to submit an adequate or accurate Preliminary Construction Schedule, Construction Schedule, updates thereto or failure to submit on established dates, will be considered a breach of Contract.
- 1.10.4. Failure to include any activity shall not be an excuse for completing all Work by required Completion Date.
- 1.10.5. Activities of long intervals shall be broken into increments no longer than fourteen (14) days or a value over \$20,000.00, unless approved by the District or it is a non-construction activity for procurement and delivery.
- 1.10.6. The Construction Schedule shall comply with the following and include the following:
 - 1.10.6.1. Provide a written narrative describing Contractor's approach to mobilization, procurement, and construction during the first thirty (30) calendar days including crew sizes, equipment and material delivery, Site access, submittals, and permits.
 - 1.10.6.2. Shall designate critical path or paths.
 - 1.10.6.3. Procurement activities to include mobilization, shop drawings and sample submittals.

- 1.10.6.4. Identification of key and long-lead elements and realistic delivery dates.
- 1.10.6.5. Construction activities in units of whole days limited to fourteen (14) days for each activity except non-construction activities for procurement and delivery.
- 1.10.6.6. Approximate cost and duration of each activity.
- 1.10.6.7. Shall contain seasonal weather considerations.
- 1.10.6.8. Indicate a date for Project Completion that is no later than Completion Date subject to any time extensions processed as part of a Change Order.
- 1.10.6.9. Conform to mandatory dates specified in the Contract Documents.
- 1.10.6.10. Contractor shall allow for inclement weather in the Proposed Baseline Schedule by incorporating an activity titled "Rain Day Impact Allowance" as the last activity prior to the Completion Milestone. No other activities may be concurrent with it. The duration of the Rain Day Impact Allowance activity will be in accordance with the Special Conditions, and will be calculated from the Notice to Proceed until the Completion.
- 1.10.6.11. Level of detail shall correspond to complexity of work involved.
- 1.10.6.12. Indicate procurement activities, delivery, and installation of District furnished material and equipment.
- 1.10.6.13. Designate critical path or paths.
- 1.10.6.14. Subcontractor work at all levels shall be included in schedule.
- 1.10.6.15. As developed, shall show sequence and interdependence of activities required for complete performance of Work.
- 1.10.6.16. Shall be logical and show a coordinated plan of Work.
- 1.10.6.17. Show order of activities and major points of interface, including specific dates of completion.
- 1.10.6.18. Duration of activities shall be coordinated with Subcontractors and suppliers and shall be best estimate of time required.
- 1.10.6.19. Shall show description, duration and float for each activity.
- 1.10.7. **Activity.** An activity shall meet the following criteria:
 - 1.10.7.1. Any portion or element of Work, action, or reaction that is precisely described, readily identifiable, and is a function of a logical sequential process.
 - 1.10.7.2. Descriptions shall be clear and concise. Beginning and end shall be readily verifiable. Starts and finishes shall be scheduled by logical restraints.

- 1.10.7.3. Responsibility shall be identified with a single performing entity.
- 1.10.7.4. Additional codes shall identify building, floor, bid opening and/or District's receipt of proposals, whichever is acceptable and CSI classification.
- 1.10.7.5. Assigned dollar value (cost-loading) of each activity shall cumulatively equal total contract amount. Mobilization, bond and insurance costs shall be separate. General requirement costs, overhead, profit, shall be prorated throughout all activities. Activity costs shall correlate with Schedule of Values.
- 1.10.7.6. Each activity shall have manpower-loading assigned.
- 1.10.7.7. Major construction equipment shall be assigned to each activity.
- 1.10.7.8. Activities labeled start, continue or completion are not allowed.
- 1.10.8. **Equipment and Materials.** For major equipment and materials show a sequence of activities including:
 - 1.10.8.1. Preparation of shop drawings and sample submissions.
 - 1.10.8.2. Review of shop drawings and samples.
 - 1.10.8.3. Finish and color selection.
 - 1.10.8.4. Fabrication and delivery.
 - 1.10.8.5. Erection or installation.
 - 1.10.8.6. Testing.
- 1.10.9. Include a minimum of fifteen (15) days prior to Completion Date for punch lists and clean up. No other activities shall be scheduled during this period.

1.11. SHORT INTERVAL SCHEDULE

- 1.11.1. The Four-Week Rolling Schedule shall be based on the most recent District Accepted Construction Schedule or Update. It shall include weekly updates to all construction, submittal, fabrication/procurement, and separate Work Contract activities. Contractor shall ensure that it accurately reflects the current progress of the Work.
- 1.11.2. Shall be fully developed horizontal bar-chart-type schedule directly derived from Construction Schedule.
- 1.11.3. Prepare schedule on sheet of sufficient width to clearly show data.
- 1.11.4. Provide continuous heavy vertical line identifying first day of week.
- 1.11.5. Provide continuous subordinate vertical line identifying each day of week.

- 1.11.6. Identify activities by same activity number and description as Construction Schedule.
- 1.11.7. Show each activity in proper sequence.
- 1.11.8. Indicate graphically sequences necessary for related activities.
- 1.11.9. Indicate activities completed or in progress for previous two (2) week period.
- 1.11.10. Indicate activities scheduled for succeeding three (3) week period.
- 1.11.11. Further detail should be added if necessary to monitor schedule or if requested by District.

1.12. REQUESTED TIME ADJUSTMENT SCHEDULE

- 1.12.1. Updated Construction Schedule shall not show a Completion Date later than the Contract Time, subject to any time extensions processed as part of a Change Order.
- 1.12.2. If an extension of time is requested, a separate schedule entitled "Requested Time Adjustment Schedule" shall be submitted to District and Architect.
- 1.12.3. Indicate requested adjustments in Contract Time which are due to changes or delays in completion of Work.
- 1.12.4. Extension request shall include forecast of Project Completion date and actual achievement of any dates listed in Contract Documents.
- 1.12.5. To the extent that any requests are pending at time of any Construction Schedule update, Time Adjustment Schedule shall also be updated.
- 1.12.6. Schedule shall be a time-scaled network analysis.
- 1.12.7. Accompany schedule with formal written time extension request and detailed impact analysis justifying extension.
- 1.12.8. Time impact analysis shall demonstrate time impact based upon date of delay, and status of construction at that time and event time computation of all affected activities. Event times shall be those as shown in latest Construction Schedule.
- 1.12.9. Activity delays shall not automatically constitute an extension of Contract Time.
- 1.12.10. Failure of Subcontractors shall not be justification for an extension of time.
- 1.12.11. Float is not for the exclusive use or benefit of any single party. Float time shall be apportioned according to needs of Project, as determined by the District.
- 1.12.12. Float suppression techniques such as preferential sequencing, special lead/lag logic restraints, extended activity durations, or imposed dates shall be apportioned according to benefit of Project.
- 1.12.13. Extensions will be granted only to extent that time adjustments to activities exceed total positive float of the critical path and extends Completion date.

- 1.12.14. District shall not have an obligation to consider any time extension request unless requirements of Contract Documents, and specifically, but not limited to these requirements, are complied with.
- 1.12.15. District shall not be responsible or liable for any construction acceleration due to failure of District to grant time extensions under Contract Documents should requested adjustments in Contract Time not substantially comply with submission and justification requirements of Contract for time extension requests.
- 1.12.16. In the event a Requested Time Adjustment Schedule and Time Impact Analysis are not submitted within ten (10) days after commencement of a delay it is mutually agreed that delay does not require a Contract Time extension.

1.13. RECOVERY SCHEDULE

- 1.13.1. When activities are behind Construction Schedule a supplementary Recovery Schedule shall be submitted.
- 1.13.2. Contractor shall prepare and submit to the District a Recovery Schedule whenever activities are behind Construction Schedule or at any time requested by the District, at no cost to the District.
- 1.13.3. Form and detail shall be sufficient to explain and display how activities will be rescheduled to regain compliance with Construction Schedule and to complete the Work by the Completion Date.
- 1.13.4. Maximum duration shall be one (1) month and shall coincide with payment period.
- 1.13.5. Ten (10) days prior to expiration of Recovery Schedule, Contractor shall have to show verification to determine if activities have regained compliance with Construction Schedule. Based upon this verification the following will occur:
 - 1.13.5.1. Supplemental Recovery Schedule will be submitted to address subsequent payment period.
 - 1.13.5.2. Construction Schedule will be resumed.

1.14. UPDATING SCHEDULES

- 1.14.1. Review and update schedules at least ten (10) days prior to submitting an Application for Payment.
- 1.14.2. Maintain schedules to record actual prosecution and progress.
- 1.14.3. Approved Change Orders which affect schedules shall be identified as separate new activities.
- 1.14.4. Change Orders of less than \$5,000.00 value or less than three (3) days duration need not be shown unless critical path is affected.
- 1.14.5. No other revisions shall be made to schedules unless authorized by District.

- 1.14.6. **Schedule Narrative Report:** Contractor shall include a written report to explain the Monthly Schedule Update. The narrative shall, at a minimum, include the following headings with appropriate discussions of each topic:
 - 1.14.6.1. Activities or portions of activities completed during previous reporting period.
 - 1.14.6.2. Actual start dates for activities currently in progress.
 - 1.14.6.3. Deviations from critical path in days ahead or behind.
 - 1.14.6.4. List of major construction equipment used during reporting period and any equipment idle.
 - 1.14.6.5. Number of personnel by trade engaged on Work during reporting period.
 - 1.14.6.6. Progress analysis describing problem areas.
 - 1.14.6.7. Current and anticipated delay factors and their impact.
 - 1.14.6.8. Proposed corrective actions and logic revisions for Recovery Schedule.
 - 1.14.6.9. Proposed modifications, additions, deletions and changes in logic of Construction Schedule.
 - 1.14.6.10. In updating the Schedule, Contractor shall not modify Activity ID numbers, schedule calculation rules/criteria, or the Activity Coding Structure required.
- 1.14.7. Schedule update will form basis upon which progress payments will be made.
- 1.14.8. District will not be obligated to review or process Application for Payment until the Construction Schedule and Schedule Narrative Report have been submitted.

1.15. DISTRIBUTION

- 1.15.1. Following joint review and acceptance of updated schedules distribute copies to District, Architect, and all other concerned parties.
- 1.15.2. Instruct recipients to promptly report in writing any problem anticipated by projections shown in schedules.

2. PRODUCTS

2.1. SCHEDULING SOFTWARE

Contractor shall utilize District-approved software and shall employ the Critical Path Method (CPM) in the development and maintenance of the Construction Schedule. The scheduling software shall be capable of being resource loaded with manpower, costs and materials. It shall also be capable of generating time-scaled logic diagrams, resource histograms and profiles, bar charts, layouts and reports with any and/or all activity detail.

2.2. ELECTRONIC DATA

Provide electronic copy that contains a back-up of the Proposed Baseline Schedule data on it and in a format approved by the District.

END OF DOCUMENT

DOCUMENT 01 33 00

SUBMITTALS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISION

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions;
- 1.1.3. Instructions to Bidders;
- 1.1.4. Summary of Work;
- 1.1.5. Contract Forms and Submittals;
- 1.1.6. Product Options and Substitutions;
- 1.1.7. Requests for Information;
- 1.1.8. Contract Closeout and Final Cleaning;
- 1.1.9. Operation and Maintenance Data;
- 1.1.10. Warranties;
- 1.1.11. Record Documents;
- 1.1.12. Demonstration and Training;

1.2. DOCUMENT INCLUDES

- 1.2.1. Submittal procedures – Use of Primavera.
- 1.2.2. Shop drawings.
- 1.2.3. PCM (or other pre-approved program) Electronic Submittal Process
- 1.2.4. Product data.
- 1.2.5. Samples.
- 1.2.6. Manufacturers' Instructions.
- 1.2.7. Manufacturers' Certificates.
- 1.2.8. Mock-Up.

- 1.2.9. Deferred approval requirements.

1.3. SUBMITTAL PROCEDURES – USE OF PRIMAVERA OR ANOTHER PRE-APPROVED PROGRAM

- 1.3.1. **Contractor shall utilize District-approved software** for the submittal process.
- 1.3.2. Contractor shall transmit each submittal in conformance with requirements of this Document. For each submittal, Contractor shall:
 - 1.3.2.1. Sequentially number the transmittal forms. Resubmitted submittals must have the original number with an alphabetic suffix;
 - 1.3.2.2. Identify Project and Architect's project number, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate;
 - 1.3.2.3. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the Work and Contract Documents. Submittals without Contractor's stamp and signature will be returned without review.
- 1.3.3. Coordinate preparation and processing of submittals with performance of Work. Transmit each submittal sufficiently in advance of performance of Work to avoid delay.
 - 1.3.3.1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 1.3.3.2. Coordinate transmittal of different types of submittals for related parts of Work so processing will not be delayed because of the need to review submittals concurrently for coordination.
 - 1.3.3.3. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- 1.3.4. Comply with Contract Documents for list of submittals and time requirements for scheduled performance of Work.
- 1.3.5. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- 1.3.6. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- 1.3.7. Provide space for Contractor and Architect review stamps.
- 1.3.8. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- 1.3.9. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

- 1.3.10. Submittals not requested will not be recognized or processed. Submittals not requested will be returned without review.

1.4. SHOP DRAWINGS

- 1.4.1. Prepare Project-specific information, drawn accurately to scale. Do not reproduce Contract Documents or copy standard information as the basis of shop drawings. Standard information prepared without specific reference to the Project is not a shop drawing.
- 1.4.2. Do not use or allow others to use Shop Drawings which have been submitted and have been rejected.
- 1.4.3. Preparation: Fully illustrate requirements in Contract Documents. Include the following information, as applicable:
 - 1.4.3.1. Dimensions.
 - 1.4.3.2. Identification of products.
 - 1.4.3.3. Fabrication and installation drawings.
 - 1.4.3.4. Roughing-in and setting diagrams.
 - 1.4.3.5. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - 1.4.3.6. Shop work manufacturing instructions.
 - 1.4.3.7. Templates and patterns.
 - 1.4.3.8. Schedules.
 - 1.4.3.9. Design calculations.
 - 1.4.3.10. Compliance with specified standards.
 - 1.4.3.11. Notation of coordination requirements.
 - 1.4.3.12. Notation of dimensions established by field measurements.
 - 1.4.3.13. Relationship to adjoining construction clearly indicated.
 - 1.4.3.14. Seal and signature of professional engineer if specified.
 - 1.4.3.15. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 - 1.4.3.16. All deviations from the Contract Documents, clearly indicated.
 - 1.4.3.17. Copy of letter indicating acceptance of deviations indicated on the submittal.

- 1.4.4. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
- 1.4.5. Do not use Shop Drawings without an appropriate final stamp from the Contractor and District indicating action taken in connection with construction.
- 1.4.6. Deviations from Contract Documents require specific written acceptance by the District of the noted deviation and clear indication on the submittal.

1.5. ELECTRONIC SUBMITTAL PROCESS

1.5.1. Submittal Procedure for Large Format Shop Drawings.

- 1.5.1.1. Contractor shall provide six (6) paper copies of the large format Shop Drawings directly to the District and the Construction Manager (CM) and Contractor will upload/post an electronic transmittal (with a detailed description of the submittal including the subject, specification number and number of drawings) on PCM (or other pre-approved program).
- 1.5.1.2. Contractor shall verify that the Schedule of Submittals and all submittal log(s) on PCM (or other pre-approved program) are accurate and up to date.
- 1.5.1.3. The District and Architect will review and markup each Submittal and provide changes to Contractor for Contractor's incorporation into the Submittal.
- 1.5.1.4. This process will continue until the Contractor has provided a Submittal that is acceptable to the District and the Architect.
- 1.5.1.5. Once a Submittal is accepted, the District will provide a final accepted Submittal to the Contractor and the Contractor will closeout that one Submittal.
- 1.5.1.6. Contractor shall send one (1) copy of the completed record submittal of the large format documents to a vendor (Ford Graphics is suggested) for scanning and posting on PCM (or other pre-approved program).

1.5.2. Product Data, Calculations and Small Format Drawings

- 1.5.2.1. Contractor shall upload/post one (1) electronic copy (from manufacturer's website or pre-scanned) of the product literature, data, calculations, and/or small format shop drawings to PCM (or other pre-approved program) with a Transmittal (with a detailed description of the submittal) directly to the CM.
- 1.5.2.2. The District and Architect will review and markup each Submittal and provide changes to Contractor for Contractor's incorporation into the Submittal.
- 1.5.2.3. This process will continue until the Contractor has provided a Submittal that is acceptable to the District and the Architect.
- 1.5.2.4. Once a Submittal is accepted, the District will provide a final accepted Submittal to the Contractor and the Contractor will closeout that one

Submittal.

- 1.5.2.5. Contractor shall send one (1) copy of the completed record submittal of the large format documents to a vendor (Ford Graphics is suggested) for scanning and posting on PCM (or other pre-approved program).

1.5.3. Sample Submittal Procedure – (Product / Assembly Samples)

- 1.5.3.1. Contractor shall provide four (4) physical samples directly to the District and the CM and Contractor will upload/post an electronic transmittal (with a detailed description of the submittal including the subject, specification number and number of drawings) on PCM (or other pre-approved program).
- 1.5.3.2. The District and Architect will review and markup each Submittal and provide changes to Contractor for Contractor's incorporation into the Submittal.
- 1.5.3.3. This process will continue until the Contractor has provided a Submittal that is acceptable to the District and the Architect.
- 1.5.3.4. Once a Submittal is accepted, the District will provide a final accepted Submittal to the Contractor and the Contractor will closeout that one Submittal.
- 1.5.3.5. Contractor shall send one (1) copy of the completed record submittal of the large format documents to a vendor (Ford Graphics is suggested) for scanning and posting on PCM (or other pre-approved program).

1.6. PRODUCT DATA

- 1.6.1. In addition to the above requirements, mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- 1.6.2. After review, distribute in accordance with the above provisions and provide copies for Record Documents described in the Contract Documents.

1.7. SAMPLES

- 1.7.1. In addition to the above requirements, submit samples to illustrate functional and aesthetic characteristics of the Product in accordance with this Document, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- 1.7.2. Where specific colors or patterns are not indicated, provide materials and products specified in the full range of color, texture and pattern for selection by District. Range shall include standard stocked color/texture/pattern, standard color/texture/pattern not stocked, but available from manufacturer, and special color/ texture/pattern available from manufacturer as advertised in product data and brochures. Unless otherwise indicated in individual specification sections, District may select from any range at no additional cost to District.
- 1.7.3. Include identification on each sample, with full Project information.

- 1.7.4. Submit the number of samples that Contractor requires, plus one that will be retained by Architect and one by District.
- 1.7.5. Reviewed samples which may be used in the Work are indicated in individual specification Sections.

1.8. MANUFACTURERS' INSTRUCTIONS

- 1.8.1. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- 1.8.2. Identify conflicts between manufacturers' instructions and Contract Documents.

1.9. MANUFACTURERS' CERTIFICATES

- 1.9.1. When specified in individual specification Sections, submit manufacturers' certificates to Architect for review, in quantities specified for Product Data.
- 1.9.2. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference date, affidavits, and certifications as appropriate.
- 1.9.3. Certificates may be recent or previous test results on material or Product, but must be acceptable to District.

1.10. MOCK-UP

- 1.10.1. Where indicated, provide mock-ups as required. Mock-ups shall be prepared per the specifications and shall accurately and reasonably represent the quality of construction the Contractor will provide. If the mock-up or portions thereof do not adequately represent the quality of the work specified, the Contractor shall modify the mock-up as needed.
- 1.10.2. Once completed to the District's satisfaction, the mock-up shall serve as the standard of quality for the work.
- 1.10.3. All mock-ups, at District's option, shall remain the property of the District. If not required by the District, Contractor shall remove and dispose of the mock-up.
- 1.10.4. Where indicated, on-site mock-ups, if accepted, may be integrated into the Work.

1.11. ARCHITECT'S REVIEW OF SUBMITTALS

- 1.11.1. Submittals will be reviewed and stamped by the Architect "No exceptions taken," "Submit specified item" or "Make corrections noted" to indicate full or conditioned approval or "Revise and resubmit" or "Rejected" to indicate disapproval. Terms are defined as follows:
 - 1.11.1.1. No Exceptions Taken: Accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown in the partial submittal.

- 1.11.1.2. Submit specified item: Submit to the Architect the items indicated for review.
- 1.11.1.3. Correct as noted: Same as 1., except that minor corrections as noted shall be made by the Contractor. No resubmittal required.
- 1.11.1.4. Revise and resubmit: Rejected because of major inconsistencies or errors which shall be resolved or corrected by the Contractor prior to subsequent review by the Architect.
- 1.11.1.5. Rejected: Submitted material does not conform to plans and specifications in major respect. For example, wrong size, model, capacity or material. Resubmit.
- 1.11.1.6. Receipt Acknowledged. Received, recorded and distributed without further action.
- 1.11.2. Submittals reviewed by the Architect which have been stamped shall be deemed to have the following language affixed and made a part thereof, regardless of the initial or subsequent readability of the actual stamp.
 - 1.11.2.1. Corrections or comments made on submittals during this review do not relieve the contractor from compliance with the requirements of the drawings and specifications. 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.
- 1.11.3. Architect's review of submittals shall be completed within ten working days of the date of submission. Any requests by Architect for additional time shall not be unreasonably withheld.
- 1.11.4. Architect's review of submittals has, as a primary objective, to assist in the completion of the project on time and in conformance with the Contract requirements by permitting review of material and fabricated items prior to ordering. Architect's review of submittals is based only on the data presented and extends only to conformance with general design intent and information contained in the Contract Documents.
- 1.11.5. Architect's approval of submittals does not constitute final acceptance or unqualified approval of items or work proposed or put in place, nor does it constitute acceptance of responsibility for the accuracy, coordination or completeness of submittals. Architect's approval of submittals does not relieve the Contractor from the responsibility for errors, omissions, or compliance with all the requirements of the Contract Documents.
- 1.11.6. Reimbursement of the Architect's costs for review:

- 1.11.6.1. Architect will record all time and expenses incurred to review submittals requiring more than two reviews.
- 1.11.6.2. Contractor shall reimburse the District through deduction from amounts due the Contractor upon receipt of the Architect's billing and that of the Architect's consultants at standard billing rates for all time and expenses incurred in unanticipated reviews.
- 1.11.7. Architect's review of submittals does not change the Contract in any manner.

1.12. RESUBMITTAL

- 1.12.1. Make all corrections or revisions required by reviewer's comments at Contractor's expense and resubmit as initially specified above. No additional costs will be authorized for corrections or revisions.
- 1.12.2. Product data and shop drawings:
 - 1.12.2.1. Revise initial drawings or data and resubmit as initially specified.
 - 1.12.2.2. Indicate changes which have been made other than those requested by reviewer.
- 1.12.3. Submit new samples as initially specified.

1.13. DISTRIBUTION

- 1.13.1. Distribute only submittals with Architect/Engineer (and DSA as applicable) stamps of review. Contractor is responsible for coordination of submittals and comments following review. Contractor to provide all additional reproduction costs for copies required by the Contractor at its expense. No additional costs will be authorized for Contractor costs pertaining to submittals.

1.14. DEFERRED APPROVAL REQUIREMENTS

- 1.14.1. Installation of deferred approval items shall not be started until detailed plans, specifications, and engineering calculations have been accepted and signed by the Architect or Engineer in general responsible charge of design and signed by a California registered Architect or professional engineer who has been delegated responsibility covering the work shown on a particular plan or specification and approved by the agency having authority (e.g., State Fire Marshall, Division of the State Architect, gas company, electrical utility company, water district, etc.). Deferred approval items for this Project are as indicated in the Summary of Work.
- 1.14.2. Unless otherwise indicated in the Contract Documents or if District provides written approval of a longer time period, Contractor shall submit all deferred approval items for approval within thirty (30) days of the notice to proceed with the Construction Phase.
- 1.14.3. Deferred approval drawings and specifications become part of the approved documents for the Project when they are submitted to and approved by DSA.
- 1.14.4. Submit material using electronic submittal process as defined above.

- 1.14.5. Identify and specify all supports, fasteners, spacing, penetrations, etc., for each of the deferred approval items, including calculations for each and all fasteners.
- 1.14.6. Submit documents to Architect for review prior to forwarding to DSA.
- 1.14.7. Documents shall bear the stamp and signature of the Structural, Mechanical, or Electrical Engineer licensed in the State of California who is responsible for the work shown on the documents.
- 1.14.8. Architect and its subconsultants will review the documents only for conformance with design concept shown on the documents. The Architect will then forward the Submittal to agency having authority for approval.
- 1.14.9. Contractor shall respond to review comments made by DSA and revise and resubmit submittal to the Architect for re-submittal to DSA.
- 1.14.10. Contractor is notified that significant lead time is required for deferred approval review by DSA and shall schedule work accordingly. No extension of Contract Time will be allowed for delays incurred by deferred approval review. The Architect is not responsible for DSA delays in deferred approval review.

END OF DOCUMENT

DOCUMENT 01 40 00

QUALITY REQUIREMENTS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Drawings;
- 1.1.5. Construction Schedule – Network Analysis;
- 1.1.6. General Definitions and References.

1.2. SUMMARY

- 1.2.1. This Document includes administrative and procedural requirements for quality assurance and quality control.
- 1.2.2. Testing and inspecting services by the District are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Documents' requirements.
 - 1.2.2.1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Specifications for those activities. Requirements in those Specifications may also cover production of standard products.
 - 1.2.2.2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Documents' requirements.
 - 1.2.2.3. Requirements for Contractor to provide quality-assurance and -control services required by District, District's consultants, or authorities having jurisdiction are not limited by provisions of this Document.

1.3. DEFINITIONS

- 1.3.1. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- 1.3.2. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by District or its consultants.

- 1.3.3. Mock-ups: Full-size, physical assemblies that are constructed on-site. Mock-ups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mock-ups establish the standard by which the Work will be judged.
- 1.3.4. Laboratory Mock-ups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.
- 1.3.5. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- 1.3.6. Product Testing: Tests and inspections that are performed by an NRTL (National Recognized Testing Laboratory), an NVLAP (National Voluntary Laboratory Accreditation Program), or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- 1.3.7. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- 1.3.8. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

1.4. CONFLICTING REQUIREMENTS

- 1.4.1. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different but apparently equal, to District for a decision before proceeding.
- 1.4.2. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to District for a decision before proceeding.

1.5. SUBMITTALS

- 1.5.1. Qualification Data: For testing agencies specified in "Quality Assurance" below to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- 1.5.2. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1.5.2.1. Specification number and title.
 - 1.5.2.2. Description of test and inspection.
 - 1.5.2.3. Identification of applicable standards, codes or regulations.
 - 1.5.2.4. Identification of test and inspection methods.

- 1.5.2.5. Number of tests and inspections required.
- 1.5.2.6. Time schedule or time span for tests and inspections.
- 1.5.2.7. Entity responsible for performing tests and inspections.
- 1.5.2.8. Requirements for obtaining samples.
- 1.5.2.9. Unique characteristics of each quality-control service.
- 1.5.3. Reports: Prepare and submit certified written reports that include the following:
 - 1.5.3.1. Date of issue.
 - 1.5.3.2. Project title and number.
 - 1.5.3.3. Name, address, and telephone number of testing agency.
 - 1.5.3.4. Dates and locations of samples and tests or inspections.
 - 1.5.3.5. Names of individuals making tests and inspections.
 - 1.5.3.6. Description of the Work and test and inspection method.
 - 1.5.3.7. Identification of product and Specification.
 - 1.5.3.8. Complete test or inspection data.
 - 1.5.3.9. Test and inspection results and an interpretation of test results.
 - 1.5.3.10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 1.5.3.11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Documents' requirements.
 - 1.5.3.12. Name and signature of laboratory inspector.
 - 1.5.3.13. Recommendations on retesting and reinspecting.
 - 1.5.3.14. Descriptions of deficiencies noted, and corrective action undertaken to resolve such deficiencies.
 - 1.5.3.14.1. Deficiencies observed shall immediately be brought to the attention of the Contractor's field superintendent, and trade foreman. In the event deficiencies are not corrected, or if an interpretation of the Contract Documents is required, the Testing Agency shall immediately notify the District and applicable consultant, Architect, or Engineer.
 - 1.5.3.14.2. The Testing Agency shall maintain a deficiency list of all items not corrected and shall reinspect the area after the deficiency has been corrected. The list shall include a description of the deficiency, the date and time the deficiency was observed,

who was notified, the date of reinspection and description of any corrective action taken. Distribute the deficiency list at least once per month.

1.5.3.15. 15. At the end of the Project, the Testing Agency shall submit a final signed report stating whether the work tested and inspected conforms to the Contract Documents' requirements.

1.5.4. Permits, Licenses, and Certificates: For District's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.6. QUALITY ASSURANCE

1.6.1. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specifications specify additional requirements.

1.6.2. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance. Where required by the individual Specifications, Installer employing workers trained and approved by manufacturer, Installer being acceptable to manufacturer, and/or Installer being an authorized representative of manufacturer for both installation and maintenance.

1.6.3. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

1.6.4. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

1.6.5. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of California, and who is experienced in providing engineering services of the kind indicated.

1.6.6. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.

1.6.7. Specialists: Certain Specifications may require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1.6.7.1. Requirement for specialists shall not supersede building codes or regulations governing the Work.

1.6.8. Testing Agency Qualifications: An NRTL, an NVLAP, Division of the State of Architect's Accepted Laboratory, or an independent agency with the experience and capability to conduct testing and inspecting indicated; and with additional qualifications stated in

individual Specifications; and where required by and acceptable to authorities having jurisdiction.

1.6.8.1. NRTL: A Nationally Recognized Testing Laboratory according to 29 CFR 1910.7.

1.6.8.2. NVLAP: A testing agency accredited according to NIST's (National Institute of Standards and Technology) National Voluntary Laboratory Accreditation Program.

1.6.8.3. Tests shall be made by an accredited testing agency with a minimum of 5 years of experience in the specific type of testing to be performed. Except as otherwise provided, sampling and testing of all materials and the laboratory methods and testing equipment shall be in accordance with the applicable standards and methods of the California Building Standards code.

1.6.8.4. For each type of inspection and testing service to be performed, the Testing Agency shall submit certification, signed and sealed by the Agency's professional engineer, of compliance with all applicable requirements of the following:

1.6.8.4.1. ASTM E329, "Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction."

1.6.8.4.2. "Recommended Requirements for Independent Laboratory Qualifications" published by the American Council of Independent Laboratories.

1.6.8.5. Furnish written certification to the District that all equipment to be used has been calibrated in accordance with applicable ASTM standards within the last year and is in proper working order.

1.6.8.6. Testing Agency Personnel Qualifications: Testing and inspection services shall be performed only by trained and experienced technicians currently qualified for the work they are to perform. Documentation of such training and experience shall be submitted to the District and/or its consultants upon request.

1.6.8.7. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

1.6.8.8. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.6.9. Preconstruction Testing: Where a testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1.6.9.1. Contractor responsibilities include the following:

1.6.9.1.1. Verify by its Quality Assurance/Quality Control procedures that an element is ready for testing prior to requesting a test.

- 1.6.9.1.2. Provide test specimens representative of proposed products and construction.
 - 1.6.9.1.3. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - 1.6.9.1.4. Provide sizes and configurations of test assemblies, mock-ups, and laboratory mock-ups to adequately demonstrate capability of products to comply with performance requirements.
 - 1.6.9.1.5. Build site-assembled test assemblies and mock-ups using installers who will perform same tasks for Project.
 - 1.6.9.1.6. Build laboratory mock-ups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - 1.6.9.1.7. When testing is complete, remove test specimens, assemblies, mock-ups, and laboratory mock-ups; do not reuse products on Project.
- 1.6.9.2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to District with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected Work complies with or deviates from the Contract Documents' requirements.
- 1.6.10. Mock-ups: Before installing portions of the Work requiring mock-ups, build mock-ups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1.6.10.1. Build mock-ups in location and of size indicated or, if not indicated, as directed by District or its consultant.
 - 1.6.10.2. Notify District and its consultants seven (7) days in advance of dates and times when mock-ups will be constructed.
 - 1.6.10.3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 1.6.10.4. Obtain District and its consultant's approval of mock-ups before starting work, fabrication, or construction.
 - 1.6.10.4.1. Allow seven (7) days for initial review and each re-review of each mock-up.
 - 1.6.10.5. Incorporate seismic design of nonstructural components as listed in Division 01 Document "Seismic Design Requirements for Non-Structural Components" into mock-ups.
 - 1.6.10.6. Maintain mock-ups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 1.6.10.7. Demolish and remove mock-ups when directed, unless otherwise indicated.

- 1.6.11. Laboratory Mock-Ups: Comply with requirements of preconstruction testing and those specified in individual Specifications in Divisions 02 through 49.

1.7. QUALITY CONTROL

- 1.7.1. District Responsibilities: Where quality-control services are indicated as District's responsibility, District will engage a qualified testing agency to perform these services.
 - 1.7.1.1. District will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting the testing agencies are engaged to perform.
 - 1.7.1.2. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Price will be adjusted by Change Order per the Contract Documents.
- 1.7.2. Tests and inspections not explicitly assigned to District are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 1.7.2.1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform the quality-control services.
 - 1.7.2.1.1. Contractor shall not employ same entity engaged by District, unless agreed to in writing by District.
 - 1.7.2.2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 1.7.2.3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 1.7.2.4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 1.7.2.5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- 1.7.3. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Document "Submittal Procedures."
- 1.7.4. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents' requirements.
- 1.7.5. Testing Agency Responsibilities: Cooperate with District, District's consultants, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

- 1.7.5.1. Notify District, District's consultants, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
- 1.7.5.2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
- 1.7.5.3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
- 1.7.5.4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
- 1.7.5.5. Do not release, revoke, alter, or increase the Contract Documents' requirements or approve or accept any portion of the Work.
- 1.7.5.6. Do not perform any duties of Contractor.
- 1.7.6. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify testing agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1.7.6.1. Access to the Work.
 - 1.7.6.2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 1.7.6.3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 1.7.6.4. Facilities for storage and field curing of test samples.
 - 1.7.6.5. Delivery of samples to testing agencies.
 - 1.7.6.6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 1.7.6.7. Security and protection for samples and for testing and inspecting equipment at Project Site.
 - 1.7.6.8. Furnish tools, samples of materials, design mixes, equipment and assistance as requested.
 - 1.7.6.9. Provide and maintain, for the sole use of the Testing Agency, adequate facilities for the safe storage and proper curing of concrete test cylinders on the project site for the first 24 hours after casting as required by ASTM C31, Method of Making and Curing Concrete Test Specimens in the Field.
 - 1.7.6.10. Build and store masonry test prisms in a manner acceptable to the Testing Agency. Prisms to be tested shall remain at the job site until moved by Testing Agency personnel.
 - 1.7.6.11. Notify Testing Agency at least 10 working days in advance of any qualification testing for welding required herein.

- 1.7.6.12. Notify Testing Agency at least 24 hours prior to expected time for operations requiring testing or inspection services.
- 1.7.6.13. Make arrangements with the Testing Agency and pay for additional samples and tests made for the Contractor's convenience or for retesting of failed samples.
- 1.7.6.14. For deficiencies requiring corrective action, submit in writing a description of the deficiency and a proposed correction to the District. After review and approval, the proposed corrective action shall be implemented and inspected by the Testing Agency. It is Contractor's responsibility to ascertain that the deficiency is corrected and inspected prior to the work being covered.
- 1.7.6.15. Retention of an independent Testing Agency by the District shall in no way relieve Contractor of responsibility for performing all work in accordance with the Contract Documents' requirements.
- 1.7.7. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1.7.7.1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.8. TESTS AND SPECIAL INSPECTIONS

- 1.8.1. Tests and Special Inspections: District will engage a qualified testing agency to conduct tests and special inspections required by authorities having jurisdiction as follows:
 - 1.8.1.1. Soils: 2010 CBC 1704.7
 - 1.8.1.2. Pile Foundations: 2010 CBC 1704.9
 - 1.8.1.3. Cast in Place Concrete: 2010 CBC 1704.4
 - 1.8.1.4. Nonshrink Grout: 2010 CBC 1704.4
 - 1.8.1.5. Post Installed Anchors: 2010 CBC 1704.15 (3) and Manufacturer's ICC-ES Report
 - 1.8.1.6. Reinforced Unit Masonry - Level 2 Inspection: 2010 CBC 1704.5.3
 - 1.8.1.7. Structural Steel: 2010 CBC 1704.3 and AISC 341-05
 - 1.8.1.8. Steel Deck: 2010 CBC 1704.3 and AISC 341-05
 - 1.8.1.9. Miscellaneous Steel: 2010 CBC 17.04 and AISC 341-05
 - 1.8.1.10. Spray Applied Fire Proofing: 2010 CBC 1704.12
 - 1.8.1.11. Intumescent Fire-Resistant Coating: 2010 CBC 1704.13
 - 1.8.1.12. Cladding and Non Load Bearing Walls: 2010 CBC 1707.6
- 1.8.2. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specifications, and as follows:
 - 1.8.2.1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 - 1.8.2.2. Notifying District, District's consultants, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.

- 1.8.2.3. Submitting a certified written report of each test, inspection, and similar quality-control service to District, with copy to Contractor and to authorities having jurisdiction.
- 1.8.2.4. Submitting a final report of special tests and inspections at Project Completion, which includes a list of unresolved deficiencies.
- 1.8.2.5. Interpreting tests and inspections and stating in each report whether tested and inspected Work complies with or deviates from the Contract Documents.
- 1.8.2.6. Retesting and reinspecting corrected work.

2. PRODUCTS

2.1. GENERAL

- 2.1.1. Do not use any materials or equipment represented by samples until tests, if required, have been made and the materials or equipment found to be acceptable. Any product which becomes unfit for use after acceptance shall not be incorporated into the Work.

3. EXECUTION

3.1. TEST AND INSPECTION LOG

- 3.1.1. Prepare a record of tests and inspections. Include the following:
 - 3.1.1.1. Date test or inspection was conducted.
 - 3.1.1.2. Description of the Work tested and inspected.
 - 3.1.1.3. Date test or inspection results were transmitted to District.
 - 3.1.1.4. Identification of testing agency or special inspector conducting test or inspection.
- 3.1.2. Maintain log at Project Site. Post changes and modifications as they occur. Provide access to test and inspection log for District's reference during normal working hours.

3.2. REPAIR AND PROTECTION

- 3.2.1. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 3.2.1.1. Provide materials and comply with installation requirements specified in other Specifications. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 - 3.2.1.2. Comply with Document "Cutting and Patching" and all related Contract Documents' requirements.
- 3.2.2. Protect construction exposed by or for quality-control service activities.
- 3.2.3. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF DOCUMENT

DOCUMENT 01 42 13**ABBREVIATIONS AND ACRONYMS****1. GENERAL****1.1. RELATED DOCUMENTS AND PROVISIONS**

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions including without limitation, Contract Terms and Definitions; and
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any).

1.2. ABBREVIATIONS AND ACRONYMS FOR STANDARDS AND REGULATIONS

- 1.2.1. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations as indicated in Thomson Gale™ (www.gale.com), Gale Research's "Encyclopedia of Associations" or "Encyclopedia of Associations: National Organizations of the U.S.," or in Columbia Books' "National Trade & Professional Associations of the U.S."

- 1.2.2. Some of the applicable abbreviations and acronyms referenced in the Specifications or other Contract Documents have the following meanings, subject to updates or revisions based on the above-referenced publications:

- AA: Aluminum Association
- AAMA: Architectural Aluminum Manufacturers Association
- AASHTO: American Association of State Highway and Transportation Officials
- ABPA: Acoustical and Board Products Association
- ACI: American Concrete Institute
- AGA: American Gas Association
- AGC: Associated General Contractors
- AHC: Architectural Hardware Consultant
- AI: Asphalt Institute
- AIA: American Institute of Architects
- AIEE: American Institute of Electrical Engineers
- AISC: American Institute of Steel Construction
- AISI: American Iron and Steel Institute
- AMCA: Air Moving and Conditioning Association
- ANSI: American National Standards Institute
- APA: American Plywood Association
- ARI: Air Conditioning and Refrigeration Institute
- ASHRAE: American Society of Heating, Refrigeration and Air Conditioning Engineers
- ASME: American Society of Mechanical Engineers
- ASSE: American Society of Structural Engineers
- ASTM: American Society of Testing and Materials
- AWPB: American Wood Preservers Bureau

- AWPI: American Wood preservers Institute
- AWS: American Welding Society
- AWSC: American Welding Society Code
- AWI: Architectural Woodwork Institute
- AWWA: American Water Works Association
- BIA: Brick Institute of America
- CCR: California Code of Regulations
- CLFMI: Chain Link Fence Manufacturers Institute
- CMG: California Masonry Guild
- CRA: California Redwood Association
- CRSI: Concrete Reinforcing Steel Institute
- CS: Commercial Standards
- CSI: Construction Specifications Institute
- CTI: Cooling Tower Institute
- FGMA: Flat Glass Manufacturer's Association
- FIA: Factory Insurance Association
- FM: Factory Mutual
- FS: Federal Specification
- FTI: Facing Title Institute
- GA: Gypsum Association
- ICC: International Code Council
- IEEE: Institute of Electrical and Electronic Engineers
- IES: Illumination Engineering Society
- LIA: Lead Industries Association
- MIA: Marble Institute of America
- MLMA: Metal Lath Manufacturers Association
- MS: Military Specifications
- NAAMM: National Association of Architectural Metal Manufacturers
- NBHA: National Builders Hardware Association
- NBFU: National Board of Fire Underwriters
- NBS: National Bureau of Standards
- NCMA: National Concrete Masonry Association
- NEC: National Electrical Code
- NEMA: National Electrical Manufacturers Association
- NFPA: National Fire Protection Association/National Forest Products Association
- NMWIA: National Mineral Wool Insulation Association
- NTMA: National Terrazzo and Mosaic Association
- NWMA: National Woodwork Manufacturer's Association
- ORS: Office of Regulatory Services (California)
- OSHA: Occupational Safety and Health Act
- PCI: Precast Concrete Institute
- PCA: Portland Cement Association
- PDCA: Painting and Decorating Contractors of America
- PDI: Plumbing Drainage Institute
- PEI: Porcelain Enamel Institute
- PG&E: Pacific Gas & Electric Company
- PS: Product Standards
- SDI: Steel Door Institute; Steel Deck Institute
- SJI: Steel Joist Institute
- SSPC: Steel Structures Painting Council
- TCA: Tile Council of America

- TPI: Truss Plate Institute
- UBC: Uniform Building Code
- UL: Underwriters Laboratories Code
- UMC: Uniform Mechanical Code
- USDA: United States Department of Agriculture
- VI: Vermiculite Institute
- WCLA: West Coast Lumberman's Association
- WCLB: West Coast Lumber Bureau
- WEUSER: Western Electric Utilities Service Engineering Requirements
- WIC: Woodwork Institute of California
- WPOA: Western Plumbing Officials Association

- 1.2.3. Additional Abbreviations and Symbols: Refer to the above-referenced publications or to Drawings for additional abbreviations and for symbols.

END OF DOCUMENT

DOCUMENT 01 42 16**GENERAL DEFINITIONS AND REFERENCES****1. GENERAL****1.1. RELATED DOCUMENTS AND PROVISION**

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions including without limitation, Contract Terms and Definitions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any); and
- 1.1.4. Special Conditions.

1.2. DEFINITIONS

General: Basic Contract definitions are included in the General Conditions of the Contract for Construction. The following are in addition to those definitions.

- 1.2.1. "Alternate": A cost or credit for certain Work that may be added to or deducted from the Project.
- 1.2.2. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- 1.2.3. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- 1.2.4. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- 1.2.5. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- 1.2.6. "Provide": Furnish and install, complete and ready for the intended use.

1.3. QUALITY ASSURANCE

- 1.3.1. For products or workmanship specified by association, trade, or Federal Standards, Contractor shall comply with requirements of the standard, except when more stringent requirements are specified in the Contract Documents, or are required by applicable codes.
- 1.3.2. Contractor shall conform to current reference standard publication in effect on the date of bid opening.

- 1.3.3. Unless directed otherwise by the Contract Documents, Contractor shall obtain copies of referenced standards.
- 1.3.4. Unless directed otherwise by the Contract Documents, Contractor shall maintain a copy of referenced standards at jobsite until Completion.
- 1.3.5. If specified standards conflict with Contract Documents, Contractor shall request clarification from the District or the Architect before proceeding.
- 1.3.6. Governing Codes shall be as shown in the Contract Documents including, without limitation, the Specifications.

1.4. STANDARDS

- 1.4.1. Standard Specifications: References to codes, specifications and standards referred to in the Contract Documents shall mean, and are intended to be, the latest edition, amendment or revision of such reference standard in effect as of the date of these Contract Documents. If those standard specifications are revised prior to Completion of any part of the Work to which such revision would pertain, Contractor may, if acceptable to and approved by the District, perform such Work in accordance with the revised standard specifications.
- 1.4.2. Conflicting Requirements: Where compliance with two or more standards is specified, and the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different, but apparently equal, and uncertainties to the District for a decision before proceeding.
- 1.4.3. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to District for a decision before proceeding.
- 1.4.4. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.
- 1.4.5. Copies from the Publication Source: Where copies of standards are needed for performance of a required construction activity, Contractor shall obtain copies directly from the publication source.

1.5. SCHEDULE OF REFERENCES

The following information is intended only for the general assistance of Contractor. District does not represent the accuracy of the information. Contractor shall independently verify the information for each entity listed below:

AA	Aluminum Association 900 19th Street NW, Suite 300 Washington, DC 20006 www.aluminum.org	202/862-5100
AABC	Associated Air Balance Council 1518 K Street, NW, Suite 503	202/737-0202

	Washington, DC 20005 www.aabchg.com	
AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 104 Schaumburg, IL 60173-4268 www.aamanet.org	847/303-5664
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol Street, Suite 249 Washington, DC 20001 www.aashto.org	202/624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 One Davis Drive Research Triangle Park, NC 27709-2215 www.aatcc.org	919/549-8141
ACI	American Concrete Institute P.O. Box 9094 Farmington Hills, MI 48333-9094 www.aci-int.org	248/848-3700
ACPA	American Concrete Pipe Association 222 West Las Colinas Blvd., Suite 641 Irving, TX 75039-5423 www.concrete-pipe.org	972/506-7216
ADC	Air Diffusion Council 11 South LaSalle St., Suite 1400 Chicago, IL 60603 http://www.flexibleduct.org/index.asp	312/201-0101
AFPA	American Forest and Paper Association 1111 19th St., NW, Suite 800 Washington, DC 20036 http://www.afandpa.org/	202/463-2700
AGA	American Gas Association 1515 Wilson Blvd. Arlington VA 22209 www.aga.com	703/841-8400
AHA	American Hardboard Association 1210 W. Northwest Hwy Palatine, IL 60067-1897 http://domensino.com/AHA/default.htm	847/934-8800
AI	Asphalt Institute Research Park Drive P.O. Box 14052 Lexington, KY 40512-4052	606/288-4960

	www.asphaltinstitute.org	
AIA	The American Institute of Architects 1735 New York Avenue, NW Washington, DC 20006-5292 www.aia.org	202/626-7300
AISC	American Institute of Steel Construction One East Wacker Drive, Suite 3100 Chicago, IL 60601-2001 http://www.aisc.org/	800/644-2400
AITC	American Institute of Timber Construction 7012 S. Revere Pkwy., Suite 140 Englewood, CO 80112 www.aitc-glulam.org	303/792-9559
ALCA	Associated Landscape Contractors of America 12200 Sunrise Valley Drive, Suite 150 Reston, VA 20191 www.alca.org	703/620-6363
ALI	Associated Laboratories, Inc. P.O. Box 152837 1323 Wall St. Dallas, TX 75315 http://www.assoc-labs.com/	214/565-0593
ALSC	American Lumber Standards Committee P.O. Box 210 Germantown, MD 20875	301/972-1700
AMCA	Air Movement and Control Association International, Inc. 30 W. University Drive Arlington Heights, IL 60004-1893 www.amca.org	847/394-0150
ANLA	American Nursery and Landscape Association 1250 Eye Street, NW, Suite 500 Washington, DC 20005	202/789-2900
ANSI	American National Standards Institute 11 West 42nd Street, 13th Floor New York, NY 10036-8002 www.ansi.org	212/642-4900
APA	APA-The Engineered Wood Association P.O. Box 11700 Tacoma, WA 98411-0700 www.apawood.org	206/565-6600
APA	Architectural Precast Association P.O. Box 08669 Fort Myers, FL 33908-0669	941/454-6989

ARI	Air Conditioning and Refrigeration Institute 4301 Fairfax Drive, Suite 425 Arlington, VA 22203 www.ari.org	703/524-8800
ARMA	Asphalt Roofing Manufacturers Association Center Park 4041 Powder Mill Road, Suite 404 Calverton, MD 20705	301/231-9050
ASA	Acoustical Society of America 500 Sunnyside Blvd. Woodbury, NY 11797	516/576-2360
ASCE	American Society of Civil Engineers- World Headquarters 1801 Alexander Bell Drive Reston, VA 20190-4400 www.asce.org	800/548-2723 703/295-6000
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329-2305 www.ashrae.org	800/527-4723 404/636-8400
ASLA	American Society of Landscape Architects 4401 Connecticut Ave., NW, 5th Floor Washington, DC 20008-2369 www.asla.org	202/686-2752
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017-2392 www.asme.org	800/434-2763
ASPE	American Society of Plumbing Engineers 3617 Thousand Oaks Blvd., Suite 210 Westlake, CA 91362-3649	805/495-7120
ASQC	American Society for Quality Control 611 E. Wisconsin Avenue Milwaukee, WI 53201-3005 www.asqc.org	800/248-1946 414/272-8575
ASSE	American Society of Sanitary Engineering 28901 Clemens Road Westlake, OH 44145 www.asse-plumbing.org	216/835-3040
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959 www.astm.org	610/832-9500

AWCI	Association of the Wall and Ceiling Industries--International 307 E. Annandale Road, Suite 200 Falls Church, VA 22042-2433 www.awci.org	703/534-8300
AWPA	American Wood-Preservers' Association 3246 Fall Creek Highway, Suite 1900 Granbury, TX 76049-7979	817/326-6300
AWS	American Welding Society 550 NW LeJeune Road Miami, FL 33126 www.amweld.org	800/443-9373 305/443-9353
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 www.awwa.org	800/926-7337 303/794-7711
BHMA	Builders' Hardware Manufacturers Association 355 Lexington Avenue, 17th Floor New York, NY 10017-6603	212/661-4261
CBM	Certified Ballast Manufacturers Association 1422 Euclid Avenue, Suite 402 Cleveland, OH 44115-2094	216/241-0711
CGA	Compressed Gas Association 1725 Jefferson Davis Hwy, Suite 1004 Arlington, VA 22202-4102 www.cganet.com	703/412-0900
CISCA	Ceilings & Interior Systems Construction Association 1500 Lincoln Hwy, Suite 202 St. Charles, IL 60174 www.cisca.org	630/584-1919
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Road, Suite 419 Chattanooga, TN 37421	423/892-0137
CPSC	Consumer Product Safety Commission East West Towers 4330 East-West Hwy. Bethesda, MD 20814	800/638-2772
CPPA	Corrugated Polyethylene Pipe Association 432 N. Superior Street Toledo, OH 43604	800/510-2772 419/241-2221
CRA	California Redwood Association 405 Enfrente Drive, Suite 200	415/382-0662

	Novato, CA 94949	
CRI	Carpet and Rug Institute 310 S. Holiday Avenue Dalton, GA 30722-2048 www.carpet-rug.com	800/882-8846 706/278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Road Schaumburg, IL 60173-4758 www.crsi.org	847/517-1200
CTI	Ceramic Tile Institute of America 12061 W. Jefferson Blvd. Culver City, CA 90230-6219	310/574-7800
DHI	Door and Hardware Institute 14170 Newbrook Drive Chantilly, VA 20151-2223 www.dhi.org	703/222-2010
DIPRA	Ductile Iron Pipe Research Association 245 Riverchase Pkwy East, Suite O Birmingham, AL 35244	205/988-9870
DOC	Department of Commerce 14th Street and Constitution Avenue, NW Washington, DC 20230	202/482-2000
DOT	Department of Transportation 400 Seventh Street, SW Washington, DC 20590	202/366-4000
EJMA	Expansion Joint Manufacturers Association 25 N. Broadway Tarrytown, NY 10591-3201	914/332-0040
EPA	Environmental Protection Agency 401 M Street, SW Washington, DC 20460	202/260-2090
FCICA	Floor Covering Installation Contractors Association P.O. Box 948 Dalton, GA 30722-0948	706/226-5488
FM	Factory Mutual 1151 Boston-Providence Turnpike P.O. Box 9102 Norwood, MA 02062-9102 www.factorymutual.com	781/255-4300
FS	Federal Specifications Unit (Available from GSA) 470 East L'Enfant Plaza, SW, Suite 8100	202/619-8925

	Washington, DC 20407	
GA	Gypsum Association 810 First Street NE, Suite 510 Washington, DC 20002 www.usg.com	202/289-5440
GANA	Glass Association of North America 3310 SW Harrison Street Topeka, KS 66611-2279 www.glasswebsite.com/gana	913/266-7013
HMA	Hardwood Manufacturers Association 400 Penn Center Blvd., Suite 530 Pittsburgh, PA 15235-5605 www.hardwood.org	412/828-0770
HPVA	Hardwood Plywood and Veneer Association 1825 Michael Farraday Drive P.O. Box 2789 Reston, VA 22195-0789 www.hpva.org	703/435-2900
IEEE	Institute of Electrical and Electronic Engineers 345 E. 47th Street New York, NY 10017-2394 www.ieee.org	800/678-4333 212/705-7900
IESNA	Illuminating Engineering Society of North America 120 Wall Street, 17th Floor New York, NY 10005-4001 www.iesna.org	212/248-5000
ITS	Intertek Testing Services P.O. Box 2040 607/753-6711 3933 US Route 11 Cortland, NY 13045-7902 www.itsglobal.com	800/345-3851
LMA	Laminating Materials Association 116 Lawrence Street Hillsdale, NJ 07642-2730 www.lma.org	201/664-2700
MCAA	Mechanical Contractors Association of America 1385 Piccard Drive Rockville, MD 20850-4329	301/869-5800
ML/SFA	Metal Lath/Steel Framing Association (A Division of the NAAMM) 8 South Michigan Avenue, Suite 1000 Chicago, IL 60603	312/456-5590
MSS	Manufacturers Standardization Society for the Valve and Fittings Industry	703/281-6613

	127 Park Street, NE Vienna, VA 22180-4602	
NAA	National Arborist Association P.O. Box 1094 603/673-3311 Amherst, NH 03031-1094 www.natlarb.com	800/733-2622
NAAMM	National Association of Architectural Metal Manufacturers 8 South Michigan Avenue, Suite 1000 Chicago, IL 60603 www.gss.net/naamm	312/782-5590
NAIMA	North American Insulation Manufacturers Association 44 Canal Center Plaza, Suite 310 Alexandria, VA 22314 www.naima.org	703/684-0084
NAPA	National Asphalt Pavement Association NAPA Building 5100 Forbes Blvd. Lanham, MD 20706-4413	301/731-4748
NCSPA	National Corrugated Steel Pipe Association 1255 23rd Street, NW, Suite 850 Washington, DC 20037 www.ncspa.org	202/452-1700
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877-4121	301/977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814-5372	301/657-3110
NEI	National Elevator Industry 185 Bridge Plaza North, Suite 310 Fort Lee, NJ 07024	201/944-3211
NEMA	National Electrical Manufacturers' Association 1300 N. 17th Street, Suite 1847 Rosslyn, VA 22209 www.nema.org	703/841-3200
NFPA	National Fire Protection Association One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101 www.nfpa.org	800/344-3555 617/770-3000
NHLA	National Hardwood Lumber Association P.O. Box 34518	901/377-1818

	Memphis, TN 38184-0518 www.natlhardwood.org	
NIA	National Insulation Association 99 Canal Center Plaza, Suite 222 Alexandria, VA 22314 www.insulation.org	703/683-6422
NPA	National Particleboard Association 18928 Premiere Court Gaithersburg, MD 20879-1569 www.pbmdf.com	301/670-0604
NPCA	National Paint and Coatings Association 1500 Rhode Island Avenue, NW Washington, DC 20005-5597 www.paint.org	202/462-6272
NRCA	National Roofing Contractors Association O'Hare International Center 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018-5607 www.roofonline.org	800/323-9545
NRMCA	National Ready Mixed Concrete Association 900 Spring Street Silver Spring, MD 20910 www.nrmca.org	301/587-1400
NSF	NSF International P.O. Box 130140 Ann Arbor, MI 48113-0140 www.nsf.org	313/769-8010
NUSIG	National Uniform Seismic Installation Guidelines 12 Lahoma Court Alamo, CA 94526	510/946-0135
NWWDA	National Wood Window and Door Association 1400 E. Touhy Avenue, G-54 Des Plaines, IL 60018 www.nwwda.org	800/223-2301 847/299-5200
SHA	Occupational Safety and Health Administration (U.S. Department of Labor) 200 Constitution Ave., NW Washington, DC 20210	202/219-8148
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077-1083 www.portcement.org	847/966-6200
PDCA	Painting and Decorating Contractors of America	800/332-7322 703/359-0826

	3913 Old Lee Hwy, Suite 33-B Fairfax, VA 22030 www.pdca.com	
PDI	Plumbing and Drainage Institute 45 Bristol Drive, Suite 101 South Easton, MA 02375	800/589-8956 508/230-3516
RFCI	Resilient Floor Covering Institute 966 Hungerford Drive, Suite 12-B Rockville, MD 20805-1714	301/340-8580
RIS	Redwood Inspection Service c/o California Redwood Association 405 Enfrente Drive, Suite 200 Novato, CA 94949-7206	415/382-0662
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60012 www.sdi.org	847/462-1930
SDI	Steel Door Institute 30200 Detroit Road Cleveland, OH 44145-1967	216/889-0010
SMA	Stucco Manufacturers Association 14006 Ventura Blvd. Sherman Oaks, CA 91403	213/789-8733
SMACNA	Sheet Metal and Airconditioning Contractors National Association, Inc. P.O. Box 221230 Chantilly, VA 20151-1209 www.smacna.org	703/803-2980
SPI	Society of the Plastics Industry, Inc. Spray Polyurethane Division 1801 K Street, NW, Suite 600K Washington, DC 20006 www.socplas.org	800/951-2001 202/974-5200
SSPC	Steel Structures Painting Council 40 24th Street, 6th Floor Pittsburgh, PA 15222-4643	412/281-2331
TCA	Tile Council of America 100 Clemson Research Blvd. Anderson, SC 29625	864/646-8453
TPI	Turfgrass Producers International 1855-A Hicks Road Rolling Meadows, IL 60008	800/405-8873 847/705-9898
UL	Underwriters Laboratories, Inc.	800/704-4050

	333 Pfingston Road Northbrook, IL 60062 www.ul.com	847/272-8800
UNI	Uni-Bell PVC Pipe Association 2655 Villa Creek Drive, Suite 155 Dallas, TX 75234 www.members.aol.com/unibell1	972/243-3902
USDA	U.S. Department of Agriculture 14th St. and Independence Ave., SW Washington, DC 20250	202/720-8732
WA	Wallcoverings Association 401 N. Michigan Avenue Chicago, IL 60611-4267	312/644-6610
WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281-3145	503/639-0651
WCMA	Window Covering Manufacturers Association 355 Lexington Ave., 17th Floor New York, NY 10017-6603	212/661-4261
WIC	Woodwork Institute of California P.O. Box 980247 West Sacramento, CA 95798-0247	916/372-9943
WLPDIA	Western Lath/Plaster/Drywall Industries Association 8635 Navajo Road San Diego, CA 92119	619/466-9070
WMMPA	Wood Moulding & Millwork Producers Association 507 First Street Woodland, CA 95695 www.wmmpa.com	800/550-7889 916/661-9591
WRI	Wire Reinforcement Institute 203 Loudoun Street, SW Leesburg, VA 20175-2718	703/779-2339
WWPA	Western Wood Products Association Yeon Building 522 S.W. 5th Avenue Portland, OR 97204-2122	503/224-3930

END OF DOCUMENT

DOCUMENT 01 45 29

TESTING LABORATORY SERVICES

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISION

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions, including "Tests and Inspections"; and
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any).

1.2. DOCUMENT INCLUDES

- 1.2.1. Observation and Supervision.
- 1.2.2. Testing Laboratories and Agencies
- 1.2.3. Tests and Inspections
- 1.2.4. Selection and Payment
- 1.2.5. District's Testing Laboratory Responsibilities
- 1.2.6. Laboratory reports.
- 1.2.7. Limits on testing laboratory authority.
- 1.2.8. Contractor responsibilities.
- 1.2.9. Schedule of inspections and tests.
- 1.2.10. Project Inspector's Access to Site

1.3. REFERENCES

- 1.3.1. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- 1.3.2. ASTM E329 - Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.
- 1.3.3. CBC - California Building Code.
- 1.3.4. UBC - Uniform Building Code.
- 1.3.5. Title 24, Parts 1 and 2, of the California Code of Regulations. Contractor shall keep a copy of these available at the job Site for ready reference during construction

- 1.3.6. DSA - Division of the State Architect, Office of Regulation Services, Structural Safety Section. DSA shall be notified at or before the start of construction.

1.4. OBSERVATION AND SUPERVISION

- 1.4.1. The District and Architect or their appointed representatives will review the Work and the Contractor shall provide facilities and access to the Work at all times as required to facilitate this review. Administration by the Architect and any consulting Structural Engineer will be in accordance with applicable regulations, including, without limitation, 24 C.C.R. § 4-341.
- 1.4.2. One or more Project Inspector(s) approved by DSA and employed by or in contract with the District("Project Inspector"), will observe the Work in accordance with 24 C.C.R. §§ 4-333(b) and 4-342:
- 1.4.3. Project Inspector shall have access to the Work wherever it is in preparation or progress for ascertaining that the Work is in accordance with the Contract Documents and all applicable code sections. Contractor shall provide facilities and access as required and shall provide assistance for sampling or measuring materials.
 - 1.4.3.1. Project Inspector will notify District and Architect and inform Contractor of any observed failure of Work or material to conform to Contract Documents.
 - 1.4.3.2. The Project Inspector shall observe and monitor all testing and inspection activities required.
- 1.4.4. Contractor shall conform with all applicable laws as indicated in the Contract Documents, including, without limitation, to 24 C.C.R. § 4-343. Contractor shall supervise and direct the Work and maintain a competent superintendent on the Project who is authorized to act in all matters pertaining to the Work. The Contractor shall inspect all materials, as they arrive, for compliance with the Contract Documents. Contractor shall reject defective Work or materials immediately upon delivery or failure of the Work or material to comply with the Contract Documents. The Contractor shall submit verified reports as indicated in the Contract Documents, including, without limitation, the Specifications and as required by 24 C.C.R. § 4-336.

1.5. TESTING LABORATORIES AND AGENCIES

- 1.5.1. Testing agencies and tests shall be in conformance with the Contract Documents and the requirements of 24 C.C.R. § 4-335.
- 1.5.2. Testing and inspection in connection with earthwork shall be under the direction of the District's consulting soils engineer ("Soils Engineer").
- 1.5.3. Testing and inspection of construction materials and workmanship shall be performed by a qualified laboratory ("Testing Laboratory" or "Laboratory"). The Testing Laboratory shall be under direction of an engineer registered in the State of California, shall conform to requirements of ASTM E329, and shall be employed by or in contract with the District.

1.6. TESTS AND INSPECTIONS

- 1.6.1. Contractor shall be responsible for notifying District and Project Inspector of all required tests and inspections. Contractor shall notify District and Project Inspector forty-eight (48) hours in advance of performing any Work requiring testing or inspection.
- 1.6.2. Contractor shall provide access to Work to be tested and furnish incidental labor, equipment, and facilities to facilitate all inspections and tests.
- 1.6.3. District will pay for first inspections and tests required by the Title 24 and other inspections or tests that District and/or Architect may direct to have made, including, but not limited to, the following principal items:
 - 1.6.3.1. Tests and observations for earthwork and pavings.
 - 1.6.3.2. Tests for concrete mix designs, including tests of trial batches.
 - 1.6.3.3. Tests and inspections for structural steel work.
 - 1.6.3.4. Field tests for framing lumber moisture content.
 - 1.6.3.5. Additional tests directed by District that establish that materials and installation comply with the Contract Documents.
 - 1.6.3.6. Test and observation of welding and expansion anchors.
 - 1.6.3.7. Factory observation of components and assembly of modular prefabrication structures and buildings.
- 1.6.4. District may at its discretion, pay and back charge Contractor for:
 - 1.6.4.1. Retests or reinspections, if required, and tests or inspection required due to Contractor error or lack of required identifications of material.
 - 1.6.4.2. Uncovering of work in accordance with Contract Documents.
 - 1.6.4.3. Testing done on weekends, holidays, and overtime will be chargeable to Contractor for the overtime portion.
 - 1.6.4.4. Testing done off site.
- 1.6.5. Testing and inspection reports and certifications:
 - 1.6.5.1. If initially received by Contractor, Contractor shall provide to each of the following a copy of the agency or laboratory report of each test or inspection or certification: District; Construction Manager, if any; Architect; Consulting Engineer, if any; Other Engineers on the Project, as appropriate; and; Project Inspector.
 - 1.6.5.2. When the test or inspection is one required by the Title 24, a copy of the report shall also be provided to the DSA.

1.7. SELECTION AND PAYMENT

- 1.7.1. District will hire and pay for services of an independent Testing Laboratory to perform specified inspection and testing as specified by District's Testing Laboratory.
- 1.7.2. District's hiring of Testing Laboratory shall in no way relieve Contractor of its obligation to perform work in accordance with requirements of Contract Documents.

1.8. DISTRICT'S TESTING LABORATORY RESPONSIBILITIES

- 1.8.1. Test samples of mixes submitted by Inspector.
- 1.8.2. Perform specified inspection, sampling, and testing of Products in accordance with specified standards.
- 1.8.3. Notify Architect and Contractor of observed irregularities or non-conformance of Work or Products.
- 1.8.4. Attend preconstruction conferences and progress meetings when requested by Architect.

1.9. LABORATORY REPORTS

- 1.9.1. After each inspection and test, District shall then submit one copy of laboratory report to Contractor. Reports of test results of materials and inspections found not to be in compliance with the requirements of the Contract Documents shall be forwarded immediately.
- 1.9.2. Each Testing Laboratory shall submit a verified report covering all of the tests which were required to be made by that agency during the progress of the Project. Such report shall be furnished each time that Work is suspended, covering the tests up to that time and at the Completion of the Project, covering all tests.

1.10. LIMITS ON TESTING LABORATORY AUTHORITY

- 1.10.1. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- 1.10.2. Laboratory may not approve or accept any portion of the Work.
- 1.10.3. Laboratory may not assume any duties of Contractor.
- 1.10.4. Laboratory has no authority to stop the Work.

1.11. CONTRACTOR RESPONSIBILITIES

- 1.11.1. Submit proposed items for testing as required herein and/or as further required in the Contract Documents to Architect for review in accordance with applicable specifications.
- 1.11.2. Cooperate with Laboratory personnel, and provide access to the Work and to manufacturer's facilities.
- 1.11.3. Notify Architect, District, and Testing Laboratory 48 hours prior to expected time for operations requiring inspection and testing services.

- 1.11.4. When tests or inspections cannot be performed after such notice, reimburse District for Laboratory personnel and travel expenses incurred due to the Contractor's negligence.
- 1.11.5. Contractor shall notify District a sufficient time in advance of the manufacture of material to be supplied by Contractor pursuant to the Contract Documents, which must by terms of the Contract be tested, in order that the District may arrange for the testing of same at the source of supply.
 - 1.11.5.1. Any material shipped by the Contractor from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice that such testing and inspection will not be required shall not be incorporated in the Work.
- 1.11.6. Contract and pay for services of District's Testing Laboratory to perform additional inspections, sampling and testing required when initial tests indicate Contractor's work and/or materials does not comply with Contract Documents.

1.12. SCHEDULE OF INSPECTIONS AND TESTS

The Testing Laboratory shall perform tests and inspections for the following in conformance with the (CBC) California Building Code (International Building Code with State of California Amendments), California Code of Regulations, Title 24, Part 2:

- Structural Tests and Special Inspections (Chapter 17A)
 - Special Inspections (§ 1704A)
- Soils and Foundations (Chapter 18A)
 - Geotechnical Investigations (§ 1803A)
- Concrete (Chapter 19A)
 - Specifications for Tests and Materials
 - Concrete Quality, Mixing and Placing
 - Concrete Reinforcement and Anchor Testing Inspection (§ 1916A)
- Masonry (Chapter 21A)
 - Masonry Construction Materials (§ 2103A)
 - Masonry Quality (§ 2103A)
 - Quality Assurance (§ 2105A)
- Structural Steel (Chapter 22A)
 - Structural Steel (§ 2205A)
 - Identification & Protection of Steel for Structural Purposes (§ 2203A)
 - Inspection and Tests of Structural Steel (§ 2212A)
- Wood (Chapter 23)
 - Minimum Standards and Quality (§ 2303)
 - Wood Construction (§ 1704A.6)
- Exterior Walls (Chapter 14)
 - Masonry Units (§ 1404.4)
 - Masonry Construction Materials (§ 2103A)
 - Exterior Insulation and Finish Systems (§ 1408)
- Roof Assemblies and Roofing Structures (Chapter 15)
 - Materials (§ 1506)
- Aluminum (Chapter 20)
 - Materials (§ 2002.1)
 - Inspection (§ 2003.1)

1.12.1. Plumbing

Testing as specified in Division 15 including, but not limited to: Sterilization, soil waste and vent, water piping, source of water, gas piping, downspouts and storm drains.

1.12.2. Automatic Fire Sprinklers (where applicable)

Testing as specified in Division 15 shall include, but not be limited to: hydrostatic pressure.

1.12.3. Heating, Ventilating and Air Conditioning

Testing as specified in Division 15 shall include, but not be limited to: Ductwork tests, cooling tower tests, boiler tests, controls testing, piping tests, water and air systems, and test and balance of heating and air conditioning systems.

1.12.4. Electrical

Testing as specified in Division 16, including, but not limited to: Equipment testing, all electrical system operations, grounding system and checking insulation after cable is pulled.

1.13. PROJECT INSPECTOR'S ACCESS TO SITE

- 1.13.1. A Project Inspector employed by the District in accordance with the requirement of State of California Code of Regulations, Title 24, Part 1 will be assigned to the Work. Project Inspector's duties are specifically defined in 24. C.C.R. §4-342, and as indicated in the General Conditions.
- 1.13.2. District and Construction Manager shall at all times have access for the purpose of inspection to all parts of the Work and to the shops wherein the Work is in preparation, and Contractor shall at all times maintain proper facilities and provide safe access for such inspection.
- 1.13.3. The Work in all stages of progress shall be subject to the personal continuous observation of the Inspector. Inspector shall have free access to any or all parts of the Work at any time. Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep Inspector fully informed respecting the progress and manner of the Work and the character of the materials. Inspection of the Work shall not relieve the Contractor from any obligation set forth in the Contract Documents.
- 1.13.4. The Inspector is not authorized to change, revoke, alter, enlarge or decrease in any way any requirement of the Contract Documents, drawings, specifications or subsequent change orders.
- 1.13.5. Whenever there is insufficient evidence of compliance with any of the provisions of Title 24 or evidence that any material or construction does not conform to the requirements of Title 24, the Division of the State Architect may require tests as proof of compliance. Test methods shall be as specified herein or by other recognized and accepted test methods determined by the Division of the State Architect. All tests shall be performed by a testing laboratory accepted by the Division of the State Architect.

END OF DOCUMENT

DOCUMENT 01 50 00

TEMPORARY FACILITIES AND CONTROLS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Site Standards; and
- 1.1.5. Temporary Tree and Plant Protection.

1.2. TEMPORARY UTILITIES

1.2.1. Electric Power and Lighting:

- 1.2.1.1. Contractor will furnish and pay for power during the course of the work to the extent power is not in the building(s) or on the Site. Contractor shall be responsible for providing temporary facilities required on the Site to point of intended use.
- 1.2.1.2. Contractor shall furnish, wire for, install, and maintain temporary electrical lights wherever it is necessary to provide illumination for the proper performance and/or observation of the Work: a minimum of 20 foot-candles for rough work and 50 foot-candles for finish work.
- 1.2.1.3. Contractor shall be responsible for maintaining existing lighting levels in the Project vicinity should temporary outages or service interruptions occur.

1.2.2. Heat and Ventilation:

- 1.2.2.1. Contractor shall provide temporary heating and cooling to maintain environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation and curing of materials, and to protect materials and finishes from damage due to improper temperature and humidity conditions. Portable heaters shall be standard units complete with controls.
- 1.2.2.2. Contractor shall provide forced ventilation and dehumidification, as required, of enclosed areas for proper installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, and gases.

- 1.2.2.3. Contractor shall pay the costs of installation, maintenance, operation, and removal of temporary heat and ventilation, including costs for fuel consumed, required for the performance of the Work.

1.2.3. **Water:**

- 1.2.3.1. Contractor will furnish and pay for water during the course of the work. Contractor shall be responsible for providing temporary facilities required.
- 1.2.3.2. Contractor shall make potable water available for human consumption.

1.2.4. **Sanitary Facilities:**

- 1.2.4.1. Contractor shall provide sanitary temporary facilities in no fewer numbers than required by law and such additional facilities as may be directed by the Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition at all times and shall be left at the Site until removal is directed by the District or Contractor completes all Work.
- 1.2.4.2. Use of toilet facilities in the Site shall not be permitted except by consent of the Project Inspector and District.

1.2.5. **Telephone Service:**

- 1.2.5.1. Contractor shall arrange with local telephone service company for telephone service for the performance of the Work. Contractor shall, at a minimum, provide in its field office one line for telephone and one line for fax machine.
- 1.2.5.2. Contractor shall pay the costs for telephone and fax lines installation, maintenance, service, and removal; for Construction Site Office, Construction Manager's Office and Inspector's Office.

1.2.6. **Fire Protection:**

- 1.2.6.1. Contractor shall provide and maintain fire extinguishers and other equipment for fire protection. Such equipment shall be designated for use for fire protection only and shall comply with all requirements of the California Fire, State Fire Marshall and/or its designee.
- 1.2.6.2. Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces.

1.2.7. **Trash Removal:**

- 1.2.7.1. Contractor shall provide trash removal on a timely basis from all Site Offices and throughout the Site.

1.2.8. **Temporary Facilities:**

- 1.2.8.1. Contractor shall provide sufficient space and facilities for its own force's needs.
- 1.2.8.2. In addition, unless otherwise indicated in the Contract Documents, Contractor shall provide the following facilities, trailers, offices, furniture and:

- 1.2.8.2.1. One (1) 12X60 office trailer with two (2) offices for two (2) District representatives, with bathroom, common space between both offices;
- 1.2.8.2.2. One (1) 12X20 Project Inspector's Trailer/Office;
- 1.2.8.2.3. Basic furniture: chair, desks, plan table, conference room table, and chairs; and
- 1.2.8.2.4. Basic services: fixed line for phone, fax, and high speed internet service.

1.3. CONSTRUCTION AIDS

1.3.1. Plant and Equipment:

- 1.3.1.1. Contractor shall furnish, operate, and maintain a complete plant for fabricating, handling, conveying, installing, and erecting materials and equipment; and for conveyances for transporting workmen. Include elevators, hoists, debris chutes, and other equipment, tools, and appliances necessary for performance of the Work.
- 1.3.1.2. Contractor shall maintain plant and equipment in safe and efficient operating condition. Damages due to defective plant and equipment, and uses made thereof, shall be repaired by Contractor at no expense to the District.

- 1.3.2. No District tools or equipment shall be used by Contractor or its subcontractors for the performance of the Work.

1.4. BARRIERS AND ENCLOSURES

- 1.4.1. Contractor shall obtain District's written permission for locations and types of temporary barriers and enclosures, including fire-rated materials proposed for use, prior to their installation.
- 1.4.2. Contractor shall provide a six (6) foot high, chain link perimeter fence with posts driven into the ground and fabric screen as a temporary barrier around construction area. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises. Contractor shall remove temporary fence, barriers and enclosure upon Completion of the Work.
- 1.4.3. Contractor shall provide site access to existing facilities for persons using other buildings and portions of the Site, for the public, and for deliveries and other services and activities.

1.5. SECURITY

Contractor shall secure all construction equipment, machinery and vehicles, park and store only within fenced area, and render inoperable during non-work hours. Contractor is responsible for ensuring that no construction materials, tools, equipment, machinery or vehicles can be used for unauthorized entry or

other damage or interference to activities and security of existing facilities adjacent to and in the vicinity of the Project Site.

1.6. TEMPORARY CONTROLS

1.6.1. Noise Control:

- 1.6.1.1. Contractor acknowledges that adjacent facilities may remain in operation during all or a portion of the Work, and Contractor shall take all reasonable precautions to minimize noise as required by applicable laws and the Contract Documents.
- 1.6.1.2. Notice of proposed noisy operations, including without limitation, operation of pneumatic demolition tools, concrete saws, and other equipment, shall be submitted to District a minimum of forty-eight (48) hours in advance of their performance.

1.6.2. Noise and Vibration:

- 1.6.2.1. Equipment and impact tools shall have intake and exhaust mufflers.
- 1.6.2.2. Contractor shall cooperate with District to minimize and/or cease the use of noisy and vibratory equipment if that equipment becomes objectionable by its longevity.

1.6.3. Dust and Dirt:

- 1.6.3.1. Contractor shall conduct demolition and construction operations to minimize the generation of dust and dirt, and prevent dust and dirt from interfering with the progress of the Work and from accumulating in the Work and adjacent areas including, without limitation, occupied facilities.
- 1.6.3.2. Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.
- 1.6.3.3. Contractor shall ensure that all hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins, and as otherwise required by local and state ordinance.
- 1.6.3.4. Contractor shall prevent dust and dirt from accumulating on walks, roadways, parking areas, and planting, and from washing into sewer and storm drain lines.

1.6.4. Surface and Subsurface Water:

Contractor shall not permit surface and subsurface water, and other liquids, to accumulate in or about the vicinity of the Premises. Should accumulation develop, Contractor shall control the water or other liquid, and suitably dispose of it by means of temporary pumps, piping, drainage lines, troughs, ditches, dams, or other methods.

1.6.5. Pollution:

- 1.6.5.1. No burning of refuse, debris, or other materials shall be permitted on or in the vicinity of the Premises.

- 1.6.5.2. Contractor shall comply with applicable regulatory requirements and anti-pollution ordinances during the conduct of the Work including, without limitation, demolition, construction, and disposal operations.

1.6.6. **Lighting**

If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

1.7. JOB SIGN(S)

1.7.1. **General:**

- 1.7.1.1. Contractor shall provide and maintain and locate a Project identification sign with the design, text, and colors designated by District and/or the Architect.
- 1.7.1.2. Signs other than the specified Project sign and or signs required by law, for safety, or for egress, shall not be permitted, unless otherwise approved in advance by the District.

1.7.2. **Materials:**

- 1.7.2.1. Structure and Framing: Structurally sound, new or used wood or metal; wood shall be nominal 3/4-inch exterior grade plywood.
- 1.7.2.2. Sign Surface: Minimum 3/4-inch exterior grade plywood.
- 1.7.2.3. Rough Hardware: Galvanized.
- 1.7.2.4. Paint: Exterior quality, of type and colors selected by the District and/or the Architect.

1.7.3. **Fabrication:**

- 1.7.3.1. Contractor shall fabricate to provide smooth, even surface for painting.
- 1.7.3.2. Size: 4'-0" x 8'-0", unless otherwise indicated.
- 1.7.3.3. Contractor shall paint exposed surfaces of supports, framing, and surface material with exterior grade paint: one coat of primer and one coat of finish paint.
- 1.7.3.4. Text and Graphics: As indicated.

1.8. PUBLICITY RELEASES

Contractor shall not release any information, story, photograph, plan, or drawing relating to information about the Project to anyone, including press and other public communications medium, including, without limitation, on website(s).

END OF DOCUMENT

DOCUMENT 01 52 10

SITE STANDARDS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS:

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions, including without limitation, Site Access, Conditions, and Regulations;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Drug-Free Workplace Certification;
- 1.1.5. Tobacco-Free Environment Certification;
- 1.1.6. Criminal Background Investigation/Fingerprinting Certification; and
- 1.1.7. Temporary Facilities and Controls.

1.2. REQUIREMENTS OF THE DISTRICT

1.2.1. Drug-Free Schools and Safety Requirements:

- 1.2.1.1. All school sites and other District Facilities have been declared "Drug-Free Zones." No drugs, alcohol, smoking or the use of tobacco products are allowed at any time in any buildings, Contractor-owned vehicles or vehicles owned by others while on District property. No students, staff, visitors, or contractors are to use drugs on these sites.
- 1.2.1.2. Contractor shall post: "Non-Smoking Area" in a highly visible location on Site. Contractor may designate a smoking area outside of District property within the public right-of-way, provided that this area remains quiet and unobtrusive to adjacent neighbors. This smoking area must be kept clean at all times.
- 1.2.1.3. Contractor shall ensure that no alcohol, firearms, weapons, or controlled substances enter or are used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee(s) found in violation of this provision.

- 1.2.2. **Language:** Unacceptable and/or loud language will not be tolerated, "Cat calls" or other derogatory language toward students or public will not be allowed.

1.2.3. Disturbing the Peace (Noise and Lighting):

- 1.2.3.1. Contractor shall observe the noise ordinance of the Site at all times including, without limitation, all applicable local, city, and/or state laws, ordinances, and/or regulations regarding noise and allowable noise levels.

- 1.2.3.2. The use of radios, etc., shall be controlled to keep all sound at a level that cannot be heard beyond the immediate area of use. District reserves the right to prohibit the use of radios at the Site, except for handheld communication radios.
- 1.2.3.3. If portable lights are used after dark, the lights must be located so as not to direct light into neighboring properties.

1.2.4. **Traffic:**

- 1.2.4.1. Driving on the Premises shall be limited to periods when students and public are not present. If driving or deliveries must be made during the school hours, two (2) or more ground guides shall lead the vehicle across the area of travel. In no case shall driving take place across playgrounds or other pedestrian paths during recess, lunch, and/or class period changes. The speed limit on-the Premises shall be five (5) miles per hour (maximum) or less if conditions require.
- 1.2.4.2. All paths of travel for deliveries, including without limitation, material, equipment, and supply deliveries, shall be reviewed and approved by District in advance. Any damage will be repaired to the pre-damaged condition by the Contractor.
- 1.2.4.3. District shall designate a construction entry to the Site. If Contractor requests, District determines it is required, and to the extent possible, District shall designate a staging area so as not to interfere with the normal functioning of school facilities. Location of gates and fencing shall be approved in advance with District and at Contractor's expense.
- 1.2.4.4. Parking areas shall be reviewed and approved by District in advance. No parking is to occur under the drip line of trees or in areas that could otherwise be damaged.
- 1.2.4.5. All of the above shall be observed and complied with by the Contractor and all workers on the Site. Failure to follow these directives could result in individual(s) being suspended or removed from the work force at the discretion of the District. The same rules and regulations shall apply equally to delivery personnel, inspectors, consultants, and other visitors to the Site.

END OF DOCUMENT

DOCUMENT 01 56 39

TEMPORARY TREE AND PLANT PROTECTION

1. GENERAL

1.1. RELATED DOCUMENTS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any); and
- 1.1.4. Temporary Facilities and Controls.

1.2. SUMMARY

This Document includes the protection and trimming of existing trees that interfere with, or are affected by, execution of the Work, whether temporary or permanent construction.

1.3. DEFINITIONS

Tree Protection Zone: Area surrounding individual trees or groups of trees to remain during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4. SUBMITTALS

- 1.4.1. Product Data: For each type of product indicated.
- 1.4.2. Tree Pruning Schedule: Written schedule from arborist detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
- 1.4.3. Qualification Data: For tree service firm and arborist.
- 1.4.4. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- 1.4.5. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

1.5. QUALITY ASSURANCE

- 1.5.1. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed tree protection and trimming work similar to that required for this Project

and that will assign an experienced, qualified arborist to Project site during execution of tree protection and trimming.

- 1.5.2. Arborist Qualifications: An arborist certified by ISA (International Society of Arboriculture) or licensed in the jurisdiction where Project is located.
- 1.5.3. Tree Pruning Standard: Comply with ANSI A300 (Part 1), "Tree, Shrub, and Other Woody Plant Maintenance--Standard Practices (Pruning)."
 - 1.5.3.1. Before tree protection and trimming operations begin, meet with District to review tree protection and trimming procedures and responsibilities.

2. PRODUCTS

2.1. MATERIALS

- 2.1.1. Unless otherwise specified, Contractor shall select materials as recommended by arborist or landscape architect.
- 2.1.2. Drainage Fill: Selected crushed stone, or crushed or uncrushed gravel, washed, ASTM D 448, Size 24, with 90 to 100 percent passing a 2-1/2-inch (63-mm) sieve and not more than 10 percent passing a 3/4-inch (19-mm) sieve.
- 2.1.3. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch (25 mm) in diameter; and free of weeds, roots, and toxic and other nonsoil materials.
 - 2.1.3.1. Obtain topsoil only from well-drained sites where topsoil is 4 inches (100 mm) deep or more; do not obtain from bogs or marshes.
- 2.1.4. Filter Fabric: Manufacturer's standard, nonwoven, pervious, geotextile fabric of polypropylene, nylon, or polyester fibers.
- 2.1.5. Chain-Link Fence: Metallic-coated steel chain-link fence fabric of 0.120-inch- (3-mm-) diameter wire; a minimum of 48 inches (1200 mm) high; with 1.9-inch- (48-mm-) diameter line posts; 2-3/8-inch- (60-mm-) diameter terminal and corner posts; 1-5/8-inch- (41-mm-) diameter top rail; and 0.177-inch- (4.5-mm-) diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.
- 2.1.6. Select mulch as recommended by arborist or landscape architect.
- 2.1.7. Organic Mulch: Use shredded hardwood, ground or shredded bark, or wood and bark chips, all free of deleterious materials.

3. EXECUTION

3.1. PREPARATION

- 3.1.1. Temporary Fencing: Install temporary fencing around tree protection zones to protect remaining trees and vegetation from construction damage. Maintain temporary fence and remove when construction is complete.
- 3.1.2. Install chain-link fence according to ASTM F 567 and manufacturer's written instructions.
- 3.1.3. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- 3.1.4. Mulch areas inside tree protection zones and other areas indicated.
 - 3.1.4.1. Select mulch as recommended by arborist or landscape architect.
 - 3.1.4.2. Apply 2-inch (50-mm) to 3-inch (75-mm) average thickness of organic mulch. Do not place mulch within 6 inches (150 mm)] of tree trunks.
- 3.1.5. Do not store construction materials, debris, or excavated material inside tree protection zones. Do not permit vehicles or foot traffic within tree protection zones; prevent soil compaction over root systems.
- 3.1.6. Maintain tree protection zones free of weeds and trash.
- 3.1.7. Do not allow fires within tree protection zones.

3.2. EXCAVATION

- 3.2.1. Install shoring or other protective support systems to minimize sloping or benching of excavations where construction or utility excavation is near trees to be protected.
- 3.2.2. Do not excavate within tree protection zones, unless otherwise indicated.
- 3.2.3. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks and comb soil to expose roots.
 - 3.2.3.1. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.
- 3.2.4. Where utility trenches are required within tree protection zones, tunnel under or around roots by drilling, auger boring, pipe jacking, or digging by hand.
 - 3.2.4.1. Root Pruning: Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots with sharp pruning instruments; do not break or chop.

3.3. REGRADING

- 3.3.1. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade beyond tree protection zones. Maintain existing grades within tree protection zones.
- 3.3.2. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist, unless otherwise indicated.
 - 3.3.2.1. Root Pruning: Prune tree roots exposed during grade lowering. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots with sharp pruning instruments; do not break or chop.
- 3.3.3. Minor Fill: Where existing grade is 6 inches (150 mm) or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.
- 3.3.4. Moderate Fill: Where existing grade is more than 6 inches (150 mm) but less than 12 inches (300 mm) below elevation of finish grade, place drainage fill, filter fabric, and topsoil on existing grade as follows:
 - 3.3.4.1. Carefully place drainage fill against tree trunk approximately 2 inches (50 mm) above elevation of finish grade and extend not less than 18 inches (450 mm) from tree trunk on all sides. For balance of area within drip-line perimeter, place drainage fill up to 6 inches (150 mm) below elevation of grade.
 - 3.3.4.2. Place filter fabric with edges overlapping 6 inches (150 mm) minimum.
 - 3.3.4.3. Place fill layer of topsoil to finish grade. Do not compact drainage fill or topsoil. Hand grade to required finish elevations.

3.4. TREE PRUNING

- 3.4.1. Prune trees to remain that are affected by temporary and permanent construction.
- 3.4.2. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.
- 3.4.3. Pruning Standards: Prune trees according to ANSI A300 (Part 1), as recommended by arborist report.
- 3.4.4. Adjust pruning requirements per arborist's recommendations.
- 3.4.5. Cut branches with sharp pruning instruments; do not break or chop.
- 3.4.6. Modify below to specific project requirements.
- 3.4.7. Chip removed tree branches and dispose of or spread over areas identified by District.

3.5. TREE REPAIR AND REPLACEMENT

- 3.5.1. Promptly repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
- 3.5.2. Remove and replace trees indicated to remain that die or are damaged during construction operations or that are incapable of restoring to normal growth pattern.
 - 3.5.2.1. Provide new trees of 6-inch (150-mm) caliper size and of a when damaged trees more than 6 inches (150 mm) in caliper size, measured 12 inches (300 mm) above grade, are required to be replaced. Plant and maintain new trees as specified in Contract Documents.
- 3.5.3. Where recommended by arborist report, aerate surface soil, compacted during construction, 10 feet (3 m) beyond drip line and no closer than 36 inches (900 mm) to tree trunk. Drill 2-inch (50-mm) diameter holes a minimum of 12 inches (300 mm) deep at 24 inches (600 mm) o.c. Backfill holes with an equal mix of augered soil and sand.

3.6. DISPOSAL OF WASTE MATERIALS

- 3.6.1. Burning is not permitted.
- 3.6.2. Disposal: Remove excess excavated material and displaced trees from Site.

END OF DOCUMENT

DOCUMENT 01 60 00

MATERIALS AND EQUIPMENT

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions.
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any); and
- 1.1.4. Imported Materials Certification.

1.2. MATERIALS AND EQUIPMENT

- 1.2.1. Only items approved by the District and/or Architect shall be used.
- 1.2.2. Contractor shall submit lists of Products and other Product information in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

1.3. MATERIALS AND EQUIPMENT COLORS

- 1.3.1. The Contractor shall comply with all schedule(s) of colors provided by the District and/or Architect.
- 1.3.2. No individual color selections will be made until after approval of all pertinent materials and equipment and after receipt of appropriate samples in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.
- 1.3.3. Contractor shall request priority in writing for any item requiring advance ordering to maintain the approved Construction Schedule.

1.4. DELIVERY, STORAGE, AND HANDLING

- 1.4.1. Contractor shall deliver manufactured materials in original packages, containers, or bundles (with seals unbroken), bearing name or identification mark of manufacturer. District may inspect materials prior to Contractor unloading the delivered materials. District may reject any materials that do not conform to the Contract Documents.
- 1.4.2. Contractor shall deliver fabrications in as large assemblies as practicable; where specified as shop-primed or shop-finished, package or crate as required to preserve such priming or finish intact and free from abrasion.

- 1.4.3. Contractor shall store materials in such a manner as necessary to properly protect them from damage. Materials or equipment damaged by handling, weather, dirt, or from any other cause will not be accepted.
- 1.4.4. Materials that have been warehoused for long periods of time, stored or transported in improper environment, improperly packaged, inadequately labeled, poorly protected, excessively shipped, deviated from normal distribution pattern, or reassembled are not acceptable.
- 1.4.5. Contractor shall store materials so as to cause no obstructions of sidewalks, roadways, or underground services. Contractor shall protect materials and equipment furnished pursuant to the Contract Documents.
- 1.4.6. Contractor may store materials on Site with prior written approval by District; all materials shall remain under Contractor's control and Contractor shall remain liable for any damage to the materials. Should the Project Site not have storage area available, the Contractor shall provide for off-site storage at no cost to District.
- 1.4.7. When any room in Project is used as a shop or storeroom, Contractor shall be responsible for any repairs, patching, or cleaning necessary due to that use. Location of storage space shall be subject to prior written approval by District.

2. PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Manufacturers listed in various sections of the Contract Documents are names of those manufacturers that are believed to be capable of supplying one or more of the items specified therein.
- 2.1.2. The listing of a manufacturer does not imply that every product of that manufacturer is acceptable or as meeting the requirements of the Contract Documents.

2.2. FACILITIES AND EQUIPMENT

Contractor shall provide, install, maintain, and operate a complete and adequate facility for handling, execution, disposal, and distribution of materials and equipment as required for proper and timely performance of Work.

2.3. MATERIALS REFERENCE STANDARDS

Where materials are specified solely by reference to "standard specifications" or other general reference, and if requested by District, Contractor shall submit for review data on actual materials proposed to be incorporated into Work, listing name and address of vendor, manufacturer, or producer, and trade or brand names of those materials, and data substantiating compliance with standard specifications.

3. EXECUTION

3.1. WORKMANSHIP

- 3.1.1. Where not more specifically described in any other Contract Documents, workmanship shall conform to methods and operations of best standards and accepted practices of trade or trades involved and shall include items of fabrication, construction, or installation regularly furnished or required for completion (including finish and for successful operation, as intended).
- 3.1.2. Work shall be executed by tradespersons skilled in their respective field of work. When completed, parts shall have been durably and substantially built and present a neat appearance.

3.2. COORDINATION

- 3.2.1. Contractor shall coordinate installation of materials and equipment so as to not interfere with installation of other Work. Adjustment or rework because of Contractor's failure to coordinate will be at no additional cost to District.
- 3.2.2. Contractor shall examine in-place materials and equipment for readiness, completeness, fitness to be concealed or to receive Work, and compliance with Contract Documents. Concealing or covering work constitutes acceptance of additional cost which will result should in-place materials and equipment be found unsuitable for receiving other work or otherwise deviating from the requirements of the Contract Documents.

3.3. COMPLETENESS

Contractor shall provide all portions of the Work, unless clearly stated otherwise, installed complete and operational with all elements, accessories, anchorages, utility connections, etc., in a manner to ensure well-balanced performance, in accordance with manufacturer's recommendations and in accordance with Contract Documents. For example, electric water coolers require water, electricity, and drain services; roof drains require drain systems; sinks fit within countertop, etc. Terms such as "installed complete," "operable condition," "for use intended," "connected to all utilities," "terminate with proper cap," "adequately anchored," "patch and refinish," and "to match similar" should be assumed to apply in all cases, except where completeness of functional or operable condition is specifically stated as not required.

3.4. APPROVED INSTALLER OR APPLICATOR

Contractor shall ensure that all installations are only performed by a manufacturer's approved installer or applicator.

3.5. MANUFACTURER'S RECOMMENDATIONS

All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative. Should the Contract Documents differ from recommendations of manufacturer or directions of manufacturer's representative, Contractor shall analyze differences, make recommendations to the District and the Architect in writing, and shall not proceed until interpretation or clarification has been issued by the District and/or the Architect.

END OF DOCUMENT

DOCUMENT 01 66 10

DELIVERY, STORAGE AND HANDLING

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions, including, without limitation, Site Access, Conditions and Requirements; and
- 1.1.2. Special Conditions.

1.2. PRODUCTS

- 1.2.1. Products are as defined in the General Conditions.
- 1.2.2. Contractor shall not use and/or reuse materials and/or equipment removed from existing Premises, except as specifically permitted by the Contract Documents.
- 1.2.3. Contractor shall provide interchangeable components of the same manufacturer, for similar components.

1.3. TRANSPORTATION AND HANDLING

- 1.3.1. Contractor shall transport and handle Products in accordance with manufacturer's instructions.
- 1.3.2. Contractor shall promptly inspect shipments to confirm that Products comply with Contract requirements, are of correct quantity, and are undamaged.
- 1.3.3. Contractor shall provide equipment and personnel to properly handle Products to prevent soiling, disfigurement, or damage.

1.4. STORAGE AND PROTECTION

- 1.4.1. Contractor shall store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Contractor shall store sensitive Products in weather-tight, climate controlled enclosures.
- 1.4.2. Contractor shall place fabricated Products that are stored outside, on above-ground sloped supports.
- 1.4.3. Contractor shall provide off-site storage and protection for Products when Site does not permit on-site storage or protection.

- 1.4.4. Contractor shall cover Products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.
- 1.4.5. Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and prevent mixing with foreign matter.
- 1.4.6. Contractor shall provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- 1.4.7. Contractor shall arrange storage of Products to permit access for inspection and periodically inspect to assure Products are undamaged and are maintained under specified conditions.

END OF DOCUMENT

DOCUMENT 01 73 00

EXECUTION

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Coordination and Project Meetings;
- 1.1.5. Submittals;
- 1.1.6. Materials and Equipment;
- 1.1.7. Cutting and Patching;
- 1.1.8. Contract Closeout and Final Cleaning; and
- 1.1.9. General Commissioning Requirements.

1.2. SUMMARY

- 1.2.1. This Document includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1.2.1.1. Construction layout;
 - 1.2.1.2. Field engineering and surveying;
 - 1.2.1.3. General installation of products;
 - 1.2.1.4. Owner furnished, Contractor installed items;
 - 1.2.1.5. Coordination of District-installed products;
 - 1.2.1.6. Progress cleaning;
 - 1.2.1.7. Staring and adjusting;
 - 1.2.1.8. Protection of installed construction; and
 - 1.2.1.9. Correction of the Work.

1.3. SUBMITTALS

- 1.3.1. Qualification Data: For land surveyor or professional engineer.
- 1.3.2. Certificates: Submit certificate signed by land surveyor or professional engineer certifying that location and elevation of improvements comply with requirements.
- 1.3.3. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept the materials as classified, for hazardous waste disposal.
- 1.3.4. Certified Surveys: Submit electronic files and three (3) paper copies signed by land surveyor or professional engineer.
- 1.3.5. Final Property Survey: Submit electronic files and three (3) paper copies showing the Work performed and record survey data.

2. EXECUTION

2.1. EXAMINATION

- 2.1.1. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning Site Work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 2.1.1.1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - 2.1.1.2. Furnish location data for Work related to Project that must be performed by public utilities serving the Project Site.

2.2. PREPARATION

- 2.2.1. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- 2.2.2. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- 2.2.3. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- 2.2.4. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to

District per requirements of Document "Requests for Information." Include a detailed description of problem encountered, together with recommendations for any necessary changes to the Contract Documents.

2.3. CONSTRUCTION LAYOUT

- 2.3.1. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify District and its consultant promptly.
- 2.3.2. General: Engage a land surveyor or professional engineer to lay out the Work using accepted surveying practices.
 - 2.3.2.1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2.3.2.2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 2.3.2.3. Inform installers of lines and levels to which they must comply.
 - 2.3.2.4. Check the location, level and plumb, of every major element as the Work progresses.
 - 2.3.2.5. Notify District and its consultant when deviations from required lines and levels exceed allowable tolerances.
 - 2.3.2.6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- 2.3.3. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- 2.3.4. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- 2.3.5. Record Log: Maintain a log of layout control Work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by District and its consultant.

2.4. FIELD ENGINEERING

- 2.4.1. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 2.4.1.1. Do not change or relocate existing benchmarks or control points without prior written approval of District and its consultant. Report lost or destroyed

permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to District and its consultant before proceeding.

2.4.1.2. Require surveyor to replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

2.4.2. Benchmarks: Establish and maintain a minimum of two (2) permanent benchmarks on Project Site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

2.4.2.1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

2.4.2.2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.

2.4.2.3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

2.4.3. Records: Contractor shall maintain a complete, accurate log of all control and survey Work as it progresses. On request of District or Architect, Contractor shall submit documentation to verify accuracy of field engineering Work at no additional cost to the District.

2.4.4. Certified Survey: On completion of foundation walls, major site improvements, and other Work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

2.4.5. Final Property Survey: Prepare and submit a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor or professional engineer, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey and are in conformance with Contract Documents.

2.4.5.1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a Site corner to a legal point.

2.4.6. Compliance with Laws: Contractor is responsible for meeting all applicable codes, OSHA, safety, and shoring requirements.

2.4.7. Nonconforming Work: Contractor is responsible for any re-surveying required by correction of nonconforming Work.

2.5. INSTALLATION

2.5.1. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

- 2.5.1.1. Make vertical Work plumb and make horizontal Work level.
- 2.5.1.2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
- 2.5.1.3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- 2.5.1.4. Maintain minimum headroom clearance of 7 feet in spaces without a suspended ceiling.
- 2.5.2. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- 2.5.3. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Completion.
- 2.5.4. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- 2.5.5. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels where possible.
- 2.5.6. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- 2.5.7. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 2.5.7.1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by District.
 - 2.5.7.2. Allow for building movement, including thermal expansion and contraction.
 - 2.5.7.3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project Site in time for installation.
- 2.5.8. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- 2.5.9. Hazardous Materials: Use products, cleaners, and installation materials that are not classed as hazardous per the MSDS sheets for the products where possible. If hazardous materials are necessary, inform District where and when they will be used no less than 48 hours before use. Take all recommended precautions of the materials' manufacturers to ensure safe use and clean-up.

2.6. DISTRICT-INSTALLED PRODUCTS

- 2.6.1. Site Access: Provide access to Project Site for District's construction forces.
- 2.6.2. Coordination: Coordinate construction and operations of the Work with work performed by District's construction forces.
 - 2.6.2.1. Construction Schedule: Inform District of Contractor's preferred schedule for District's portion of the Work. Adjust Construction Schedule based on a mutually agreeable timetable. Notify District if changes to schedule are required due to differences in actual construction progress.
 - 2.6.2.2. Preinstallation Conferences: Include District's construction forces at preinstallation conferences covering portions of the Work that are to receive District's work. Attend preinstallation conferences conducted by District's construction forces if portions of the Work depend on District's construction.

2.7. PROGRESS CLEANING

- 2.7.1. General: Clean Project Site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 2.7.1.1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2.7.1.2. Do not hold materials more than seven (7) days during normal weather or three (3) days if the temperature is expected to rise above 80 degrees F.
 - 2.7.1.3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations. Remove hazardous and unsanitary waste materials daily.
- 2.7.2. Site: Maintain Project Site free of waste materials and debris.
- 2.7.3. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 2.7.3.1. Remove liquid spills promptly.
 - 2.7.3.2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- 2.7.4. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- 2.7.5. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

- 2.7.6. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Completion.
- 2.7.7. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- 2.7.8. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Completion.
- 2.7.9. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- 2.7.10. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

2.8. STARTING AND ADJUSTING

- 2.8.1. Start equipment and operating components to confirm proper operation. Replace or repair malfunctioning units and retest.
- 2.8.2. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- 2.8.3. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- 2.8.4. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Document "Quality Requirements."

2.9. PROTECTION OF INSTALLED CONSTRUCTION

- 2.9.1. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Completion.
- 2.9.2. Comply with manufacturer's written instruction for temperature and relative humidity unless otherwise addressed in the construction planning, sequences, and instructions.

2.10. CORRECTION OF THE WORK

- 2.10.1. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Document "Cutting and Patching."
 - 2.10.1.1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

- 2.10.2. Restore permanent facilities used during construction to their specified condition.
- 2.10.3. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- 2.10.4. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- 2.10.5. Remove and replace chipped, scratched, and broken glass or reflective surfaces.
- 2.10.6. Replace existing items damaged by Contractor with new materials to match existing.

END OF DOCUMENT

DOCUMENT 01 73 10

CUTTING AND PATCHING

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions, including, without limitation, Inspector, Inspections, and Tests, Integration of Work, Nonconforming Work, and Correction of Work, and Uncovering Work;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Hazardous Materials Procedures and Requirements;
- 1.1.5. Hazardous Materials Certification;
- 1.1.6. Lead-Based Materials Certification; and
- 1.1.7. Imported Materials Certification.

1.2. CUTTING AND PATCHING

- 1.2.1. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work or to:
 - 1.2.1.1. Make several parts fit together properly.
 - 1.2.1.2. Uncover portions of Work to provide for installation of ill-timed Work.
 - 1.2.1.3. Remove and replace defective Work.
 - 1.2.1.4. Remove and replace Work not conforming to requirements of Contract Documents.
 - 1.2.1.5. Remove Samples of installed Work as specified for testing.
 - 1.2.1.6. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - 1.2.1.7. Attaching new materials to existing remodeling areas – including painting (or other finishes) to match existing conditions.
- 1.2.2. In addition to Contract requirements, upon written instructions from District, Contractor shall uncover Work to provide for observations of covered Work in accordance with the

Contract Documents, remove samples of installed materials for testing as directed by District, and remove Work to provide for alteration of existing Work.

- 1.2.3. Contractor shall not cut or alter Work, or any part of it, in such a way that endangers or compromises the integrity of the Work, the Project, or Work of others.
- 1.2.4. Contractor shall not cut and patch operating elements or safety related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include the following:
 - 1.2.4.1. Primary operational systems and equipment.
 - 1.2.4.2. Air or smoke barriers.
 - 1.2.4.3. Fire-suppression systems.
 - 1.2.4.4. Mechanical systems piping and ducts.
 - 1.2.4.5. Control systems.
 - 1.2.4.6. Communication systems.
 - 1.2.4.7. Conveying systems.
 - 1.2.4.8. Electrical wiring systems.
- 1.2.5. Contractor shall not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing capacity to perform as intended, or that results in increased maintenance or decreased operational life of safety. Miscellaneous elements include the following:
 - 1.2.5.1. Water, moisture or vapor barriers.
 - 1.2.5.2. Membranes and flashings.
 - 1.2.5.3. Exterior curtain-wall construction.
 - 1.2.5.4. Equipment supports.
 - 1.2.5.5. Piping, ductwork, vessels and equipment.
 - 1.2.5.6. Noise and vibration control elements and systems.
 - 1.2.5.7. Shoring, bracing and sheeting.

1.3. REQUEST TO CUT, ALTER, PATCH OR EXCAVATE

- 1.3.1. Contractor shall submit written notice to District pursuant to the applicable notice provisions of the Contract Documents, requesting consent to proceed with the cutting or alteration ("Request") at least ten (10) days prior to any cutting or alterations that

may affect the structural safety of the Project, or Work of others, including the following:

- 1.3.1.1. The Work of the District or other trades.
- 1.3.1.2. Structural value or integrity of any element of the Project.
- 1.3.1.3. Integrity or effectiveness of weather-exposed or weather-resistant elements or systems.
- 1.3.1.4. Efficiency, operational life, maintenance or safety of operational elements.
- 1.3.1.5. Visual qualities of sight-exposed elements.

1.3.2. Contractor's Request shall also include:

- 1.3.2.1. Identification of the Project.
- 1.3.2.2. Description of affected Work.
- 1.3.2.3. Necessity for cutting, alterations, or excavations.
- 1.3.2.4. Impacts of that Work on the District, other trades, or structural or weatherproof integrity of the Project.
- 1.3.2.5. Description of proposed Work:
 - 1.3.2.5.1. Scope of cutting, patching, alterations, or excavations.
 - 1.3.2.5.2. Trades that will execute Work.
 - 1.3.2.5.3. Products proposed to be used.
 - 1.3.2.5.4. Extent of refinishing to be done.
- 1.3.2.6. Alternates to cutting and patching.
- 1.3.2.7. Cost proposal, when applicable.
- 1.3.2.8. The scheduled date the Work is to be performed and the duration of time to complete the Work.
- 1.3.2.9. Written permission of other trades whose Work will be affected.

1.4. QUALITY ASSURANCE

- 1.4.1. Contractor shall ensure that cutting, fitting, and patching shall achieve security, strength, weather protection, appearance for aesthetic match, efficiency, operational life, maintenance, safety of operational elements, and the continuity of existing fire ratings.

- 1.4.2. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, and colors, and that materials shall match existing construction. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the District's decision shall be final.

1.5. PAYMENT FOR COSTS

- 1.5.1. Costs caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of the District or its consultants including but not limited to the Architect, inspector(s), engineers, and agents, will be paid by Contractor and/or deducted from the Contract Price by the District.
- 1.5.2. Contractor shall provide written cost proposals prior to proceeding with cutting and patching. District shall only pay for cost of Work if it is part of the Contract Price or if a change has been made to the Contract in compliance with the provisions of the General Conditions. Cost of Work performed upon instructions from the District, other than defective or nonconforming Work, will be paid by District on approval of written Change Order in accordance with the Contract Documents.

2. PRODUCTS

2.1. MATERIALS

- 2.1.1. Contractor shall provide for replacement and restoration of Work removed. Contractor shall comply with the Contract Documents and with the industry standard(s), for the type of Work, and the Specification requirements for each specific product involved. If not specified, Contractor shall recommend a product of a manufacturer or appropriate trade association for approval by the District.
- 2.1.2. Materials to be cut and patched include those damaged by the performance of the Work.

3. EXECUTION

3.1. INSPECTION

- 3.1.1. Contractor shall inspect existing conditions of the Site and the Work, including elements subject to movement or damage during cutting and patching, excavating and backfilling. After uncovering Work, Contractor shall inspect conditions affecting installation of new products.
- 3.1.2. Contractor shall report unsatisfactory or questionable conditions in writing to District as indicated in the General Conditions and shall proceed with Work as indicated in the General Conditions by District.

3.2. PREPARATION

- 3.2.1. Contractor shall provide shoring, bracing and supports as required to maintain structural integrity for all portions of the Project, including all requirements of the Project.

- 3.2.2. Contractor shall provide devices and methods to protect other portions of Project from damage.
- 3.2.3. Contractor shall provide all necessary protection from weather and extremes of temperature and humidity for the Project, including without limitation any work that may be exposed by cutting and patching Work. Contractor shall keep excavations free from water.

3.3. ERECTION, INSTALLATION AND APPLICATION

- 3.3.1. With respect to performance, Contractor shall ensure its Subcontractors:
 - 3.3.1.1. Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
 - 3.3.1.2. Execute cutting and demolition by methods that will prevent damage to other Work, and provide proper surfaces to receive installation of repairs and new Work.
 - 3.3.1.3. Execute cutting, demolition excavating, and backfilling by methods that will prevent damage to other Work and damage from settlement.
 - 3.3.1.4. Contractor shall use original installer or fabricator to perform cutting and patching for:
 - 3.3.1.5. Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other trades.
 - 3.3.1.6. Sight-exposed finished surfaces.
- 3.3.2. Contractor shall ensure its Subcontractors execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes as shown or specified in the Contract Documents including, without limitation, the Drawings and Specifications.
- 3.3.3. Subcontractors shall fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Contractor shall conform to all Code requirements for penetrations or the Drawings and Specifications, whichever calls for a higher quality or more thorough requirement. Contractor shall maintain integrity of both rated and non-rated fire walls, ceilings, floors, etc.
- 3.3.4. Contractor's Subcontractors shall restore Work which has been cut or removed and install new products to provide completed Work in accordance with requirements of the Contract Documents and as required to match surrounding areas and surfaces.
- 3.3.5. Contractor's Subcontractors shall refinish all continuous surfaces to nearest intersection as necessary to match the existing finish to any new finish.

END OF DOCUMENT

DOCUMENT 01 77 00

CONTRACT CLOSEOUT AND FINAL CLEANING

1. GENERAL

1.1. RELATED DOCUMENTS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions including, without limitation, Documents on Work and Completion of Work;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Submittals;
- 1.1.5. Operation and Maintenance Data;
- 1.1.6. Warranties;
- 1.1.7. Record Documents;
- 1.1.8. Demonstration and Training; and
- 1.1.9. General Commissioning Requirements.

1.2. PRELIMINARY PROCEDURES

- 1.2.1. Before requesting inspection for determining date of Completion, complete the following. List items below that are incomplete in request.
 - 1.2.1.1. Prepare a list of items to be completed and corrected ("Punch List"), the value of items on the list, and reasons why the Work is not complete.
 - 1.2.1.2. Advise District of pending insurance changeover requirements.
 - 1.2.1.3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 1.2.1.4. Obtain and submit releases permitting District unrestricted use of the Work and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases, if required.
 - 1.2.1.5. Prepare and submit Project Record Documents, operation and maintenance manuals, Completion construction photograph prints and electronic files, damage or settlement surveys, property surveys, and similar final record information.

- 1.2.1.6. Deliver tools, spare parts, extra materials, and similar items to location designated by District. Label with manufacturer's name and model number where applicable.
- 1.2.1.7. Make final changeover of permanent locks and deliver keys to District. Advise District's personnel of changeover in security provisions.
- 1.2.1.8. Complete startup testing of systems.
- 1.2.1.9. Submit test/adjust/balance records.
- 1.2.1.10. Terminate and remove temporary facilities from Project Site, along with mockups, construction tools, and similar elements.
- 1.2.1.11. Advise District of changeover in heat and other utilities.
- 1.2.1.12. Submit changeover information related to District's occupancy, use, operation, and maintenance.
- 1.2.1.13. Complete final cleaning requirements, including touch-up painting.
- 1.2.1.14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

1.3. RECORD DOCUMENTS AND SHOP DRAWINGS

- 1.3.1. Contractor shall legibly mark each item to record actual construction, including:
 - 1.3.1.1. Measured depths of foundation in relation to finish floor datum.
 - 1.3.1.2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.
 - 1.3.1.3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 1.3.1.4. Field changes of dimension and detail.
 - 1.3.1.5. Details not on original Contract Drawings
 - 1.3.1.6. Changes made by modification(s).
 - 1.3.1.7. References to related Shop Drawings and modifications.
 - 1.3.1.8. Contractor will provide one set of Record Drawings to District.
 - 1.3.1.9. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

1.4. COMPLETION

- 1.4.1. Preliminary Procedures: Before requesting inspection for determining date of Completion, complete the following:

1.4.1.1. Submit a final Application for Payment according to the Contract Documents.

1.4.1.2. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

1.4.1.3. Instruction of District Personnel:

1.4.1.3.1. Before final inspection, at agreed upon times, Contractor shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.

1.4.1.3.2. For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six (6) months.

1.4.1.3.3. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

1.4.1.3.4. Contractor shall prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.4.1.3.5. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

1.4.2. Inspection: Submit a written request for inspection.

1.4.3. **LIST OF INCOMPLETE ITEMS (PUNCH LIST)** Contractor shall notify District and Architect when Contractor considers the Work complete. Upon notification, District and Architect will prepare a list of minor items to be completed or corrected ("Punch List").

1.4.4. Contractor and/or its Subcontractors shall proceed promptly to complete and correct items on the Punch List. Failure to include an item on Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

1.4.5. Contractor shall comply with Punch List procedures as provided herein and in the Contract Documents, and maintain the presence of a Project Superintendent and Project Manager until the Punch List is complete to ensure proper and timely completion of the Punch List. Under no circumstances shall Contractor demobilize its forces prior to completion of the Punch List. Upon receipt of Contractor's written notice that all of the Punch List items have been fully completed and the Work is ready for final inspection and acceptance, District and Architect will inspect the Work and shall submit to Contractor a final inspection report noting the Work, if any, required in order to reach Completion in accordance with the Contract Documents. Absent unusual

circumstances, this report shall consist of the Punch List items not yet satisfactorily completed and any additional Punch List items not originally included.

- 1.4.6. Upon Contractor's completion of all items on the Punch List and any other uncompleted portions of the Work, the Contractor shall notify the District and Architect, who shall again inspect such Work. If the District and Architect find the Work complete and acceptable under the Contract Documents, the District will notify Contractor, who shall then jointly submit to the Architect and District its final Application for Payment.
- 1.4.7. **Costs of Multiple Inspections.** More than two (2) requests of District to make a final inspection shall be considered an additional service of District, the Architect and/or the Inspector, and all subsequent costs will be invoiced to Contractor and withheld from remaining payments, if funds are available.
- 1.4.8. Punch List shall be deemed complete only upon the District's determination that all items on the Punch List, and all updates to the Punch List, are complete.

1.5. WARRANTIES

- 1.5.1. Submittal Time: Submit written warranties on request of District for designated portions of the Work where commencement of warranties other than date of Completion is indicated.
- 1.5.2. Organize warranty documents into an orderly sequence as required by the Division 01 Document "Warranties."

2. PRODUCTS

2.1. MATERIALS

- 2.1.1. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

3. EXECUTION

3.1. FINAL CLEANING

- 3.1.1. Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations. Contractor shall use cleaning methods and procedures that reduce the overall impact on human health and the natural environment by reducing the amount of disposed waste, pollution and environmental degradation. If Project is subject to LEED certification, Contractor shall ensure compliance with the applicable LEED requirements for final cleaning of the Site.
- 3.1.2. Contractor shall employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program.
 - 3.1.2.1. Complete the following cleaning operations before requesting final inspection:

- 3.1.2.1.1. Clean Project Site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
- 3.1.2.1.2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
- 3.1.2.1.3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
- 3.1.2.1.4. Remove tools, construction equipment, machinery, and surplus material from Project Site.
- 3.1.2.1.5. Remove snow and ice to provide safe access to building.
- 3.1.2.1.6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- 3.1.2.1.7. Clean all surfaces and other work in accordance with recommendations of the manufacturer.
- 3.1.2.1.8. Remove spots, mortar, plaster, soil, and paint from ceramic tile, stone, and other finish materials.
- 3.1.2.1.9. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- 3.1.2.1.10. Sweep concrete floors broom clean in unoccupied spaces.
- 3.1.2.1.11. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
- 3.1.2.1.12. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
- 3.1.2.1.13. Remove labels that are not permanent.
- 3.1.2.1.14. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 3.1.2.1.14.1. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

- 3.1.2.1.15. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - 3.1.2.1.16. Replace parts subject to unusual operating conditions.
 - 3.1.2.1.17. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - 3.1.2.1.18. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - 3.1.2.1.19. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - 3.1.2.1.20. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - 3.1.2.1.21. Leave Project Site clean and ready for occupancy.
- 3.1.3. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests.
 - 3.1.4. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on District's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project Site and dispose of lawfully.

END OF DOCUMENT

DOCUMENT 01 78 23

OPERATION AND MAINTENANCE DATA

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions, including, without limitation, Completion of the Work;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Submittals;
- 1.1.5. Contract Closeout and Final Cleaning;
- 1.1.6. Warranties;
- 1.1.7. Record Documents;
- 1.1.8. General Commissioning Requirements.

1.2. QUALITY ASSURANCE

- 1.2.1. Contractor shall prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.3. FORMAT

- 1.3.1. Contractor shall prepare data in the form of an instructional manual entitled "OPERATIONS AND MAINTENANCE MANUAL & INSTRUCTIONS" ("Manual").
- 1.3.2. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size. When multiple binders are used, Contractor shall correlate data into related consistent groupings.
- 1.3.3. Cover: Contractor shall identify each binder with typed or printed title "OPERATION AND MAINTENANCE MANUAL & INSTRUCTIONS"; and shall list title of Project and identify subject matter of contents.
- 1.3.4. Contractor shall arrange content by systems process flow under section numbers and sequence of the Table of Contents of the Contract Documents.
- 1.3.5. Contractor shall provide tabbed fly leaf for each separate Product and system, with typed description of Product and major component parts of equipment.

- 1.3.6. Text: The content shall include Manufacturer's printed data, or typewritten data on 24 pound paper.
- 1.3.7. Drawings: Contractor shall provide with reinforced punched binder tab and shall bind in with text; folding larger drawings to size of text pages.

1.4. CONTENTS, EACH VOLUME

- 1.4.1. Table of Contents: Contractor shall provide title of Project; names, addresses, and telephone numbers of the Architect, any engineers, subconsultants, Subcontractor(s), and Contractor with name of responsible parties; and schedule of Products and systems, indexed to content of the volume.
- 1.4.2. For Each Product or System: Contractor shall list names, addresses, and telephone numbers of Subcontractor(s) and suppliers, including local source of supplies and replacement parts.
- 1.4.3. Product Data: Contractor shall mark each sheet to clearly identify specific Products and component parts, and data applicable to installation. Delete inapplicable information.
- 1.4.4. Drawings: Contractor shall supplement Product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Contractor shall not use Project Record Documents as maintenance drawings.
- 1.4.5. Text: The Contractor shall include any and all information as required to supplement Product data. Contractor shall provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

1.5. MANUAL FOR MATERIALS AND FINISHES

- 1.5.1. Building Products, Applied Materials, and Finishes: Contractor shall include Product data, with catalog number, size, composition, and color and texture designations. Contractor shall provide information for re-ordering custom manufactured Products.
- 1.5.2. Instructions for Care and Maintenance: Contractor shall include Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- 1.5.3. Moisture Protection and Weather Exposed Products: Contractor shall include Product data listing applicable reference standards, chemical composition, and details of installation. Contractor shall provide recommendations for inspections, maintenance, and repair.
- 1.5.4. Additional Requirements: Contractor shall include all additional requirements as specified in the Specifications.
- 1.5.5. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.6. MANUAL FOR EQUIPMENT AND SYSTEMS

- 1.6.1. Each Item of Equipment and Each System: Contractor shall include description of unit or system, and component parts and identify function, normal operating characteristics, and limiting conditions. Contractor shall include performance curves, with engineering data and tests, and complete nomenclature, and commercial number of replaceable parts.
- 1.6.2. Panelboard Circuit Directories: Contractor shall provide electrical service characteristics, controls, and communications.
- 1.6.3. Contractor shall include color coded wiring diagrams as installed.
- 1.6.4. Operating Procedures: Contractor shall include start-up, break-in, and routine normal operating instructions and sequences. Contractor shall include regulation, control, stopping, shut-down, and emergency instructions. Contractor shall include summer, winter, and any special operating instructions.
- 1.6.5. Maintenance Requirements: Contractor shall include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- 1.6.6. Contractor shall provide servicing and lubrication schedule, and list of lubricants required.
- 1.6.7. Contractor shall include manufacturer's printed operation and maintenance instructions.
- 1.6.8. Contractor shall include sequence of operation by controls manufacturer.
- 1.6.9. Contractor shall provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- 1.6.10. Contractor shall provide control diagrams by controls manufacturer as installed.
- 1.6.11. Contractor shall provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- 1.6.12. Contractor shall provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- 1.6.13. Contractor shall provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- 1.6.14. Additional Requirements: Contractor shall include all additional requirements as specified in Specification(s).
- 1.6.15. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.7. SUBMITTAL

- 1.7.1. Concurrent with the Schedule of Submittals as indicated in the General Conditions, Contractor shall submit to the District for review two (2) copies of a preliminary draft of proposed formats and outlines of the contents of the Manual.
- 1.7.2. For equipment, or component parts of equipment put into service during construction and to be operated by District, Contractor shall submit draft content for that portion of the Manual within ten (10) days after acceptance of that equipment or component.
- 1.7.3. On or before the Contractor submits its final application for payment, Contractor shall submit two (2) copies of a complete Manual in final form. The District will provide comments to Contractor and Contractor must revise the content of the Manual as required by District prior to District's approval of Contractor's final Application for Payment.
- 1.7.4. Contractor must submit two (2) copies of revised Manual in final form within ten (10) days after receiving District's comments. Failure to do so will be a basis for the District withholding funds sufficient to protect itself for Contractor's failure to provide a final Manual to the District.

END OF DOCUMENT

DOCUMENT 01 78 36

WARRANTIES

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions, including, without limitation, Warranty/Guarantee/Indemnity;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Submittals;
- 1.1.5. Contract Closeout and Final Cleaning;
- 1.1.6. Operation and Maintenance Data;
- 1.1.7. Record Documents;
- 1.1.8. General Commissioning Requirements.

1.2. FORMAT

- 1.2.1. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size.
- 1.2.2. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list the title of Project.
- 1.2.3. Table of Contents: Contractor shall provide the title of Project; name, address, and telephone number of Contractor and equipment supplier, and name of responsible principal. Contractor shall identify each item with the number and title of the specific Specification, document, provision, or section in which the name of the Product or Work item is specified.
- 1.2.4. Contractor shall separate each Warranty with index tab sheets keyed to the Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible Subcontractor(s), supplier(s), and/or manufacturer(s), with name, address, and telephone number of each responsible principal(s).
- 1.2.5. In addition to all Warranty documentation and information required herein, Contractor shall provide its Guarantee as required by the Contract Documents.

1.3. PREPARATION

- 1.3.1. Contractor shall obtain Warranties, executed in duplicate by each applicable and/or responsible Subcontractor(s), supplier(s), and manufacturer(s), within ten (10) days after completion of the applicable item or Work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of Warranty until the date of Completion is determined.
- 1.3.2. Contractor shall verify that Warranties.
- 1.3.3. are in proper form, contain full information, and are notarized, when required.
- 1.3.4. Contractor shall co-execute submittals when required.
- 1.3.5. Contractor shall retain warranties until time specified for submittal.

1.4. TIME OF SUBMITTALS

- 1.4.1. Schedule of Warranties. Contractor shall provide District with a Schedule of Warranties at least fourteen (14) days prior to submitting its other required submittals indicated herein. This will provide District the opportunity to review the anticipated Warranties and make any comments, suggestions or revisions the District may require.
- 1.4.2. For equipment or component parts of equipment put into service during construction with District's permission, Contractor shall submit a draft Warranty for that equipment or component within ten (10) days after acceptance of that equipment or component.
- 1.4.3. On or before the Contractor submits its final application for payment, Contractor shall submit all Warranties and related documents in final form. The District shall indicate any Warranty-related Work that is being performed and incomplete at the time Contractor submits its final application for payment. District will provide comments to Contractor and Contractor must revise the content of the Warranties as required by District prior to District's approval of Contractor's final Application for Payment.
- 1.4.4. For items of Work that are not completed until after the date of Completion, Contractor shall provide an updated Warranty for those item(s) of Work within ten (10) days after acceptance, listing the date of acceptance as start of the Warranty period.

END OF DOCUMENT

DOCUMENT 01 78 39

RECORD DOCUMENTS

1. GENERAL

1.1. RELATED DOCUMENTS AND PROVISIONS

Contractor shall review all Contract Documents for applicable provisions related to the provisions in this document, including without limitation:

- 1.1.1. General Conditions, including, without limitation, Documents on Work and Completion of Work;
- 1.1.2. Special Conditions (if any);
- 1.1.3. Supplemental Conditions (if any);
- 1.1.4. Submittals;
- 1.1.5. Contract Closeout and Final Cleaning;
- 1.1.6. Operation and Maintenance Data;
- 1.1.7. Warranties;
- 1.1.8. General Commissioning Requirements.

2. RECORD DOCUMENTS OR DRAWINGS

2.1. GENERAL

- 2.1.1. "Record Documents" and "Record Drawings" may also be referred to in the Contract Documents as "As-Built Drawings."
- 2.1.2. As indicated in the Contract Documents, District will provide Contractor with one set of reproducible plans of the original Drawings.
- 2.1.3. Contractor shall maintain at each Project Site one (1) set of marked-up Drawings and shall transfer all changes and information to those marked-up Drawings, as often as required in the Contract Documents, but in no case less than once each month. Contractor shall submit to the Project Inspector one set of reproducible vellums of the Project Record Documents ("As-Built") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Built shall be available at the Project Site. The Contractor shall submit reproducible vellums at the conclusion of the Project following review of the blue-line prints.
- 2.1.4. Label and date each Record Document "RECORD DOCUMENT" in legibly printed letters.
- 2.1.5. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused, without limitation, by Change Orders, Construction Directives, RFI's, and Addenda shall be accurately and legibly recorded by Contractor.

- 2.1.6. Locations and changes shall be done by Contractor in a neat and legible manner and, where applicable, indicated by drawing a "cloud" around the changed or additional information.

2.2. **RECORD DOCUMENT INFORMATION**

- 2.2.1. Contractor shall record the following information:
 - 2.2.1.1. Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.
 - 2.2.1.2. Actual numbering of each electrical circuit.
 - 2.2.1.3. Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Drawings.
 - 2.2.1.4. Locations of all items, not necessarily concealed, which vary from the Contract Documents.
 - 2.2.1.5. Installed location of all cathodic protection anodes.
 - 2.2.1.6. Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.
 - 2.2.1.7. Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stubouts, invert elevations, etc.
 - 2.2.1.8. Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.
- 2.2.2. In some instances, this information may be recorded by dimension. In other instances, it may be recorded in relation to the spaces in the building near which it was installed.
- 2.2.3. Contractor shall provide additional Drawings as necessary for clarification.
- 2.2.4. Contractor shall provide in an electronic format as indicated in the Contract Documents, a copy of the Drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."
 - 2.2.4.1. With the District's prior approval, Contractor may provide these reproducible Drawings in hard copy.

3. **RECORD MATERIALS LOG**

- 3.1.1. Materials Log shall be submitted prior to Completion.
- 3.1.2. Preparation: Mark Material Log to indicate the actual product installation where installation varies from that indicated in original Material Log.

- 3.1.3. Give particular attention to information on concealed materials and installations that cannot be readily identified and recorded later.
- 3.1.4. Mark copy with the proprietary name and characteristics of products, materials, and equipment furnished, including substitutions and product options selected.
- 3.1.5. Record the name of the manufacturer, supplier, installer, and other information necessary to provide a record of selections made.
- 3.1.6. The working copy of Materials Log shall be consistently maintained throughout construction, and shall be accessible at Project Site.

4. MAINTENANCE OF RECORD DOCUMENTS

- 4.1. Contractor shall store Record Documents apart from documents used for construction as follows:
 - 4.1.1. Provide files and racks for storage of Record Documents.
 - 4.1.2. Maintain Record Documents in a clean, dry, legible condition and in good order.
- 4.2. Contractor shall not use Record Documents for construction purposes.

END OF DOCUMENT

EXHIBIT E AND F

DTSC - Check list and Standard Operating Procedure

APPENDIX E

INSPECTION CHECKLIST

APPENDIX E

INSPECTION CHECKLIST

Date		Inspector Name/Signature	
Inspection Frequency			

Area	Engineering Controls	Surface Condition OK?	Maintenance Required?	Comments	Corrective Action	
					Action Needed	Completion Date
Area G2 (Parking Lot Driveway Near Building E)	Asphalt covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area G3 (Near Back Fence Behind Building I)	Asphalt covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Near Back Fence Behind Building I)	Trees and soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Landscaped Area South of Building C)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Landscaped Area West of Library)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Under northeast corner of Building D)	Underneath Building D foundation	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Area Southeast Corner of Gym)	Covered with concrete	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Landscaped Area Southwest Corner of Gym)	Concrete 4" clean soil and trees	Yes ☐ No ☐	Yes ☐ No ☐			

APPENDIX E

INSPECTION CHECKLIST

Area	Engineering Controls	Surface Condition OK?	Maintenance Required?	Comments	Corrective Action	
					Action Needed	Completion Date
Area D1 (Sidewalk near Southwest Corner of Gym)	Sidewalk covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area B (South Wall of Shot Put Area)	Asphalt covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Landscaped Area Around Tennis Courts)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Landscaped Area North of Oak Grove Parking)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Landscaped Area West of Oak Grove Parking)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area D2 (Track Area Near Carolan Avenue)	Excavated to 24 inches, covered with woodchips	Yes ☐ No ☐	Yes ☐ No ☐			
Area F1 (Parkway on Carolan Avenue Near Track)	Concrete sidewalk covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area E (Front Lawn)	Buried wire mesh marks impacted soil, covered with grass or wood chips	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area F2 (Parkway on Carolan Avenue Near Front Lawn)	Concrete sidewalk or crushed rock (around trees) covers soil	Yes ☐ No ☐	Yes ☐ No ☐			

APPENDIX E

INSPECTION CHECKLIST

Area	Engineering Controls	Surface Condition OK?	Maintenance Required?	Comments	Corrective Action	
					Action Needed	Completion Date
Area H (Track and Field)	Synthetic brock truf system	Yes ☐ No ☐	Yes ☐ No ☐			

1. Areas are shown on Figures 2 through 5
2. Inspection should assess whether or not concrete has been disturbed or damaged, vegetation is healthy, wood chips are of appropriate thickness (see measuring points on Figure 2), bare soil is visible (Area C), and erosion is occurring.
3. Covering Thickness: Where indicated, measure the thickness (in inches) of the wood chips and/or clean soil covering the impacted soil.

APPENDIX F

STANDARD OPERATING PROCEDURE

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TABLES

ATTACHMENTS

LIST OF TABLES

**TABLE
NO.**

TITLE

1

Notice and Reporting Requirements of Arsenic-Intrusive Work

LIST OF ATTACHMENTS

<u>ATTACHMENT</u>	<u>TITLE</u>
--------------------------	---------------------

A	DTSC Fact Sheet on Import Fill Material
---	---

LIST OF ACRONYMS AND ABBREVIATIONS

<u>ACRONYM</u>	<u>DESCRIPTION</u>
CCR	California Code of Regulations
CEC	California Education Code
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
District	San Mateo Union High School District
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
H&SC	Health and Safety Code
LUC	Land Use Covenant
msl	mean sea level
NOE	Notice of Exemption
OSHA	Occupational Safety and Health Administration
O&M	Operation and Maintenance
PEA	Preliminary Endangerment Assessment
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
RAW	Remedial Action Workplan
Site	Burlingame High School (400 Carolan Avenue, Burlingame, CA)
SOP	Standard Operating Procedure
SSI	Supplemental Site Investigation

APPENDIX F
STANDARD OPERATING PROCEDURE FOR
ELEVATED ARSENIC CONCENTRATIONS IN
SOIL
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE
BURLINGAME, CALIFORNIA

1. INTRODUCTION

1.1. Objective

This document has been prepared to outline the Standard Operating Procedure (SOP) for repairs, construction or maintenance activities conducted by San Mateo Union High School District (District) personnel or subcontractors at Burlingame High School, located at 400 Carolan Avenue in Burlingame, California, (Site) that may disturb soil containing arsenic. This SOP presents the procedures to be followed when arsenic-intrusive work is to be conducted at the Site. An Operation & Maintenance (O&M) Plan was prepared for the Site. This SOP is to be included in the O&M Plan as an appendix.

1.2. Arsenic Hazard Summary

Arsenic, a naturally occurring element, is found throughout the environment. For most people, food is the major source of exposure. Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain); central and peripheral nervous system disorders have occurred in workers acutely exposed to inorganic arsenic. Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Chronic oral exposure has resulted in gastrointestinal effects,

anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans. Inorganic arsenic exposure in humans, by the inhalation route, has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. The United States Environmental Protection Agency (EPA) has classified inorganic arsenic as a Group A, human carcinogen.

1.3. Intrusive Work

O&M personnel will submit Site construction and maintenance work order requests to the Arsenic Coordinator (see Section 1.4.1). The Arsenic Coordinator will evaluate in writing whether or not activities described in the work orders are considered "non-arsenic-intrusive" or "arsenic-intrusive". "Arsenic-intrusive" activities are prohibited at the Site unless conducted in accordance with applicable provisions of this SOP. "Arsenic intrusive" work includes construction or maintenance work activities that disturb arsenic-containing soil, including but not limited to: digging, drilling, excavating, grading, repairing, removing, trenching, filling, or gardening that has the potential to open pathways for possible human exposures to arsenic (e.g., work in arsenic-containing soil, penetration of cap over arsenic-containing soil). If work is determined to be arsenic-intrusive, the Arsenic Coordinator will ensure that work practices are followed as specified in the approved SOP. The Arsenic Coordinator will provide advance notice of scheduled work to the California Department of Toxic Substance Control (DTSC) in accordance with the provisions in Section 2.1.

1.3.1. Non-Arsenic-Intrusive Work

Construction, repair, and/or maintenance activities at the Site are restricted by DTSC in accordance with the O&M Plan only when exposures to arsenic-containing soils are reasonably anticipated or when releases occur. Notification to DTSC of construction, repairs, and maintenance activities is not required unless arsenic soils are expected to be disturbed, or are inadvertently disturbed. "Non-arsenic-intrusive work" includes construction, repairs, and/or maintenance activities at the Site where exposure of arsenic-containing soils is not anticipated and where the integrity of engineered controls, such as hardscaped or landscaped caps, is not compromised (e.g., if part of the cap is

removed, it is replaced as part of the work). Non-arsenic-intrusive work includes work where the visual marker (wire mesh or plastic orange fence), if present, will not be penetrated or breached, even though work may be performed in upper layers of a cap system, e.g., clean fill. District policies require the following procedures be taken when conducting non-arsenic-intrusive work at the Site:

- The Arsenic Coordinator will provide information regarding location of cap systems and soils containing arsenic to selected contractors and O&M personnel to minimize likelihood of arsenic intrusion.
- The O&M Professional and/or O&M personnel will conduct inspections during construction and/or maintenance activities at the Site to verify arsenic-containing soils are not being disturbed.
- In the event that arsenic-containing soils are inadvertently disturbed, the integrity of engineered controls is compromised, or a visual marker is breached, the Arsenic Coordinator will be responsible for notifying DTSC and implementing the appropriate procedures in accordance with the provisions described in Section 1.3.2 of this SOP.

1.3.2. Arsenic-Intrusive Work

The following procedures are required by the District when performing arsenic-intrusive construction, repair or maintenance activities to: a) ensure that safeguards are in place to prevent or minimize arsenic exposures to Site occupants; b) prevent untrained or unauthorized personnel from performing intrusive work in arsenic areas; and c) restore the integrity of engineering controls (cap systems) if impaired or compromised by such activities.

The Arsenic Coordinator will oversee the following procedures for all arsenic-intrusive work performed by, or on behalf of, the District at the Site:

- Provide information regarding location of cap systems and locations of soil containing arsenic to selected contractors and District personnel.

- Verify that District employees and contractors performing arsenic-intrusive work have received the appropriate training (see Section 1.5).
- Require District employees and contractors to follow established site-specific health and safety requirements (see Section 4 of the O&M Plan) before starting arsenic-intrusive work.
- Require that construction and maintenance work be performed under and in accordance with a DTSC-approved SOP.
- Evaluate timelines and school and work schedules to ensure that arsenic-intrusive work is completed as soon as possible to minimize exposure risks.
- Require reasonable restrictions to Site access to reduce exposures to non-workers during arsenic-intrusive work.
- Implement dust control practices that utilize water.
- Manage arsenic-containing soils brought to the surface, if any, in accordance with the soil management plan (see Section 5.4) and in compliance with applicable, relevant and appropriate provisions of state and federal law.
- Comply with all applicable, relevant, and appropriate federal, state, and local requirements.

1.4. O&M Personnel

1.4.1. Arsenic Coordinator

Robin Clemens
Environmental, Health & Safety Specialist
San Mateo Union High School District
839 Hinckley Road
Burlingame, California 94010
650-558-2470 (office)
650-280-8114 (mobile)
rclemens@smuhds.org

O&M Plan

Operation & Maintenance Plan for Elevated Arsenic Concentrations in Soil

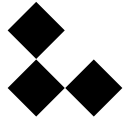
**Burlingame High School
400 Carolan Avenue
Burlingame, California**



**Prepared for:
San Mateo Union High School District
2 August 2021**

Project No. 29091-12-1000





Operation & Maintenance Plan for Elevated Arsenic Concentrations in Soil

**Burlingame High School
400 Carolan Avenue
Burlingame, California**

Updated – 2 August 2021

Prepared By:

J. Wesley Hawthorne, PE, PG

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LIST OF ACRONYMS AND ABBREVIATIONS

<u>ACRONYM</u>	<u>DESCRIPTION</u>
CCR	California Code of Regulations
CEC	California Education Code
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
District	San Mateo Union High School District
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
H&SC	Health and Safety Code
LUC	Land Use Covenant
msl	mean sea level
NOE	Notice of Exemption
OSHA	Occupational Safety and Health Administration
O&M	Operation and Maintenance
PEA	Preliminary Endangerment Assessment
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
RAW	Remedial Action Workplan
Site	Burlingame High School (400 Carolan Avenue, Burlingame, CA)
SOP	Standard Operating Procedure
SSI	Supplemental Site Investigation

OPERATION & MAINTENANCE PLAN FOR ELEVATED ARSENIC CONCENTRATIONS IN SOIL BURLINGAME HIGH SCHOOL 400 CAROLAN AVENUE BURLINGAME, CALIFORNIA

1. OPERATION & MAINTENANCE OVERVIEW

1.1. Introduction

This Operation and Maintenance (O&M) Plan has been prepared on behalf of the San Mateo Union High School District (District) for the cap and landscaping remedy installed at Burlingame High School (Site), located at 400 Carolan Avenue in Burlingame, San Mateo County, California. The site location is depicted on Figure 1. A copy of the Legal Description and Assessor's Parcel Map are provided in Appendix A. The O&M Plan presents the policies and procedures of the District for long-term operation, maintenance and monitoring of engineering controls and management of soils containing arsenic for the Site. This O&M Plan has been updated in accordance with the District's request to modify O&M procedures for the Site as described in the July 21, 2021 letter to DTSC, which was approved on July 26, 2021 by DTSC. The O&M Plan was modified previously to address comments by the DTSC, dated May 28, 2009, June 28, 2010, June 30, 2011, May 3, 2012, and May 12, 2015 regarding the previous drafts of the O&M Plan. DTSC's comments and the District's responses to those comments are provided in Appendix M.

Unacceptable concentrations of arsenic were identified in soil at the Site. As a result, engineering controls in the form of caps and additional landscaping were placed over soil containing unacceptable concentrations of arsenic to create barriers, preventing or greatly reducing exposures. Long-term remedy O&M activities are required to monitor and protect the caps and landscaping. Accordingly, the District and the DTSC have entered into an Agreement which requires the District to complete cleanup activities (which are now complete) and to implement an O&M Plan under DTSC oversight.

Arsenic-intrusive activities, as defined in Section 1, are prohibited at the Site unless conducted in accordance with applicable provisions of the O&M Plan.

Based on the DTSC approval (2009) and the DTSC clarification of the approval (2010) of the Remedial Action Completion Report Plan (Kleinfelder, 2009), the O&M Plan is being implemented. Response actions and long-term O&M activities will continue to be conducted under DTSC oversight, as required under the California Education Code (CEC), §17213.1 and §17213.2, and Health and Safety Code (H&SC), Division 20, Chapter 6.8, commencing with § 25300 et. seq. The final O&M Plan, as modified and/or approved by DTSC, will remain in effect until DTSC has released the District in writing from the required O&M Plan, as specified in Section 10.3.

1.2. O&M Plan Goal and Objectives

The primary goal of the O&M Plan is to prevent uncontrolled arsenic exposures and to protect the health of students, faculty, staff, O&M personnel, and visitors at the Site. In order to accomplish this goal, the O&M Plan will address the following objectives:

- minimize disturbances of arsenic-containing soils;
- describe the mitigation remedy, including installed cap systems;
- establish an inspection and monitoring program to identify areas of exposed arsenic-containing soils or damaged cap systems, and evaluate ongoing remedy effectiveness;
- provide for timely repair or replacement needed to restore damaged cap systems;
- train O&M inspectors, and other staff as needed, in personal health and safety protection and proper methods of inspection and repair of cap systems;
- provide for record-keeping of training, inspections, and repairs;
- provide for reporting to DTSC; and
- make O&M Plan available for public review, with copies maintained at the Site and the District office.

1.3. Arsenic Hazard Summary

Arsenic, a naturally occurring element, is found throughout the environment. For most people, food is the major source of exposure. Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain); central and peripheral nervous system disorders have occurred in workers acutely exposed to inorganic arsenic. Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Chronic oral exposure has resulted in gastrointestinal effects, anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans. Inorganic arsenic exposure in humans, by the inhalation route, has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. The United States Environmental Protection Agency (EPA) has classified inorganic arsenic as a Group A, human carcinogen.

1.4. O&M Personnel Roles and Responsibilities

The District will employ and designate the following key O&M personnel associated with implementation of the O&M Plan at the Site: Arsenic Coordinator, O&M Professional, and School Site Designee. The District will retain a qualified professional to conduct inspection training and a Competent Person (see Sections 4.2 and 7.4) to conduct arsenic awareness training. When necessary, the District will employ qualified contractors who will follow the Standard Operating Procedure (SOP) or a DTSC-approved revised SOP (as described in Section 7.3) to perform arsenic-intrusive work impacting the installed cap systems at the school site. Please see Appendix B, Matrix identifying O&M personnel roles and responsibilities. The District will notify DTSC within 14 days of any changes in the names, addresses, or telephone numbers for the key O&M personnel.

1.4.1. Arsenic Coordinator

Robin Clemens
San Mateo Union High School District
Environmental Health & Safety Specialist
839 Hinckley Road
Burlingame, California 94010
650-558-2470 (office)
650-280-8114 (mobile)
rclemens@smuhsd.org

The responsibilities of the Arsenic Coordinator are as follows:

- Implement the O&M Plan;
- Be familiar with Site conditions and cap systems installed at the school Site;
- Evaluate work orders to determine if work will be arsenic-intrusive;
- Oversee implementation of a DTSC-approved SOP for arsenic-intrusive work;
- Receive and submit all notices, comments, documents, reports, approvals, decisions and other communications to and from DTSC on behalf of the District for the Site;
- Identify and oversee provision of inspection training and arsenic awareness training;
- Maintain records (e.g., O&M inspection summary reports, completed inspections forms, training records, reports);
- Accompany O&M Professional during inspections as specified in Section 5;
- Ensure that identified repairs are completed on schedule;
- Submit to DTSC reports required under the O&M Plan, including Five-Year Review Reports, and Arsenic-Intrusive Work Completion/Incident Reports; and
- Ensure that issues pertaining to O&M are brought to the attention of the District's Board as appropriate, including requests for ongoing appropriations of funds and notification in the event that any exposures of arsenic occur at the Site.

In the event of the absence of the Arsenic Coordinator, his/her authority and responsibilities are delegated to:

E. Sergio Ramos Jr.
Facilities Manager
Burlingame High School
1 Mangini Way
Burlingame, CA 94010
650-280-3240 (phone)
eramos@smuhsd.org

1.4.2. O&M Professional

J. Wesley Hawthorne, P.E., P.G.
Project Manager
California P.E. License # 64452, P.G. License #7897
Locus Technologies
299 Fairchild Drive
Mountain View, California 94043
415-799-9937 (office)

hawthornej@locustec.com

The O&M Professional is a California-registered professional engineer or geologist pursuant to the California Business and Professions Code, Division 3, Chapter 7 or 12.5, and the California Code of Regulations (CCR), Title 16, Divisions 5 and 26. The O&M Professional has expertise in arsenic investigation and remediation and is familiar with the cap systems installed at the Site. To demonstrate expertise in arsenic investigation and remediation, the resume of the O&M Professional, and the statement of qualifications of the consulting firm responsible for his/her work, is included as Appendix C.

The responsibilities of the O&M Professional are as follows:

- Conduct inspections as specified in Section 5;
- Evaluate the performance of the remedial measures;
- Prepare and sign Completion Reports and Five-Year Review Reports; and
- Conduct other environmental professional work related to arsenic matters at the Site.

1.4.3. School Site Designee

Paul Belzer
Principal
Burlingame High School
1 Mangini Way
Burlingame, CA 94010
650-558-2800 (office)
pbelzer@smuhsd.org

The responsibilities of the School Site Designee are to:

- Ensure that all school staff with O&M roles have received appropriate training and direction;

- Ensure that activities which may potentially disturb arsenic-containing soils will not be conducted at the Site without the knowledge and approval of the Arsenic Coordinator; and
- Provide, as necessary, information to staff and parents concerning releases of arsenic at the Site.

1.4.4. DTSC Project Manager

Letitia Shen
Northern California Schools Evaluation Unit
Site Mitigation and Restoration Program
California Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826
916-255-3744 (office)
Letitia.Shen@dtsc.ca.gov

All communication to DTSC, including notices and reports, will be sent to the DTSC Project Manager.

1.5. O&M COST ESTIMATE

O&M care begins upon completion of remedy installation and will continue until this O&M Plan is terminated (see Section 10). As shown in Table 1, the routine annual O&M costs (in 2021 dollars) are estimated to be approximately \$13,000. Initial training is estimated to cost \$6,000. Ongoing training is anticipated to occur as part of the District's ongoing hazard awareness training and is not anticipated to add appreciably to those costs.

2. SITE DESCRIPTION

The Site, totaling approximately 22 acres, is described in Appendix A, Legal Description and Assessor's Parcel Map. The Site is identified as County Assessor's Parcel No. 029-141-010, and is located in the area generally bounded by Carolan Avenue to the southwest, Oak Grove Avenue to the northwest, Washington Park to the southeast, and residential development to the northeast in the city of Burlingame, San Mateo County (see Figure 1). The District is the current property owner.

The ground surface elevation of the site is approximately 21 feet above mean sea level (msl). The Site is relatively flat. Local terrain is slightly hilly, sloping to the northeast. The nearest major physiographic feature is the San Francisco Bay, located approximately ½ mile north of the site. The site is underlain by Urban Land and Orthents soils. Urban Land soils consist of areas where more than 85 percent of the surface is covered by asphalt, concrete, buildings, and other structures. Orthents soils consist of very shallow to very deep, well-drained soils on alluvial fans, coastal terraces, and hills. The soils formed in alluvium and residuum derived dominantly from hard to soft sandstone. Depth to groundwater at the site is estimated to be 10 feet below ground surface, and groundwater flow beneath the site is estimated to be generally toward the north.

As reported in the Phase I (Kleinfelder, 2001), the main building, several other buildings, and the track field were present on the site in 1921. A few additional buildings were present in 1959. The site appears to have operated as Burlingame High School since the original buildings were constructed.

2.1. Previous Site Investigations and Mitigation

Pursuant to the requirements of CEC §17213.1, the District conducted a Phase I Environmental Site Assessment in August of 2001, a Preliminary Endangerment Assessment (PEA) in January 2003, and soil sampling associated with Supplemental Site Investigations (SSIs) between December 2004 and March 2007. Each phase of the investigation of the Site was conducted under DTSC's oversight. A review of geological maps and soil surveys for the Site revealed that the Site is underlain by Older Alluvium (Orthents soils), consisting of very shallow to very deep, well-drained soils on alluvial fans,

coastal terraces, and hills formed in alluvium and residuum derived dominantly from hard or soft sandstone.

During the PEA, five soil samples were reported to contain concentrations of arsenic ranging from 3.9 to 144 milligrams per kilogram (mg/kg). Although DTSC approved the PEA, it expressed a concern regarding arsenic in soil at the site in e-mail in December 2003. Consequently, an SSI workplan was prepared to further define the extent of soil impacted with arsenic at the site.

The SSI consisted of soil sampling conducted during five different events between December 2004 and March 2007. Detected concentrations of arsenic ranged from 2.0 to 640 mg/kg.

Based on the PEA and SSI results, soil with elevated concentrations of arsenic was identified at the Site. The finding confirmed that the Site posed a potential threat to human health and the environment. As a result, DTSC determined on April 27, 2007, that further action was required at the Site to mitigate the potential hazard posed by the presence of soils containing arsenic.

Pursuant to the requirements of CEC, §17213.1, and H&SC, Chapter 6.8 of Division 20, the District conducted mitigation activities for the Site in accordance with a Remedial Action Workplan (RAW) approved by DTSC on November 7, 2007. Prior to its approval, DTSC circulated the draft RAW for public review and comment during a thirty-day period. As part of the approval process for the RAW, DTSC prepared a Notice of Exemption (NOE) pursuant to the California Environmental Quality Act (CEQA), Public Resources Code §21000 et. seq. The cleanup screening level determined for the site in the RAW is 19.7 mg/kg and is based on a graphical evaluation of normality plots using the majority of data collected at the site.

Between December 3, 2007, and November 7, 2008, the District conducted mitigation activities in accordance with the approved RAW, under DTSC's oversight. Mitigation activities at the Site included excavation and offsite disposal of soil; capping using imported clean fill material (soil or crushed rock), asphalt, or concrete; and additional landscaping to reduce the potential for future exposure to arsenic. Based on data provided by Greystone West, the District's construction manager, approximately 2,314 tons of soil was disposed as a non RCRA hazardous waste at the Buttonwillow Landfill in Buttonwillow, California, and approximately 1,380 tons of soil was disposed as a non-hazardous waste at the Altamont Landfill in Livermore, California.

Because unacceptable concentrations of arsenic remain in the soil on the Site, the selected remedy requires O&M activities to ensure long-term protection of human health.

2.2. Post-Mitigation Site Conditions

The District has constructed new buildings and renovated others on the Site as part of a modernization of the existing high school. A copy of the current site plan map is included as Figure 2. Areas where excavation occurred and potentially containing arsenic concentrations above the cleanup screening level based upon confirmation samples at the bottom and/or sidewalls of excavations are shown on Figures 2 through 5. Areas where sidewall soil samples had concentrations above the cleanup level but were not excavated further to preserve existing hardscape are shown on Figures 6 through 9. Arsenic concentrations in soil in remaining impacted areas of concern are summarized in Table 2.

The District has entered into a Land Use Covenant (LUC) and agreement to restrict the use of property. A LUC is required because there are hazardous substances remaining onsite at concentrations which do not allow for unrestricted use of the property. The LUC runs with the land pursuant to Health and Safety Code 25355.5 and Civil Code Section 1471. In addition, the District completes a LUC Report on an annual basis (July 1st to June 30th) to document the inspection of the capped areas, verifying compliance with the environmental restrictions stated in the LUC.

3. SUMMARY OF ENGINEERING CONTROLS – SELECTED CAP AND LANDSCAPE REMEDIES

In areas of the Site where soil containing arsenic concentrations greater than the cleanup screening level remain, engineering controls in the form of a hardscape cap, soil cap, or landscaping are used to reduce the potential for exposure to arsenic-containing soil. Hardscape caps consist of concrete and, in some cases, compacted aggregate base underneath the concrete. Soil caps consist of soil, decomposed granite, and/or $\frac{3}{4}$ inch crushed rock. Landscape systems consist of plants and wood chips intended to provide sufficient cover such that soil is not bare.

The engineering controls (i.e., cap and landscape systems) are discussed below and summarized in Table 3. The locations of these engineering controls are shown on Figures 2 through 5 and 9. Cross-sections of the engineering controls are depicted in Appendix K.

- **Area C:** Arsenic concentrations ranging from 11.6 mg/kg to 75.0 mg/kg have been detected in Area C soil. The landscape (i.e., plants, bark, or wood chips) in Area C in some areas and four inches of asphalt or concrete in other areas covers soil with elevated arsenic concentrations. In addition, a portion of Area C is covered by the east side of the Building D Wood Shop. Area C along the southeast and southwest sides of the gym is capped with concrete. The approximate extent of Area C is shown on Figure 2, with areas that include asphalt or concrete cover noted.
- **Area D2:** Confirmation sampling indicated that arsenic concentrations ranging from 54 mg/kg to 370 mg/kg remain in portions of the base of the excavation near the scoreboard. The approximate extent of these areas is shown on Figure 3. These areas are covered by approximately 24 inches of clean soil and decomposed granite. The interface between native soil containing elevated arsenic concentrations and clean backfill (soil) placed during remedial activities is marked with buried orange plastic fence.
- **Area E:** Arsenic concentrations ranging from 2.8 mg/kg to 531 mg/kg have been detected in Area E soil. The approximate extent of Area E is shown on Figure 4. This area is covered by

approximately 3 - 14 inches of clean soil, topped with grass or wood chips. The cap is thickest at the locations of the irrigation pipe shown on the as-built drawing provided in Appendix D. The interface between native soil containing elevated arsenic concentrations and clean backfill (soil) placed during remedial activities is marked with buried wire mesh.

- **Area F1:** Sampling indicates that arsenic concentrations ranging from 8.1 mg/kg to 480 mg/kg remain in Area F1, the City easement along Carolan Avenue in front of the track and softball field. The approximate extent of Area F1 is depicted on Figure 3. This area is covered by approximately 4 inches of concrete (sidewalk) or 4 inches of concrete overlying 4 inches of compacted aggregate base (parkway), for a total cap thickness of approximately 4 to 8 inches. In areas with aggregate base under the concrete (i.e., the parkway), buried, orange plastic fence marks the interface between clean backfill (aggregate base) placed during remedial activities and native soil containing elevated arsenic concentrations.
- **Area F2:** Sampling indicates that arsenic concentrations ranging from 3.8 mg/kg to 630 mg/kg remain in Area F2, the City easement along Carolan Avenue in front of the front lawn. The approximate extent of Area F2 is depicted on Figure 4. Except for areas around trees, this area is covered by approximately 4 inches of concrete (sidewalk) or 4 inches of concrete overlying 4 inches of compacted aggregate base (parkway), for a total cap thickness of approximately 4 to 8 inches. In areas with aggregate base under the concrete (i.e., the parkway), buried, orange plastic fence marks the interface between clean backfill (aggregate base) placed during remedial activities and native soil containing elevated arsenic concentrations. The areas around trees in Area F2 are capped by a layer of ¾-inch crushed rock, approximately 4 inches thick. The interface between native soil containing elevated arsenic concentrations and clean backfill (crushed rock) placed during remedial activities is marked with buried, orange plastic fence and geotextile fabric.
- **Area G3:** Confirmation sampling indicates that arsenic concentrations ranging from 5.1 mg/kg to 280 mg/kg remain on the floor of the excavation in Area G3, near the back fence behind Building I. The approximate extent of Area G3 is depicted on Figure 5. This area is covered by approximately 4 inches of asphalt.

- **Area H:** Sampling indicates that arsenic concentrations ranging from 10 to 70 mg/kg remain in the native soil underlying approximately 12 inches of synthetic turf material in the northern part of the field. The track area is covered by synthetic “Brock” turf system comprised of a synthetic fiber, infill material, carpet backing, synthetic composite underlayment, geotextile liner and compacted baserock layer over compacted native subgrade. Additional arsenic samples collected south of Area H range from 9.8 to 15 mg/kg. The approximate extent of Area H is shown on Figure 9. The analytical data is included in Appendix N.

Three additional areas of concern where excavation was conducted but some sidewall soil samples contained concentrations of arsenic above the Site cleanup screening level have been identified. These three areas have existing hardscape present that will act as a cap over the area where the sidewall samples were collected. The engineering controls for these areas (i.e., existing cap and landscape systems) are discussed below and also summarized in Table 3. The locations of these areas are shown on Figures 6 through 8.

- **Area B:** Confirmation sampling indicates only one sidewall sample (B-SC-3 collected at 16 inches below ground surface) exceeded the cleanup level of 19.7 mg/kg. A visual barrier, consisting of orange, plastic construction fence, was placed on the south wall prior to backfilling.
- **Area D1:** Confirmation sampling indicates that of the bottom and sidewall samples, only one sidewall sample (D-SC-4 collected at 12 inches below ground surface) exceeded the cleanup level of 19.7 mg/kg. A visual barrier, consisting of orange, plastic construction fence, was placed on the east wall of the excavation near the gym prior to backfilling.
- **Area G2:** Confirmation sampling indicates that of the bottom and sidewall samples, only two sidewall samples (G-SC-65 collected at 11 inches below ground surface and G-SC-67 collected at 12 inches below ground surface) exceeded the cleanup level of 19.7 mg/kg. A visual barrier, consisting of orange, plastic construction fence, was placed vertically on the east wall of the excavation prior to backfilling the excavation.

All areas of concern are shown on Figure 2. Two other areas were identified in the Arsenic RAW: Area A (the courtyards behind the main building) and the portion of Area G along the property fence

northeast of the lacrosse field (Area G1). It should be noted that, based on confirmation soil sampling, excavation in these areas removed soil containing arsenic concentrations greater than the cleanup screening level that was located within these defined areas. Consequently, these areas are not included among areas requiring engineering controls. Although areas of the Site outside of Areas C, D1, D2, E, F1, F2, G2, G3, and H are not covered by this O&M Plan, it is recommended that care still be taken to assess and mitigate risks of arsenic exposure if Site soil is to be disturbed.

Appendix L provides tables and figures from past reports that summarize arsenic data at the Site.

4. TRAINING

4.1. Arsenic Awareness Training Requirements

All existing and future new District maintenance and custodial staff (e.g., landscapers, custodians, electricians, plumbers, and grounds crew) who may come into contact with arsenic-containing soils at the Site will be required to participate in an initial arsenic awareness training. In addition, an arsenic-awareness topic shall be included in the existing District annual hazard awareness training.

District contractors who may come into contact with arsenic-containing soils at the Site will be required to have 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training with a current 8-hour refresher, in accordance with Code of Federal Regulations (CFR), Title 29, § 1910.120(e)(3)(ii) and California Code of Regulations (CCR), Title 8, § 5192(e)(3)(B). The District will provide these contractors site specific information related to arsenic concentrations and locations.

Training provided to O&M employees will be commensurate with the work class and shall include, among other topics, Site arsenic locations and health effects associated with arsenic exposure. Upon completion of training, O&M employees should have familiarity with appropriate hazard controls and work practices to avoid disturbing arsenic-containing soil and to mitigate arsenic exposures (such as use of wet methods for dust suppression; protective clothing; dust or arsenic monitors; respirators; proper cleanup and disposal; and decontamination of equipment and clothing).

Arsenic awareness training will be documented in Five-Year Reports.

4.2. Arsenic Awareness Trainer Requirements

The District will designate a Competent Person to carry out training requirements for O&M personnel.

A "Competent Person" is one who:

- is capable of identifying existing and predictable conditions in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees

- is also capable of identifying existing arsenic hazards at the Site, and selecting the appropriate control strategy for arsenic exposure
- has authority to take prompt corrective measures to eliminate such identified hazards

The Competent Person may be an arsenic consultant, safety officer or technician familiar with the hazards posed by inorganic arsenic. The Competent Person may utilize the assistance of the O&M Professional or other trained professionals as appropriate.

4.3. Arsenic O&M Inspection Training

A designated professional will conduct arsenic inspection training. The curriculum for arsenic inspection training will include, but not be limited to, the following subjects: overview of O&M Plan; descriptions and locations of onsite mitigation measures/engineering controls; required inspection locations; recognition of deteriorated, eroded or damaged engineering controls; inspection checklist completion; standard operating procedure (SOP) (see Appendix F); outline of policies and procedures for intrusive O&M work (see Appendices F and G), maintenance and repairs; documentation of repairs; roles and responsibilities of O&M personnel; contact list of responsible persons.

New maintenance staff employees assigned to the Site will attend arsenic inspection training prior to performing inspections at the Site.

Arsenic O&M inspection training will be documented in Five-Year Reports.

5. O&M INSPECTIONS

5.1. Annual Inspections

Arsenic engineering controls will be inspected annually by the O&M Coordinator. The purpose of this inspection is to identify and review completion of required repairs, changes in site conditions or usage, descriptions of onsite construction activities, or other significant information relating to the arsenic engineering controls that may have taken place over the previous twelve months. Inspection should assess whether or not concrete has been disturbed or damaged, vegetation is healthy, wood chips are of appropriate thickness (see measuring points on Figure 2), bare soil is visible (Area C), and erosion is occurring.

To ensure that no control measures are overlooked, a checklist for the specific control measures and their locations must be completed for each inspection (see Appendix E, Inspection Checklist for Arsenic Mitigation Measure Areas). During inspections, items flagged for required maintenance will have a specified action date for completion of required repairs. The Arsenic Coordinator is responsible for follow-up review to ensure that identified repairs are completed on schedule.

Inspection reports will be maintained at the Site and in the District administrative files. All inspection records will be available for DTSC and public review. A schedule for inspections and reports over the next five years is summarized in Table 5.

5.2. Inspections for Unplanned Events

District employees will also conduct inspections of engineering controls during or immediately following unplanned events, such as fires, broken utility lines, floods and/or heavy rain, seismic events, etc., where caps may be compromised and arsenic soils may be exposed. "Heavy" rain is defined as rainfall exceeding one inch in one hour in the Burlingame region. "Significant" seismic events are defined as earthquakes of a magnitude exceeding 5.0 on the Richter scale and whose epicenter is within 100 miles of the site. The Arsenic Coordinator will ensure that all inspections and required repairs or maintenance are documented, and incorporate such documents into the following Five-Year Report.

The Arsenic Coordinator will notify DTSC of any failures, i.e., compromised cap integrity or possible arsenic exposures, of the engineering controls resulting from unplanned events that are not repaired within 14 days of discovery. Notification of DTSC is also required where it is necessary to perform repairs under a modified or new SOP, or the repairs exceed 7 days in duration. Such notifications will include a proposed schedule for completion of required repairs and maintenance. Notification and reporting requirements for unplanned work are summarized in Table 4.

6. FIVE-YEAR REVIEW

Five-Year Reviews will be conducted to evaluate ongoing remedy effectiveness where hazardous materials, such as arsenic, remain in place. The purpose of five-year reviews is to determine whether the remedy: a) remains protective of human health and the environment; b) is functioning as designed; and c) is maintained appropriately by O&M activities. Each Five-Year Review will be conducted by the O&M Professional, who will prepare and sign the Five Year Review report, following the outline in Appendix I to summarize his/her findings and conclusions.

The Arsenic Coordinator will notify DTSC at least 14 days in advance of each Five-Year Review inspection. The first Five-Year Review inspection will be completed approximately five years after DTSC approval of the Closure Report and the O&M Plan, and all subsequent Five-Year Review inspections will be completed at approximately five-year intervals thereafter.

Arsenic engineering controls will be inspected by the O&M Professional in the same manner as in the annual inspection; see Section 5.1 above. The purpose of the five-year inspection is to identify and review completion of required repairs, changes in site conditions or usage, descriptions of onsite construction activities, or other significant information relating to the arsenic engineering controls that may have taken place over the previous five years.

During inspections, items flagged for required maintenance will have a specified action date for completion of required repairs. The Arsenic Coordinator is responsible for follow-up review to ensure that identified repairs are completed on schedule, and will sign-off in the completion blocks of the inspection reports.

Each Five-Year Review Report will be submitted to DTSC for review and approval within 60 days after completion of the five-year inspection, in accordance with Section 8.4. The District will perform additional Arsenic investigation, monitoring, and/or mitigation as required by DTSC based upon the findings of each Five-Year Review report.

The community will be informed (a) at the beginning of the Five-Year Review to inform the community that the review will be conducted and (b) at the end of the Five-Year Review to inform

the community of the conclusions and recommendations from the Five-Year Review. Contents of community notifications will include those items specified in Appendix O.

A schedule for the next Five-Year Inspection and Five-Year Review Report is summarized in Table 5.

7. INTRUSIVE WORK ACTIVITIES

O&M personnel will submit Site construction and maintenance work order requests to the Arsenic Coordinator. The Arsenic Coordinator will evaluate in writing whether or not activities described in the work orders are considered "non-arsenic-intrusive" or "arsenic-intrusive". "Arsenic-intrusive" activities are prohibited at the Site unless conducted in accordance with applicable provisions of the O&M Plan. "Arsenic-intrusive" work includes construction or maintenance work activities that disturb arsenic-containing soils, including but not limited to: digging, drilling, excavating, grading, repairing, removing, trenching, filling, or gardening that has the potential to open pathways for possible human exposure to arsenic (e.g., work in arsenic-containing soil, penetration of cap over arsenic-containing soil). If work is determined to be arsenic-intrusive by the Arsenic Coordinator, the Arsenic Coordinator will ensure that work practices are followed as specified in Sections 7.2, 7.3, and 7.4 of the O&M Plan. The Arsenic Coordinator will provide advance notice of scheduled work to DTSC in accordance with provisions in Section 8.1.

7.1. Non-Arsenic-Intrusive Work

Construction, repair, and/or maintenance activities at the Site are restricted by DTSC in accordance with the O&M Plan only when exposures to arsenic-containing soils are reasonably anticipated or when releases occur. Notification to DTSC of construction, repairs, and maintenance activities is not required unless arsenic soils are expected to be disturbed, or are inadvertently disturbed. "Non-arsenic-intrusive work" includes construction, repairs, and/or maintenance activities at the Site where exposure of arsenic-containing soils is not anticipated and where the integrity of engineered controls, such as hardscaped or landscaped caps, is not compromised (e.g., if part of the cap is removed, it is replaced as part of the work). Non-arsenic-intrusive work includes work where the visual marker (wire mesh or plastic orange fence), if present, will not be penetrated or breached, even though work may be performed in upper layers of a cap system, e.g., clean fill. District policies require the following procedures be taken when conducting non-arsenic-intrusive work at the Site:

- The Arsenic Coordinator will provide information regarding location of cap systems and soils containing arsenic to selected contractors and O&M personnel to minimize likelihood of arsenic intrusion.
- The O&M Professional and/or O&M personnel will conduct inspections during construction and/or maintenance activities at the Site to verify arsenic-containing soils are not being disturbed.
- In the event that arsenic-containing soils are inadvertently disturbed, the integrity of engineered controls is compromised, or a visual marker is breached, the Arsenic Coordinator will be responsible for notifying DTSC and implementing the appropriate procedures in accordance with the provisions described in Section 7.2.

7.2. Arsenic-Intrusive Work

The following procedures are required by the District when performing arsenic-intrusive construction, repair or maintenance activities to: a) ensure that safeguards are in place to prevent or minimize arsenic exposures to Site occupants; b) prevent untrained or unauthorized personnel from performing intrusive work in arsenic areas; and c) restore the integrity of engineering controls (cap systems) if impaired or compromised by such activities.

The Arsenic Coordinator will oversee the following procedures for all arsenic-intrusive work performed by, or on behalf of, the District at the Site:

- Provide information regarding location of cap systems and locations of soil containing arsenic to selected contractors and District personnel.
- Verify that District employees and contractors performing arsenic-intrusive work have received the appropriate training (see Section 1).
- Require District employees and contractors to follow established site-specific health and safety requirements (see Section 7.4) before starting arsenic-intrusive work.
- Require that construction and maintenance work be performed under and in accordance with a DTSC-approved SOP (see Appendix F).

- Evaluate timelines and school and work schedules to ensure that arsenic-intrusive work is completed as soon as possible to minimize exposure risks.
- Require reasonable restrictions to Site access to reduce exposures to non-workers during arsenic-intrusive work.
- Implement dust control practices that utilize water.
- Manage arsenic-containing soils brought to the surface, if any, in accordance with the soil management plan in the SOP (see Appendix F) and in compliance with applicable, relevant and appropriate provisions of state and federal law. A table and chart summarizing the total vs. leachable arsenic concentrations are provided in Appendix J of the O&M Plan.
- Comply with all applicable, relevant and appropriate federal, state, and local requirements.

Notification and reporting requirements are summarized in Table 4.

7.3. Standard Operating Procedure (SOP)

Whenever possible, arsenic-intrusive construction or maintenance work activities will be conducted in accordance with the DTSC-approved SOP (see Appendix F).

The SOP identifies procedures to be followed for arsenic-intrusive work, including:

- limitation on site access as appropriate;
- monitoring requirements;
- required notification to DTSC;
- documentation requirements;
- work area delineation and security;
- health and safety requirements;
- management of excavated soils, including dust control and soil segregation;
- decontamination procedures for excavation equipment and workers;
- stormwater control;

- soil staging requirements;
- loading, transportation, and disposal requirements for soil requiring offsite disposal;
- visual marker repair, cap repair, and fill replacement procedures, including temporary measures;
- evaluation and use of new fill materials; and
- work completion inspections.

If site conditions are not adequately addressed in the pre-approved SOP, modification or revision of the SOP may be required. For example, the SOP does not include provisions for conducting air monitoring at fence lines, or use of a meteorological air station. If such air monitoring is subsequently determined to be required, a modified or new SOP specifying such procedures would be submitted in advance for DTSC's review.

7.4. Health and Safety Requirements

The District will designate a Competent Person to conduct an exposure assessment at the initiation of any construction operation to ascertain where arsenic concentrations in soil may exceed the Site cleanup screening level (19.7 mg/kg) during that operation. A "Competent Person" is one who:

- is capable of identifying existing and predictable conditions in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;
- is capable of selecting the appropriate control strategies for arsenic exposure; and
- has authority to take prompt corrective measures to eliminate such identified hazards.

The Competent Person may be a consultant, safety officer or technician familiar with sampling techniques and arsenic in soil. The Competent Person may utilize the assistance of the O&M Professional or other trained professionals as appropriate. All personnel performing the O&M activities specified in the O&M Plan will be responsible for operating in compliance with the most current requirements of:

- Title 8, California Code of Regulations, §5192 (8 CCR 5192)

- Title 29, Code of Federal Regulations, §1910.120 (29 CFR 1910.120), "Standards for Hazardous Waste Operations and Emergency Response (HAZWOPER)"
- Other pertinent requirements (e.g., local ordinances, etc.)

Site-specific health and safety requirements will be identified for the Site under the supervision of the Competent Person in accordance with current health and safety standards as specified by the federal and California OSHA agencies. These requirements will be addressed in a Health and Safety Plan (HASP) that identifies proposed arsenic-intrusive work activities, and specifies site characteristics, current conditions, history, physical and chemical hazards, and methods of handling and controlling arsenic so as to prevent or minimize exposures.

Personnel who perform arsenic-intrusive work at the site must follow these requirements. Contractors doing fieldwork in association with this O&M Plan will either adopt and abide by these site-specific requirements or develop their own health and safety plans, which, at a minimum, meet the site-specific requirements. A copy of a "Plan Acceptance Form" will be included in the HASP; onsite personnel will read the requirements and sign the "Plan Acceptance Form" before starting the specified arsenic-intrusive work.

A medical surveillance program is recommended for personnel performing arsenic-intrusive work. Employers are required to establish a medical surveillance program for employees who are or will be exposed to arsenic at or above the PEL of 0.01 mg/m³

8. NOTIFICATION, RECORDKEEPING, AND REPORTING

The Arsenic Coordinator will notify DTSC and others when required, maintain records of training provided to O&M personnel, compile appropriate information, and develop and submit the following reports to DTSC:

- completion reports for arsenic-intrusive work and
- Five-Year Review reports.

These requirements are discussed in more detail below. Reports will be provided in portable document format (PDF) for posting to EnviroStor and will meet the guidelines of Appendix P.

8.1. Notification to DTSC for Arsenic-Intrusive Work

Activities that disturb arsenic-containing soil are restricted by DTSC in accordance with the approved O&M Plan. The Arsenic Coordinator will submit notice to DTSC in accordance with the requirements below.

Notification and reporting requirements for arsenic-intrusive work are summarized in Table 4.

8.1.1. Notification Timeframes

Arsenic-intrusive work activities require notification to DTSC prior to the commencement of work, as described below. Table 4 summarizes the notice and reporting requirements for arsenic-intrusive work.

Notification to DTSC is not required for the following activities at the Site:

- Non-arsenic-intrusive work; and
- Arsenic-intrusive work (a) for which the projected duration is less than seven days from start to completion, (b) which will follow the SOP, and (c) which is either (1) unplanned work completed within 14 days of discovery of need for work or (2) planned work.

Notification to DTSC by the Arsenic Coordinator is required for other activities as follows:

- Notify DTSC 14 days in advance if the activities are for arsenic-intrusive work, are anticipated to exceed seven days in duration from start to completion, and will follow the SOP.
- Notify DTSC at least 14 days in advance if the activities are for arsenic-intrusive work, and will follow a modified SOP. DTSC's approval of the modified SOP will be obtained prior to implementation of work.
- Notify DTSC at least 30 days in advance if the activities are for arsenic-intrusive work and will follow a new SOP. DTSC's approval of the new SOP will be obtained prior to implementation of work.
- Notify DTSC of unplanned work (i.e., work resulting from an unplanned event, such as a broken sewer line) if not repaired within 14 days of discovery of need for work, if work takes longer than 7 days, or if performed using a modified or new SOP. Notify DTSC as soon as it is apparent that (a) the work will not be performed within 14 days of discovery, (b) the work will go longer than 7 days, or (c) use of a modified or new SOP is required.

8.1.2. Notice Format

Written communication to DTSC may be submitted via e-mail or hard-copy letter to the DTSC project manager. The notice will include the Site name and address, contact information for those in charge of the work, a description of planned activities (including work to be done, what engineering controls will be disturbed and how they will be repaired, and the amount of soil to be disposed), identification of the work area(s), projected start and end dates, and the pre-approved (or modified or new) SOP to be used.

8.2. Public Right to Know

8.2.1. Notification to School Community Members

The Arsenic Coordinator will notify the school community members (faculty, staff and parents) prior to the start of planned arsenic-intrusive work. The format of the notification will be at the discretion of the Arsenic Coordinator but shall include, at a minimum, the following information:

- Nature and extent of work;
- Schedule (start time and projected completion date); and

- Mitigation measures that will be implemented to prevent potential arsenic exposure.

8.2.2. Notification to Contractor and District Personnel

The contractor and/or District maintenance personnel performing arsenic-intrusive work at the Site will have the following information provided to them prior to performing the work:

- Thickness/type of cap systems at the proposed work location;
- Potential arsenic concentrations expected at proposed work location; and
- Presence or absence of a warning barrier above the arsenic-containing soil.

8.3. Completion Report for Arsenic-Intrusive Work

For arsenic-intrusive work that requires notification of DTSC (see Section 8.1.1), a Completion Report documenting arsenic-intrusive work activities will be prepared by the O&M Professional and include the following information:

- date(s) work performed;
- work location, with maps and figures;
- work activities performed, including restoration of engineering controls where necessary;
- work practices taken to prevent potential exposures;
- variance or modifications (if any) of the approved SOP; and
- summary of finished site conditions.

The format for Completion Reports will follow the outline in Appendix G. Completion reports will be submitted to DTSC within 60 days of the conclusion of the work. Requirements for submitting Completion Reports to DTSC are summarized in Table 4. The O&M Professional will incorporate the Completion Reports for arsenic-intrusive work conducted into the following Five-Year Report.

8.4. Five-Year Review Reports

The Arsenic Coordinator will submit each Five-Year Review report to DTSC for review and approval within 60 days after completion of each scheduled Five-Year Inspection. Five-Year Review reports will be maintained in files at the Site and District, in accordance with Section 8.5.

The Five-Year Review report will follow the format in Appendix I to summarize remedy effectiveness in the five-year period. The Five-Year Report will identify incidents or problems with the engineering controls, and will evaluate system and component performance, effectiveness, and protectiveness. The Five-Year Review report will state conclusions and make recommendations for changes, if any, needed to maintain remedy protectiveness. Five-Year Review reports will include the following components: Introduction; Site Background; Physical Setting; Site Chronology; Removal Actions; Five-Year Review Process; Technical Assessment; Issues; Conclusions; Recommendations and Cost Impacts.

Five-Year Review Reports will include the following:

- copies and a summary of the signed periodic inspection checklists completed during the reporting period;
- documentation of training performed during the reporting period;
- results of the annual visual inspection and an evaluation of the condition of cap materials and landscaping remaining over the soil containing elevated arsenic concentrations;
- if necessary, description of actions taken during the reporting period, including:
 - repairs to the installed cap or landscape remedies that were identified and carried out,
 - significant changes in site conditions or usage, e.g., paving, grading, utility trenching, playgrounds, or picnic areas, and
 - additional onsite construction or other significant information that may relate to the installed cap or landscape remedies or impact their function, e.g., installation of portable buildings or maintenance facilities;
- copies of work orders and Completion Reports for arsenic-intrusive work (see Section 1 of the O&M Plan) including emergencies during the reporting period;
- description of maintenance or repairs identified as needed during the annual inspections;
- recommendations for O&M Plan modifications, if appropriate;

- description of actions planned or expected to be undertaken before the next five-year review that will impact the engineering controls in place;
- recommendations concerning any repairs to the installed engineering controls that are still needed;
- photographs depicting site conditions with brief identifying captions or descriptions (e.g., "View looking east across the capped soccer field");
- conclusions regarding the ongoing effectiveness of the engineering controls; and
- documentation of additional arsenic investigation, monitoring and/or mitigation activities required by DTSC.

The Five-Year Review Report will also include a Technical Assessment and evaluation of the ongoing protectiveness of the remedy during the Five-year review. This evaluation will address the following questions:

- Is the remedy functioning as intended at the Site by the remedy selection decision documents?
- Are the removal action objectives, goals, and criteria used at the time of the remedy selection still valid?
- Have there been any significant changes in the distribution or concentration of the subsurface arsenic at the Site?
- Has other information come to light that could call into question the protectiveness of the remedy?
- Are modifications needed to make the O&M Plan more effective?

8.5. Recordkeeping and Record Retention

Documentation records (e.g., data, completed forms, reports, and other documents) prepared under the O&M Plan will be maintained in chronological order by the Arsenic Coordinator in the District administrative offices and at the school site. The records will be available for inspection upon request by the public and DTSC representatives. The records will include, but are not limited to:

- Completed checklists for annual inspections, unplanned event inspections, and arsenic-intrusive work inspections;
- Completion Reports for arsenic-intrusive work and five-year review reports;
- Photographs associated with the above;
- Records of training for Arsenic Awareness and arsenic inspections
 - Arsenic training sessions will be logged and recorded for the administrative record, and documented in the Five-Year Report submitted to DTSC
 - At a minimum, the log will identify the name of the company providing the training, instructor's name and title and qualifications, names and signatures of staff persons attending training, with staff job title, and date(s) of training
- Records of personal air monitoring and perimeter air sampling for arsenic concentrations during construction and maintenance work activities, if any;
- Records of public inquiries for information about arsenic at the Site; and
- Investigation and Mitigation Documents, e.g., PEA, RAW, Removal Action Completion Report, O&M Agreement, and O&M Plan.

Records will be preserved by Arsenic Coordinator for a minimum of 7 years after the conclusion of each relevant activity. The Arsenic Coordinator will notify DTSC in writing at least six (6) months prior to destroying documents prepared pursuant to the O&M Plan. If requested by DTSC, the Arsenic Coordinator will make requested documents available for review or copy.

Because of the potential volume of paper that could be generated or stored, the Arsenic Coordinator may elect to maintain paper copies of the previous 12 months reports and the latest five-year report, if applicable, and keep the rest as electronic files (e.g., in pdf format). DTSC's Administrative Record for the Site is available for public inspection during office hours at the following DTSC location:

Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200
Attention: Letitia Shen

9. SITE ACCESS

Upon request, access to the Site will be arranged and provided by the Arsenic Coordinator at reasonable times to DTSC representatives.

10. VARIANCE, MODIFICATION, AND TERMINATION OF O&M PLAN

The Arsenic Coordinator may seek variance, modification, and/or termination of the O&M Plan at any time during the life cycle of the cap remedy. "Variance" refers to possible release from specific individual O&M Plan requirements for a limited time period, while "modification" refers to permanent revision of specific individual O&M Plan requirements. DTSC may allow variance, modification or termination of the O&M Plan if DTSC determines that:

- such variance, modification or termination is protective of public health and safety and the environment; or
- it is either not feasible or not appropriate to continue the O&M Plan as a component of the remedy selected for the Site.

10.1. O&M Plan Variance

The Arsenic Coordinator may apply to DTSC for a written variance from the provisions of the O&M Plan. DTSC will evaluate each request, and will grant a variance request only after determining that such a request would be protective of human health and the environment.

10.2. O&M Plan Modifications

When long-term performance of the selected cap remedies has been confirmed, the Arsenic Coordinator may apply to DTSC to modify the requirements of the O&M Plan based on site-specific monitoring results and conditions. Additionally, DTSC reserves the right to independently initiate appropriate O&M Plan modifications. As a result, DTSC may require the following O&M Plan modifications:

- changes in the frequency of O&M activities;
- modification, replacement, or addition of components to the O&M Plan if O&M activities fail to achieve the O&M objectives of protecting public health, safety and the environment; or

- evaluation, design, construction, and/or operation of additional remedial measures to achieve the O&M objectives.

10.3. Termination of O&M Plan

Based on review of a Five-Year Review Report, DTSC may determine whether the cap remedy has met either of the following performance criteria required for termination of O&M activities:

- availability of new scientific information resulting in changes or modifications to DTSC's technical criteria for evaluating unacceptable risk levels of arsenic concentrations in soils; or
- change in land use, where the Site is no longer used as an educational facility.

As required by H&SC §25359.7, prior to the sale, lease or sublease of the Site, or any portion thereof, the Arsenic Coordinator will provide the buyer, lessee, or sub-lessee with notice that arsenic-containing soils are located on or beneath the Site,.

DTSC will notify the Arsenic Coordinator in writing when continued O&M activities for the cap remedies are no longer required. Because caps are not anticipated to have adverse impacts on building foundation systems or other components, removal and/or decommissioning of the caps following termination of the O&M activities will not be required by DTSC.

11. REFERENCES

- California Code of Regulations (CCR), Title 8, § 5192(e)(3)(B)
- Code of Federal Regulations (CFR), Title 29, § 1910.120(e)(3)(ii)
- Department of Toxic Substances Control (DTSC), 2009. Approval of Remedial Action Completion Report, Burlingame High School, 400 Carolan Avenue, Burlingame, California, August 31.
- DTSC, 2010. Clarification on the Approval Letter of the Remedial Action Completion Report, Burlingame High School, 400 Carolan Avenue, Burlingame, California, May 6.
- DSTC, 2021. Approval of the Request to Modify Updated Operations and Maintenance Plan, San Mateo Union High School District, Burlingame High School, 400 Carolan Avenue, Burlingame, San Mateo County, California (Project code: 204083), July 26.
- Kleinfelder, 2001. Phase I Environmental Site Assessment Report, Burlingame High School, 400 Carolan Avenue, Burlingame, California, September 21.
- Kleinfelder, 2003. Preliminary Endangerment Assessment Report, Burlingame High School, 400 Carolan Avenue, Burlingame, California, July 22.
- Kleinfelder, 2007a. Supplemental Site Investigation Report for Arsenic, Burlingame High School, 400 Carolan Avenue, Burlingame, California, April 5.
- Kleinfelder, 2007b. Final Remedial Action Work Plan for Arsenic, Burlingame High School, 400 Carolan Avenue, Burlingame, California, November 14.
- Kleinfelder, 2009. Final Remedial Action Completion Report for Arsenic, Burlingame High School, 400 Carolan Avenue, Burlingame, California, August 5.
- Kleinfelder, 2010. Operation and Maintenance Plan for Elevated Arsenic Concentrations in Soil, Burlingame High School, 400 Carolan Avenue, Burlingame, California, December 3.
- Locus, 2012. 2011 Annual Arsenic Inspection Summary Report, Burlingame High School, 400 Carolan Avenue, Burlingame, California, January 2012
- Locus, 2012a. Arsenic Intrusive Work Completion Report – Athletic Field & Former Building D, Burlingame High School, 400 Carolan Avenue, Burlingame, California, April 13.

San Mateo Union High School District, 2021. Follow-up Request to Modify Operations and Maintenance Plan 2015 Update Burlingame High School, 400 Carolan Avenue, Burlingame, California 94010, July 21.

TABLES

TABLE 1
ANNUAL O&M COST ESTIMATE
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

Item	Hours	Hourly Rate	Annual Cost
Scheduled Inspections (by school staff)		LS	\$3,000
Five-Year Inspection (by consultant)	10 hours every 5 years	\$140/hour	\$280
Report Preparation (by consultant)	40 hours every 5 years	\$140/hour	\$1,120
DTSC Oversight	10 hours/year	\$225/hour	\$2,250
Projected Costs (periodic repairs and maintenance)		LS	\$6,000
Total Annual O&M Cost Estimate (Rounded)			\$13,000

Notes:

- 1) The above cost estimate is in 2018 dollars and should be adjusted for inflation in future years, as appropriate.
- 2) Initial training is estimated to cost \$6,000. Ongoing training is anticipated to occur as part of the District's ongoing hazard awareness training and is not anticipated to add appreciably to those costs.
- 3)LS= Lump Sum

TABLE 2
SUMMARY OF REMAINING ARSENIC CONCENTRATIONS IN SOIL IN AREAS OF CONCERN
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

Area/Sample ID	Date	Depth (Inches)	Concentration (mg/kg)
Area C			
SSI-1-1	12/20/2004	1	53.8
SSI-1-19	12/20/2004	19	74.4
C-11-3.5	2/23/2005	3.5	30.7
C-11-21	2/23/2005	21	55.6
C-12-3.5	2/23/2005	3.5	52.9
C-12-9	2/23/2005	9	31.6
C-13-3.5	2/23/2005	3.5	45.2
C-13-24	2/23/2005	24	11.6
D-2-2.5	6/3/2005	3	27.4
D-2-12	6/3/2005	12	39.3
D-3-3	6/3/2005	3	34.6
D-3-12	6/3/2005	12	51.5
D-7-5	6/3/2005	5	42.3
D-7-9	6/3/2005	9	41.8
D-9-3	6/3/2005	3	61.3
D-9-12	6/3/2005	12	70.2
D-9-24	6/3/2005	24	75.0
Area D2			
D-BC-8	2/13/2008	25 ⁽¹⁾	54
D-SC-8E	2/13/2008	11	15
D-SC-8-N	2/13/2008	11 ⁽¹⁾	290
D-SC-8W	2/13/2008	14 ⁽¹⁾	370
D-BC-9	2/13/2008	23	4.0
D-SC-9E	2/13/2008	11.5	6.0
D-BC-10	2/13/2008	36	210
D-SC-10E	2/13/2008	18.0	5.6
D-BC-11	2/14/2008	28.0	2.5
D-SC-11E	2/14/2008	14.0	4.4
D-BC-12	2/14/2008	23.0	5.9
D-SC-12E	2/14/2008	11.5	37
Area E			
SSI-4-24	12/20/2004	24	2.80
SSI-5-24	12/20/2004	24	9.55
C-1-4	2/23/2005	4	168
SC-1-6	4/1/2005	6	185
SC-1-12	4/1/2005	12	83.0
SC-1-18	4/1/2005	18	56.8
C-1-24	2/23/2005	24	8.51
C-2-3.5	2/23/2005	3.5	43.7
SC-2-6	4/1/2005	6	119
SC-2-12	4/1/2005	12	8.04
C-2-24	2/23/2005	24	4.01
C-3-3	2/23/2005	3	53.6
SC-3-6	4/1/2005	6	39.4

TABLE 2
SUMMARY OF REMAINING ARSENIC CONCENTRATIONS IN SOIL IN AREAS OF CONCERN
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

Area/Sample ID	Date	Depth (Inches)	Concentration (mg/kg)
Area E (cont.)			
SC-3-12	4/1/2005	12	15.8
C-3-24	2/23/2005	24	5.2
C-4-3	2/23/2005	3	70.4
SC-4-6	4/1/2005	6	54.2
SC-4-12	4/1/2005	12	10.8
C-4-24	2/23/2005	24	4.96
C-5-3	2/23/2005	3	64.8
SC-5-6	4/1/2005	6	105
SC-5-12	4/1/2005	12	10.5
C-5-24	2/23/2005	24	5.95
C-6-4	2/23/2005	4	201
SC-6-6	4/1/2005	6	79.2
SC-6-12	4/1/2005	12	24.1
SC-6-18	4/1/2005	18	4.98
C-6-24	2/23/2005	24	12.4
C-7-3.5	2/23/2005	3.5	265
SC-7-6	4/1/2005	6	354
SC-7-12	4/1/2005	12	147
C-7-24	2/23/2005	24	247
C-8-3.5	2/23/2005	3.5	531
SC-8-6	4/1/2005	6	365
SC-8-12	4/1/2005	12	344
SC-8-18	4/1/2005	18	6.19
C-8-24	2/23/2005	24	195
C-9-3	2/23/2005	3	307
SC-9-6	4/1/2005	6	365
SC-9-12	4/1/2005	12	222
C-9-24	2/23/2005	24	187
C-10-3	2/23/2005	3	31.9
SC-10-6	4/1/2005	6	39.1
SC-10-12	4/1/2005	12	19.0
C-10-24	2/23/2005	24	2.91
F-16-3	3/22/2007	3	140
F-16-12	3/22/2007	12	36
F-17-3	3/22/2007	3	37
F-17-12	3/22/2007	12	4.8
F-20-3	3/22/2007	3	60
F-20-12	3/22/2007	12	32
BHS-A-09052017	9/5/2017	-	82
BHS-B-09052017	9/5/2017	-	12
BHS-C-09052017	9/5/2017	-	30
BHS-D-09052017	9/5/2017	-	55
Area F1			
F-BC-1	2/21/2008	8	370
F-BC-2	2/21/2008	8	480
F-BC-3	2/21/2008	8	89
F-BC-4	2/21/2008	8	22
F-BC-5	2/21/2008	8	8.1
F-BC-6	2/21/2008	8	300
F-BC-7	4/2/2008	8	150
F-BC-8	4/2/2008	8	330
F-BC-9	4/2/2008	8	240

TABLE 2
SUMMARY OF REMAINING ARSENIC CONCENTRATIONS IN SOIL IN AREAS OF CONCERN
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

Area/Sample ID	Date	Depth (Inches)	Concentration (mg/kg)
Area F2			
F-BC-10	4/2/2008	8	220
F-BC-11	4/2/2008	8	47
F-BC-12	4/8/2008	8.5	18
F-BC-13	4/8/2008	8.5	160
F-BC-14	4/8/2008	8.5	8.7
F-BC-15	4/8/2008	8.5	44
F-BC-16	4/8/2008	8.5	530
F-BC-17	4/8/2008	8.5	3.8
F-BC-18	4/15/2008	8.5	100
F-BC-19	4/15/2008	8.5	32
F-BC-20	4/15/2008	8.5	630
F-BC-21	4/15/2008	8.5	620
F-BC-22	4/15/2008	8.5	76
F-BC-23	4/15/2008	8.5	520
F-BC-24	4/15/2008	8.5	190
Area G3			
G-BC-68	11/3/2008	5	5.1
G-BC-69	11/3/2008	6	280
G-BC-70	11/3/2008	6	100
G-BC-71	11/3/2008	6	55
Area H			
D-ZONE-WEST 0-18"	7/14/2011	0 - 18	15.0
WEST 20 YARS LINE 0-18"	7/14/2011	0 - 18	9.8
EAST 20 YARS LINE 0-18"	7/14/2011	0 - 18	20
D-ZONE-EAST 0-12"	7/14/2011	0 - 12	70
COMPOSITE ⁽²⁾	7/14/2011	-	21
C-BHS-A-J2016	7/29/2016	-	47
C-BHS-B-J2016	7/29/2016	-	21
C-BHS-C-J2016	7/29/2016	-	10
C-BHS-D-J2016	7/29/2016	-	25
Areas of Concern Based on Sidewall Samples Covered with Existing Hardscape			
Area B			
B-BC-1	2/13/2008	36 ⁽¹⁾	2.3
B-BC-2	2/13/2008	36 ⁽¹⁾	4.0
B-BC-3	2/13/2008	36 ⁽¹⁾	5.5
B-SC-3	2/13/2008	16	92
Area D1			
D-BC-1	1/21/2008	22	2.8
D-BC-2	1/21/2008	26	4.4
D-SC-3	1/31/2008	12	15
D-SC-4	1/31/2008	12	28
D-SC-5	1/31/2008	12	5.9
D-SC-6	1/31/2008	12	2.2
D-SC-7	1/31/2008	12	2.4
Area G2			
G-BC-64	3/12/2008	26	5.4
G-SC-64	3/12/2008	13	17
G-BC-65	3/12/2008	22	4.2
G-SC-65	3/12/2008	11	77
G-BC-66	3/12/2008	24	4.4
G-SC-66	3/12/2008	12	14
G-BC-67	3/12/2008	17	5.0
G-SC-67	3/12/2008	12	85

Notes:

All samples except the samples from Area H were analyzed at Torrent Laboratory in Milpitas, California. Samples from Area H were analyzed in TestAmerica Laboratories, Inc., Pleasanton, CA

Sample concentrations above the Cleanup Screening Level (CSL) of 19.7 mg/kg are indicated in **bold**.

"BC" indicates sample is from bottom of excavation (e.g., B-BC-3).

"SC" indicates sample is from sidewall of excavation (e.g., B-SC-3).

mg/kg = milligrams per kilogram

⁽¹⁾ Rough estimate.

⁽²⁾ On July 14, 2011 four soil samples were collected from Area H, and composited into one sample (4:1 composite)

TABLE 3
SUMMARY OF CAP AND LANDSCAPE SYSTEMS
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

Area	Cap Thickness (inches)	Material	Extent (acres)	Marker (orange plastic or wire mesh)
Area B (Shot Put Area) - Based only on sidewall samples	Thickness not determined	Existing asphalt	Unknown	Yes - vertically along wall at southern end
Area C (Landscaped Areas Throughout Campus)	NA - Plant density	vegetation or wood chips	0.5	No
Area C (Along the South Side of Gym)	4	Concrete	Unknown	No
Area D1 (Northeast Corner of Track Near gym) - Based only on sidewall samples	24	Existing Hardscape - soil and decomposed granite	Unknown	Yes - vertically along wall at eastern end
Area D2 (Southeast of Track Near Carolan Avenue)	24	soil and decomposed granite	0.02	Yes (at appropriate floors and walls of excavation)
Area E (Front Lawn)	3	soil	2	Yes (at floor of excavation and irrigation trenches floor and sidewalls)
Area F1 (City Easement Along Carolan Avenue in Front of Track and Softball Field)	4 – 8	concrete (with aggregate base in some places)	0.1	Yes (only at floor of excavation in parkway, not under sidewalk)
Area F2 (City Easement Along Carolan Avenue in Front of Front Lawn)	4 – 8	concrete (with aggregate base in some places) or crushed rock (around trees)	0.2	Yes (only at floor of excavation in parkway, not under sidewalk)
Area G3 (Near Back Fence)	6	Asphalt	0.02	Yes (at floor of excavation)
Area G2 (East of Building F)	Thickness not determined	clean soil vegetaion/wood chips	Unknown	Yes - vertically along eastern edge
Area H (Track)	12"	Synthetic "Brock" turf system comprised of a synthetic fiber, infill material, carpet backing, synthetic composite underlayment, geotextile liner and compacted baserock layer over compacted native subgrade.	1.15	No

Notes:

- 1) All areas are shown on Figures 2 through 9.

TABLE 4
NOTICE AND REPORTING REQUIREMENTS FOR ARSENIC-INTRUSIVE WORK
STANDARD OPERATING PROCEDURE
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

	Planned Work ≤ 7 Calendar Days in Duration	Planned Work > 7 Calendar Days in Duration	Unplanned Work Completed ≤ 14 Calendar Days After Discovery and ≤ 7 Days in Duration	Unplanned Work Completed > 14 Calendar Days After Discovery or > 7 Days in Duration
Using Approved SOP	Notification not required. Document in Five-Year Report.	Notify DTSC at least 14 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notification not required. Document in Five-Year Report.	Notify DTSC as soon as apparent work will take more than 7 days or be completed more than 14 days after discovery. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.
Using Modified SOP	Notify DTSC at least 14 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC at least 14 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work will require modified SOP. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work (a) will required modified SOP, (b) will take more than 7 days or (c) be completed more than 14 days after discovery. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.
Using New SOP	Notify DTSC at least 30 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC at least 30 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work will require new SOP. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work (a) will required new SOP, (b) will take more than 7 days or (c) be completed more than 14 days after discovery. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.

TABLE 5
INSPECTION AND REPORTING SCHEDULE
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

Event	Due Date
2021 Annual Inspection	July 2021.
2022 Annual Inspection	July 2022.
2023 Annual / Five-Year Inspection	July 2023.
2023 Five-Year Report	60 days after 2023 Inspection
2024 Annual Inspection	July 2024.
2025 Annual Inspection	July 2025.
2026 Annual Inspection	July 2026.
2027 Annual Inspection	July 2027.
2028 Annual / Five-Year Inspection	July 2028.
2028 Five-Year Report	60 days after 2028 Inspection

FIGURES

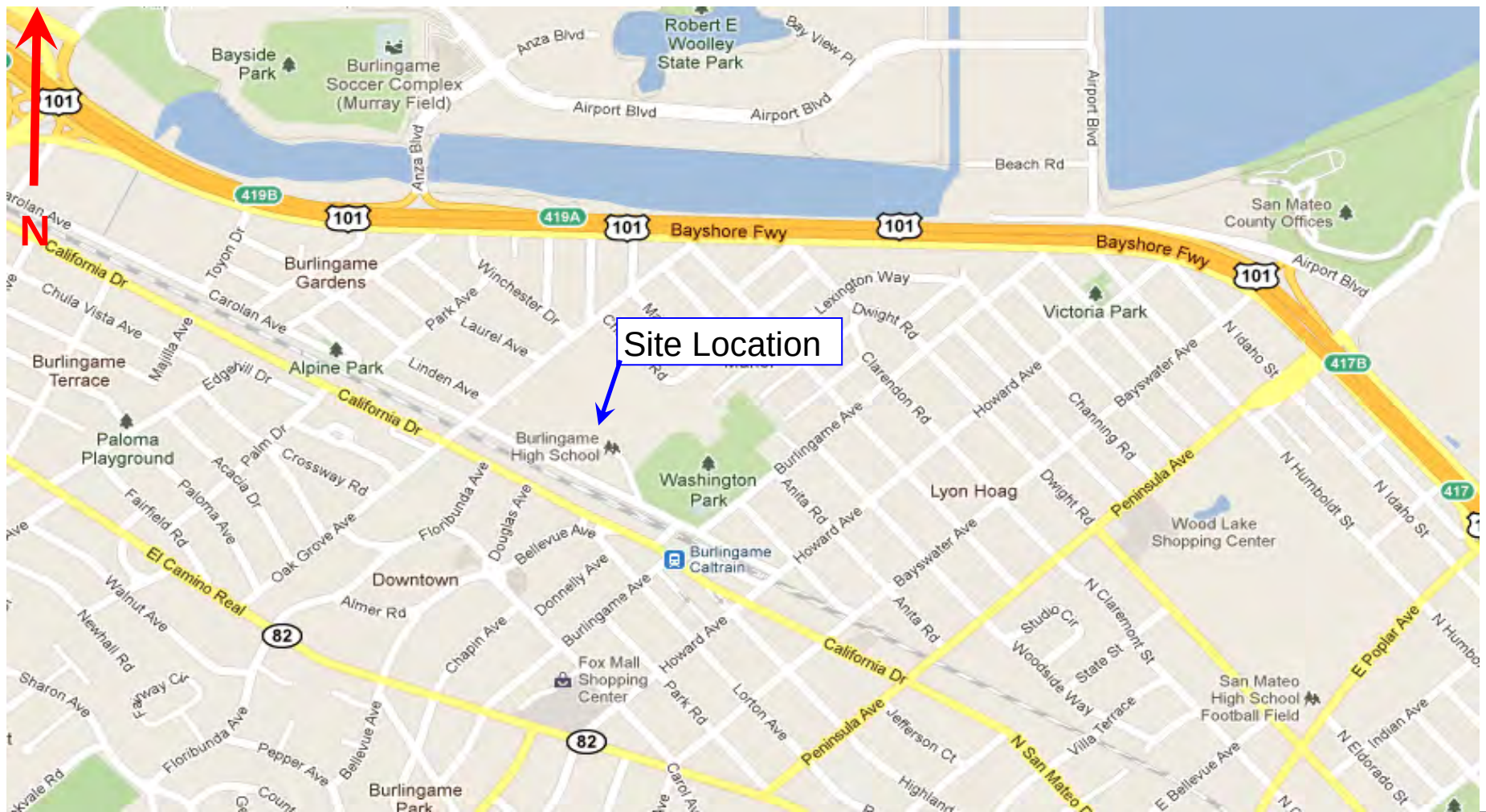
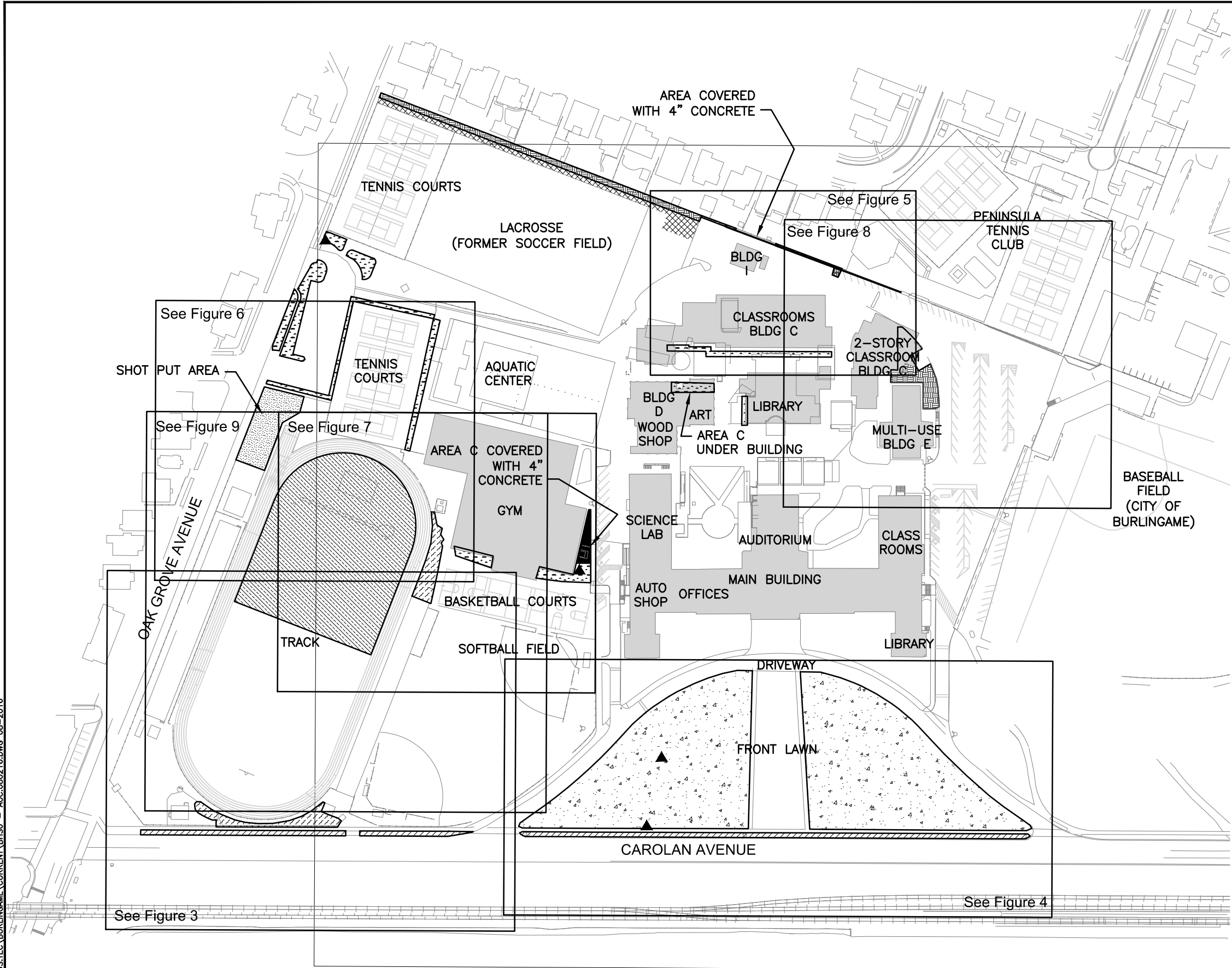


Figure 1

Site Vicinity Map
Burlingame High School
400 Carolan Avenue
Burlingame, California

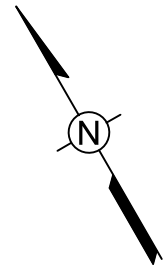


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LEGEND

- BUILDING
- MEASURING POINT
- AREA B
- AREA C
- AREA D1 AND D2
- AREA E
- AREA F1 AND F2
- AREA G1, G2, AND G3
- AREA H
- CONCRETE



AREAS OF CONCERN
AREA C
PREPARED FOR

BURLINGAME HIGH SCHOOL

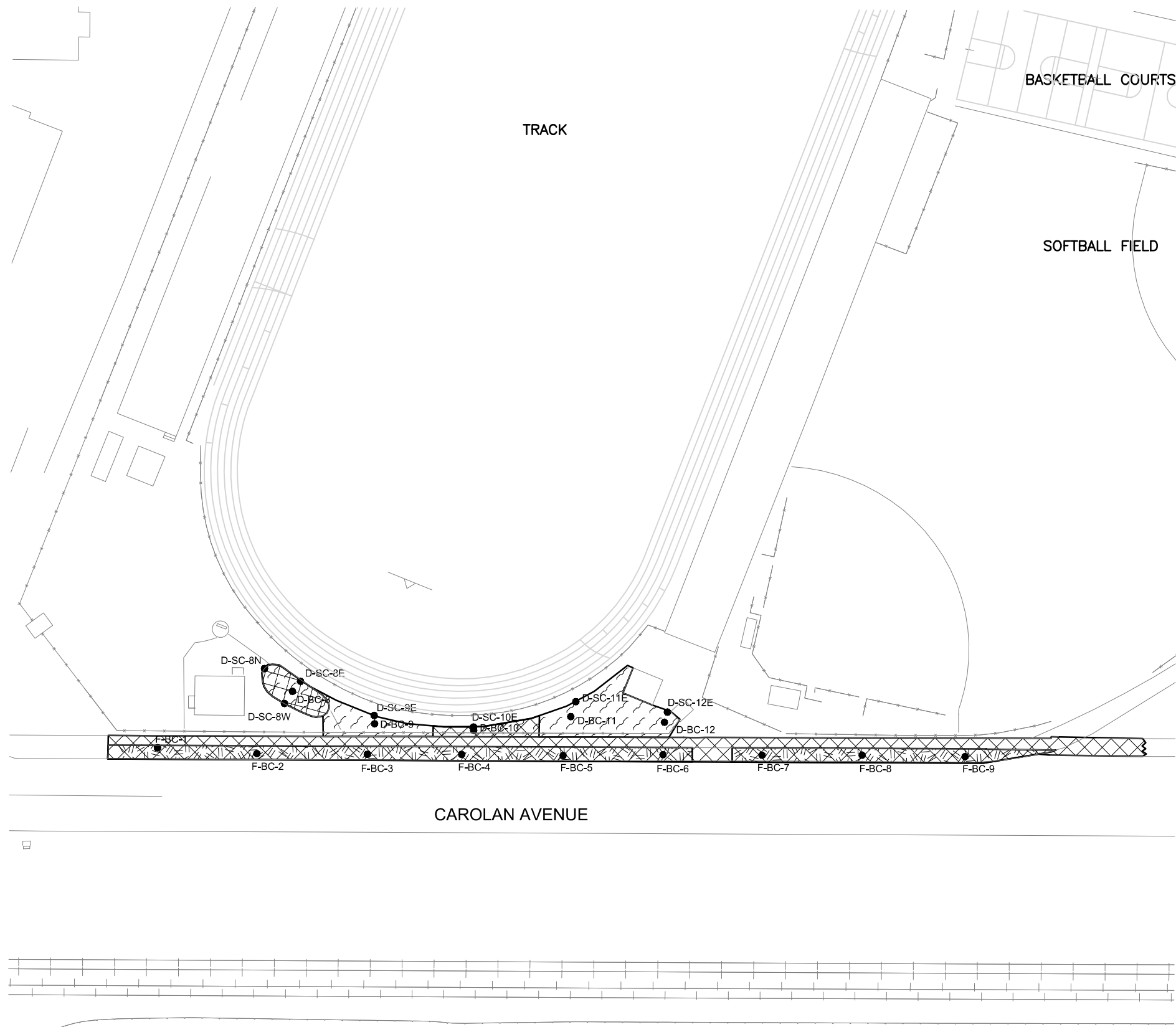


3	08/02/16	REVISED PER LM	CCSI	AJK	
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY



DRAWING NO.	29091-11-1000
FIGURE 2	

FILE NAME: Z:\LOCUS\TEC\BURLINGAME\CURRENT\BHS0 - AOC.DWG 08-2011



LEGEND



BUILDING



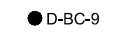
AREA D2 EXCAVATED TO APPROXIMATELY
24 INCHES BELOW GROUND SURFACE



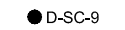
AREA F1 EXCAVATED TO APPROXIMATELY
8 INCHES BELOW GROUND SURFACE



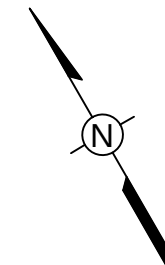
AREA CONTAINING ARSENIC CONCENTRATIONS
ABOVE CLEANUP SCREENING LEVEL



● D-BC-9 BOTTOM CONFIRMATION SAMPLE



● D-SC-9 SIDEWALL CONFIRMATION SAMPLE



REMAINING AREAS OF CONCERN
AREAS D2 AND F1

PREPARED FOR

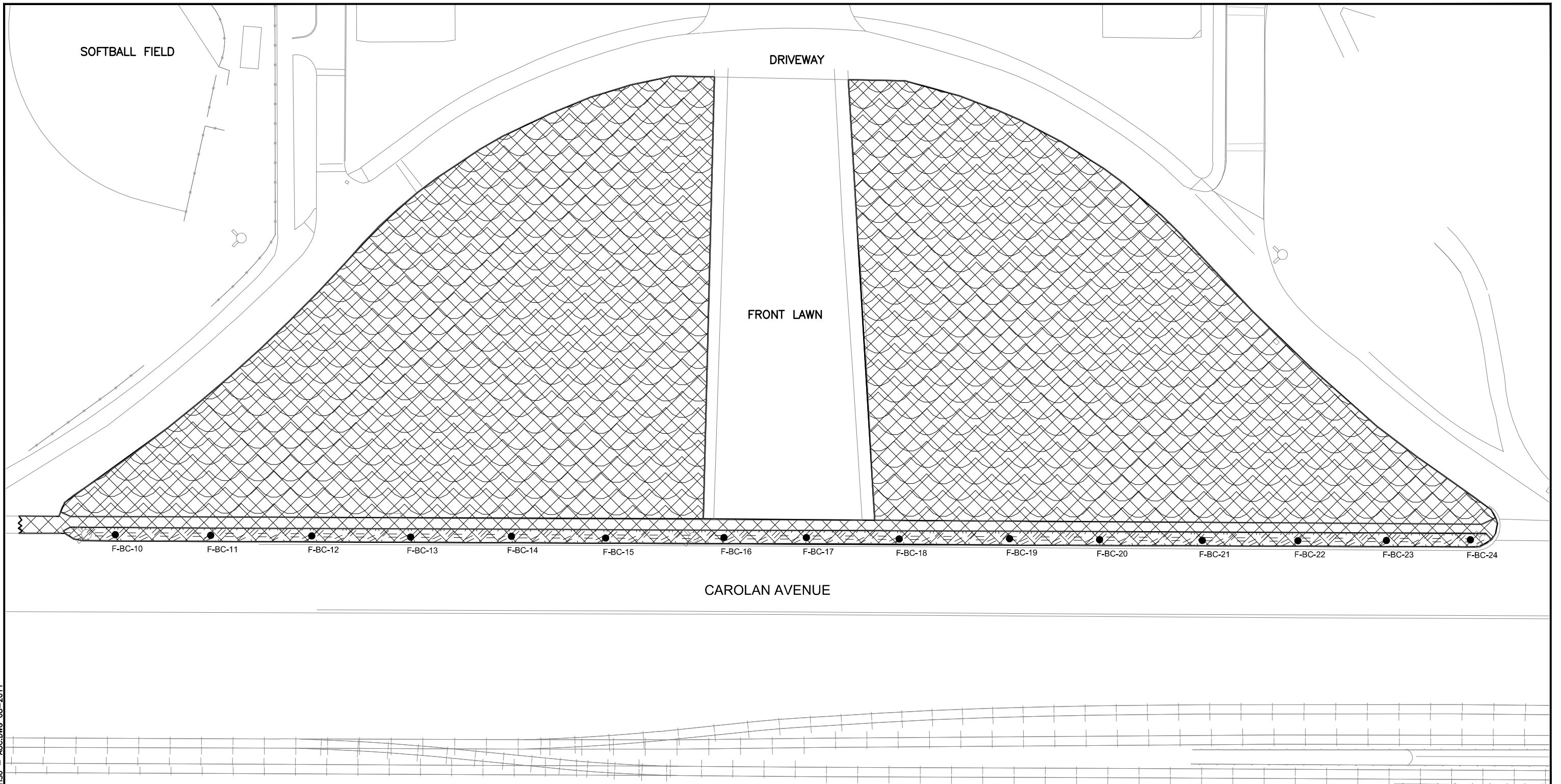
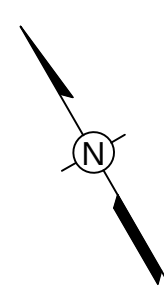
BURLINGAME HIGH SCHOOL

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No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY

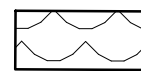


0 60 120 APPROXIMATE SCALE IN FEET	
DRAWING NO.	29091-11-1000
FIGURE 3	

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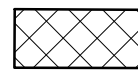
BUILDING



AREA E EXCAVATED TO
APPROXIMATELY 3 INCHES
BELOW GROUND SURFACE



AREA F2 EXCAVATED TO
APPROXIMATELY 8 INCHES
BELOW GROUND SURFACE



AREA CONTAINING ARSENIC
CONCENTRATIONS ABOVE
CLEANUP SCREENING LEVEL



F-BC-1 BOTTOM CONFIRMATION SAMPLE



FIRE HYDRANT

REMAINING AREAS OF CONCERN
AREAS E AND F2

PREPARED FOR

BURLINGAME HIGH SCHOOL

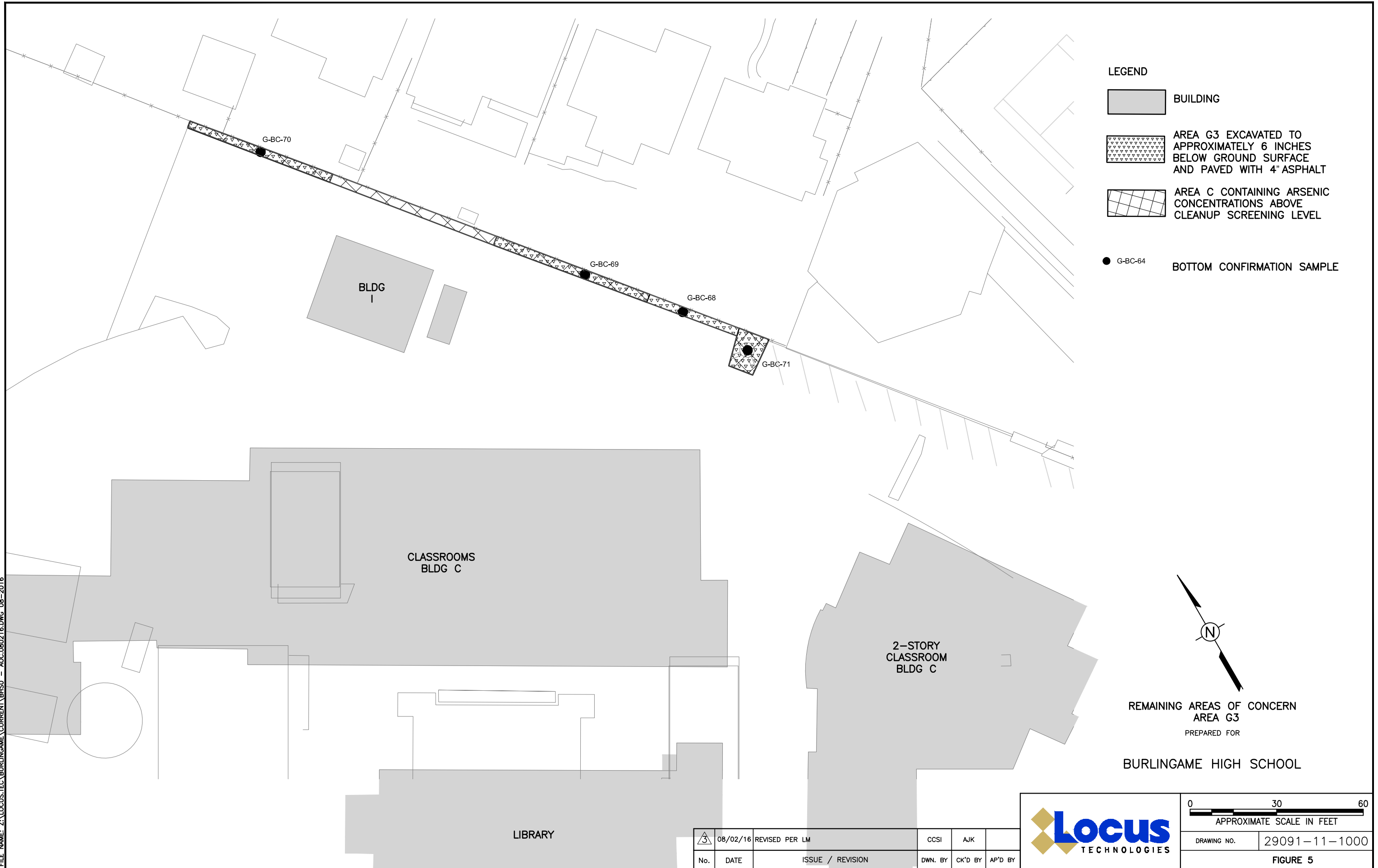
1	08/01/11	DRAFT	MSR	AJK	
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY



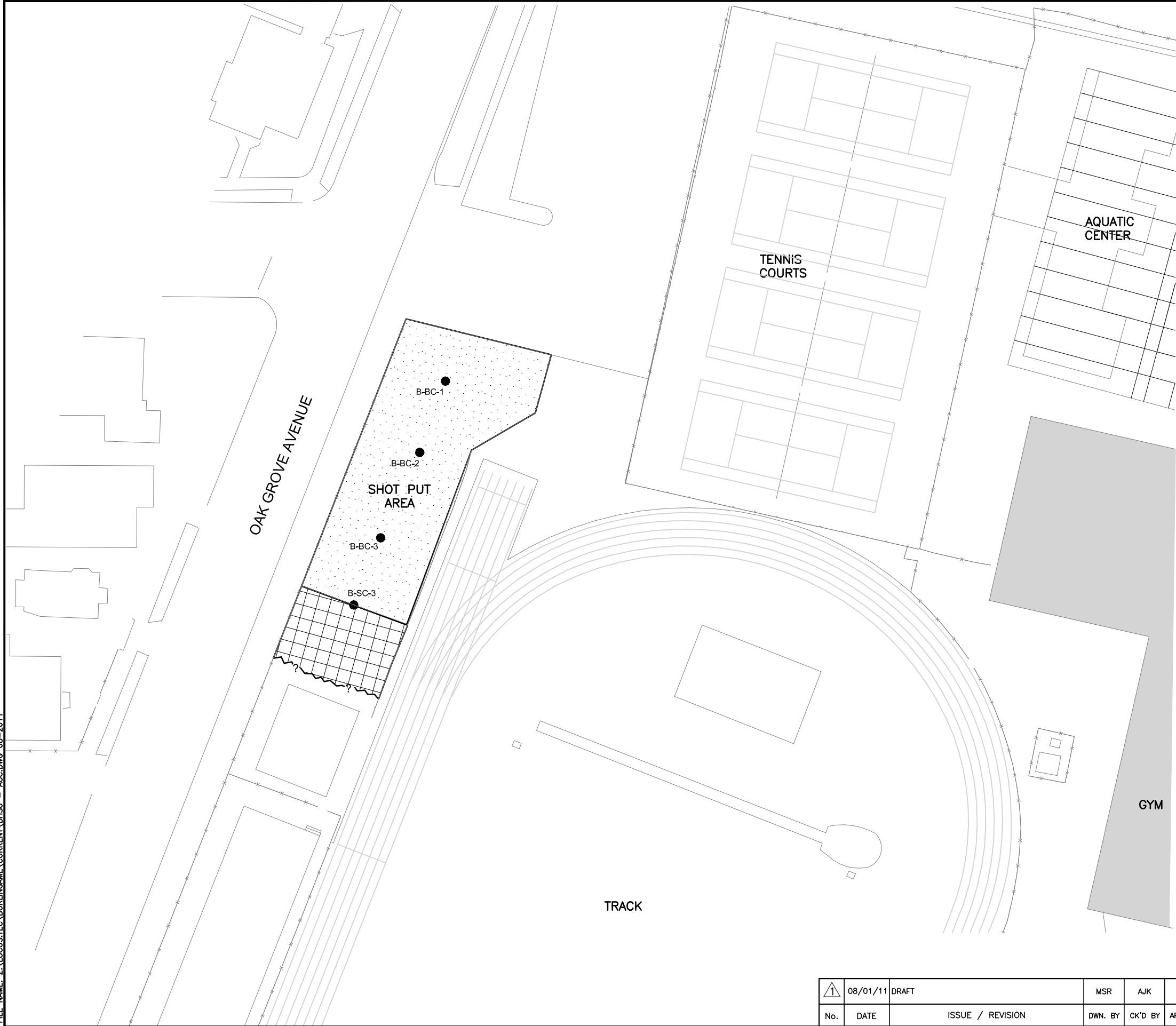
DRAWING NO. 29091-11-1000

FIGURE 4

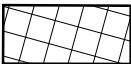
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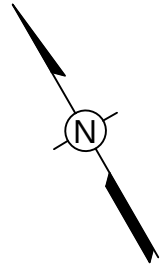


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LEGEND

-  BUILDING
-  AREA B EXCAVATED TO APPROXIMATELY 36 INCHES BELOW GROUND SURFACE
-  AREA POTENTIALLY CONTAINING ARSENIC CONCENTRATIONS ABOVE CLEANUP SCREENING LEVEL
-  B-BC-1 BOTTOM CONFIRMATION SAMPLE
-  B-SC-3 SIDEWALL CONFIRMATION SAMPLE



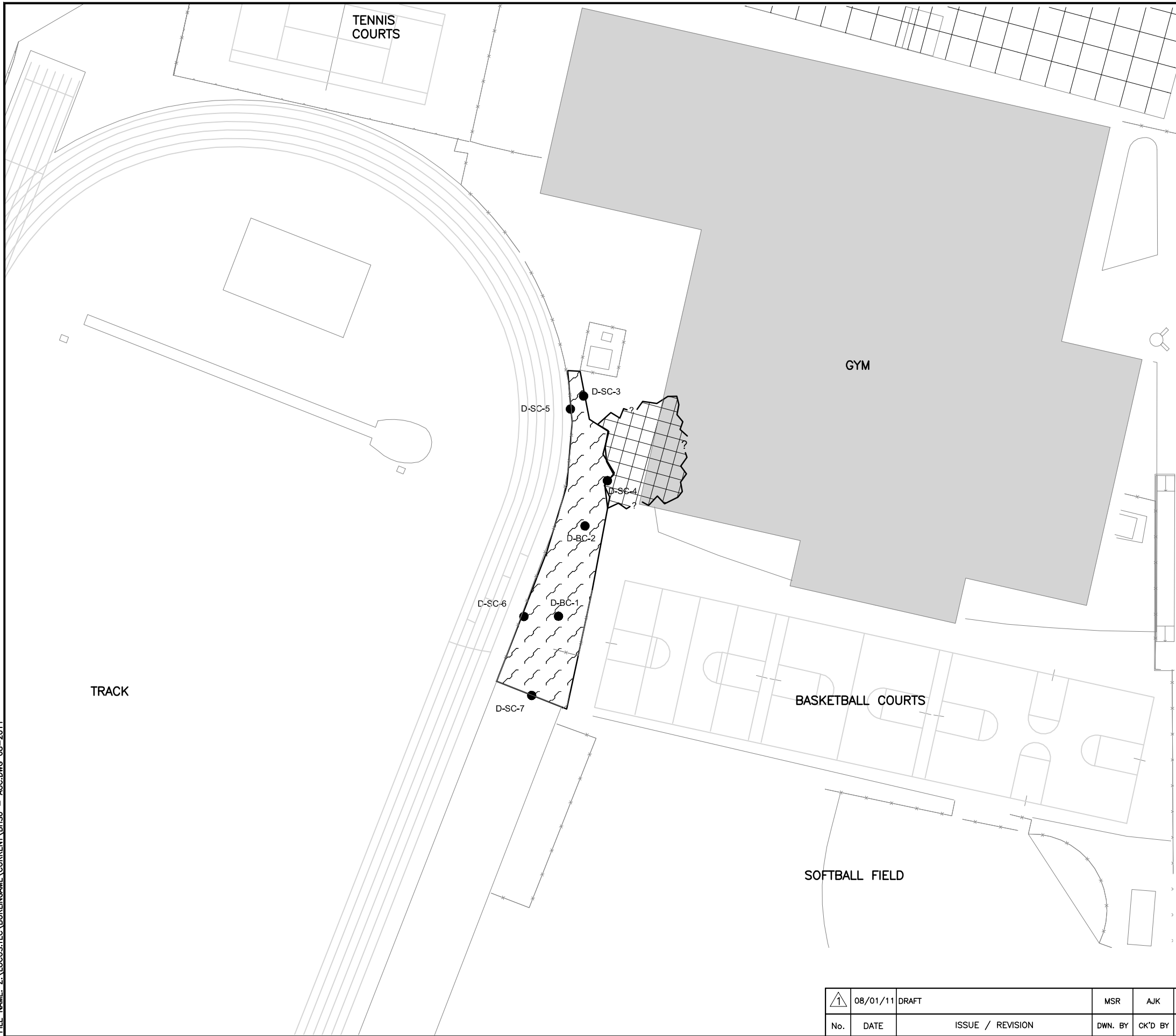
REMAINING AREAS OF CONCERN
AREA B
PREPARED FOR
BURLINGAME HIGH SCHOOL

	08/01/11	DRAFT	MSR	AJK	
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY

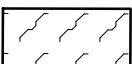


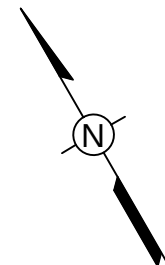
0 40 80 APPROXIMATE SCALE IN FEET	
DRAWING NO.	29091-11-1000
FIGURE 6	

FILE NAME: Z:\LOCUS\TEC\BURLINGAME\CURRENT\BHS0 - AOC.DWG 08-2011



LEGEND

-  BUILDING
-  AREA D1
EXCAVATED TO APPROXIMATELY
24 INCHES BELOW GROUND SURFACE
-  AREA POTENTIALLY CONTAINING
ARSENIC CONCENTRATIONS ABOVE
CLEANUP SCREENING LEVEL
-  D-BC-1 BOTTOM CONFIRMATION SAMPLE
-  D-SC-4 SIDEWALL CONFIRMATION SAMPLE



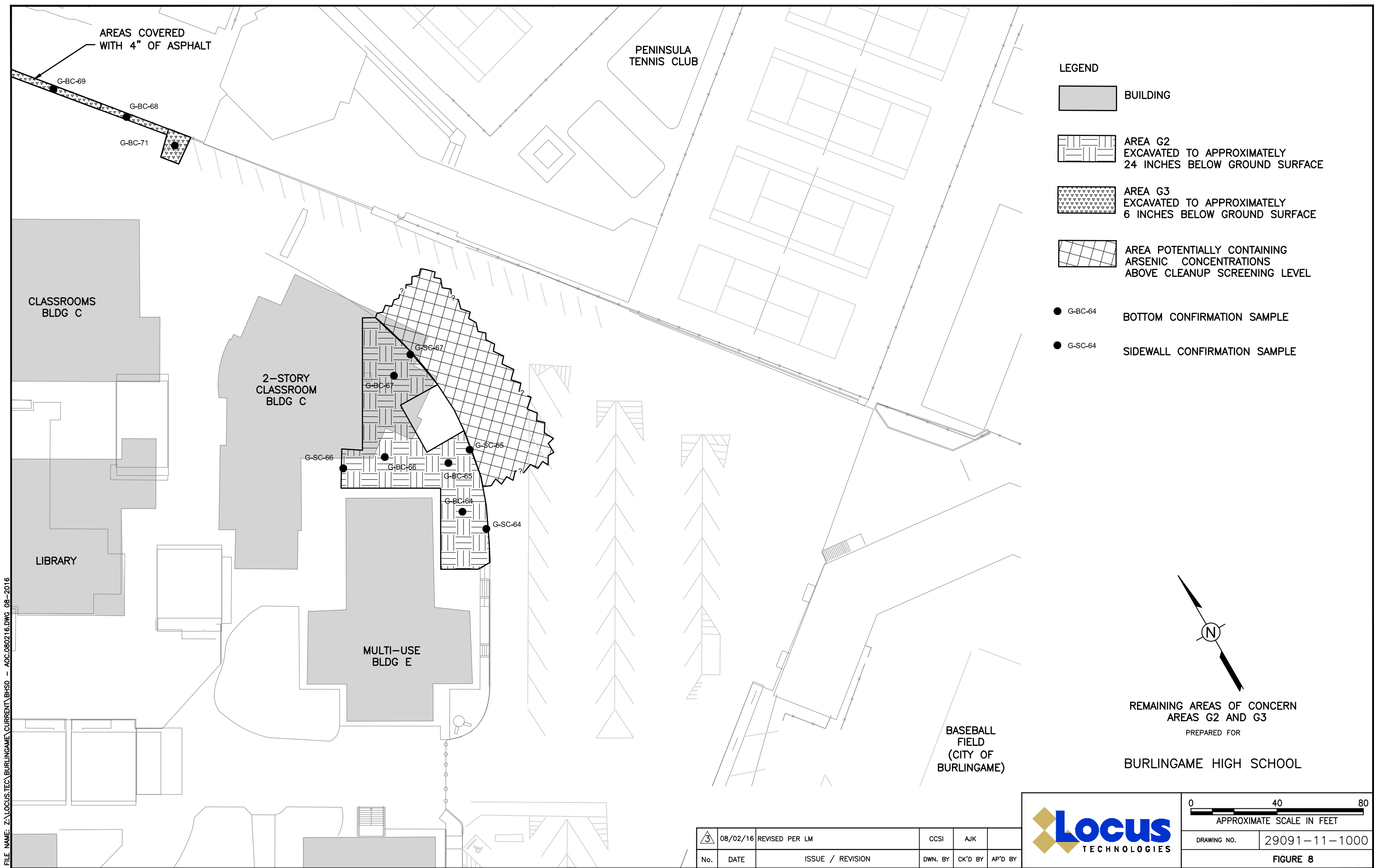
REMAINING AREAS OF CONCERN
AREA D1
PREPARED FOR
BURLINGAME HIGH SCHOOL

	08/01/11	DRAFT	MSR	AJK	
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY

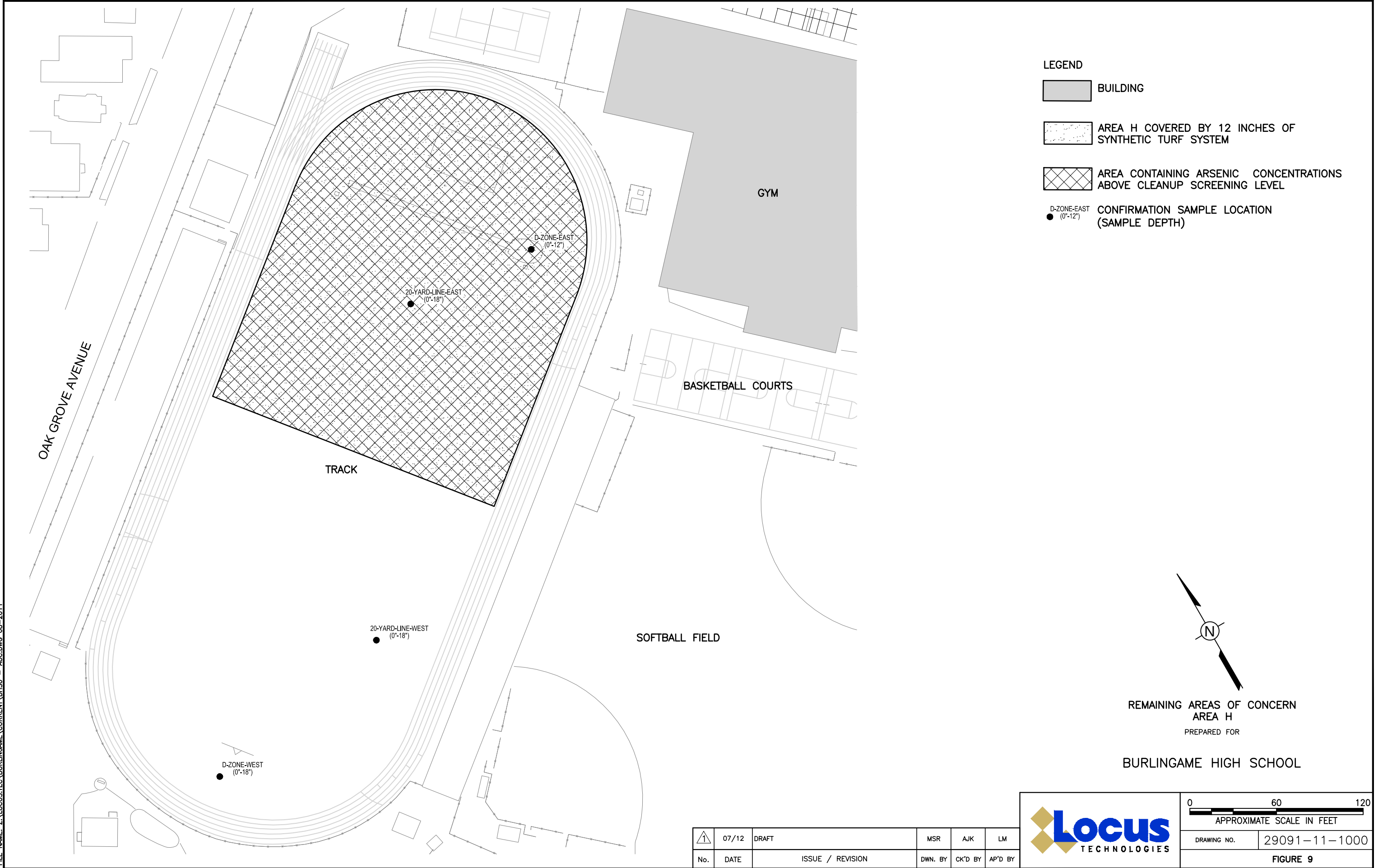


0 40 80 APPROXIMATE SCALE IN FEET	
DRAWING NO.	29091-11-1000
FIGURE 7	

FILE NAME: Z:\LOCUS\TEC\BURLINGAME\CURRENT\BHS0 - AOC.080216.DWG 08-2016



FILE NAME: Z:\LOCUS\TEC\BURLINGAME\CURRENT\BH50 - AOC.DWG 08-2011



	07/12	DRAFT	MSR	AJK	LM
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY

060120

APPROXIMATE SCALE IN FEET

DRAWING NO.

29091-11-1000

FIGURE 9

APPENDIX A

ASSESSOR'S PARCEL MAP AND LEGAL DESCRIPTION



Boundary Surveys & Resolution - Topographic & Planimetric Mapping Surveys - Legal Descriptions - ALTA Title Surveys - Construction Staking - FEMA Certifications - Horizontal & Vertical Geodetic Control Surveys - Aerial Mapping & Aerial Control Surveys

1920 Leslie Street
San Mateo, CA 94403
P (650) 212-1030
F (650) 212-1031

LEGAL DESCRIPTION

Lands of San Mateo Union High School as shown on 35 LLS 97-98

Situate in the City of Burlingame, County of San Mateo, State of California, and being (1) the lands of San Mateo Union High School District, as described in the Deed from Francis Carolan which was recorded in Liber 34 of Official Records Page 128 on March 07, 1922, and being (2) the lands of San Mateo Union High School District as described in the Deed from Wells Fargo Bank and Union Trust Company which was recorded in Book 548 of Official Records Page 379 on February 05, 1932, being more particularly described as follows:

BEGINNING at the most southerly angle point of the lands of San Mateo Union High School District as described in said Deed from Carolan (Liber 34 Page 128), said point being on the southwesterly right of way line of Carolan Avenue (60' wide);

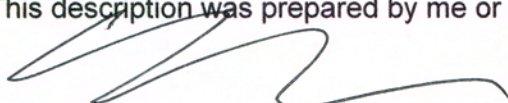
1. Thence along the southwesterly line of said lands, and said right of way, North $61^{\circ}24'44''$ West, a distance of 1151.34 feet, to the most westerly angle point of said lands of San Mateo Union High School District, being a point on the centerline of Oak Grove Avenue;
2. Thence along the northwesterly line of said lands of San Mateo Union High School District, and the northwesterly line of the lands of San Mateo Union High School District as described in the Deed from Wells Fargo Bank and Union Trust Company (548 Page 379), North $49^{\circ}39'42''$ East, a distance of 1198.57 feet, to the most northerly corner of the lands described in 548 Page 379, being the most westerly subdivision corner as shown on that certain subdivision map entitled, "Map No. 1 of Oak Grove Manor" which was filed for record in Volume 20 of Maps at page 66, San Mateo County records;
3. Thence along the northeasterly line of said lands of San Mateo Union High School District, and the southwesterly line of said map and its southeasterly extension, South $40^{\circ}48'23''$ East, a distance of 1071.01 feet, to the most easterly corner of said Deed from Carolan (Liber 34 Page 128);
4. Thence along the southeasterly line of said Deed, South $49^{\circ}25'07''$ West, a distance of 793.34 feet, to the Point of Beginning.

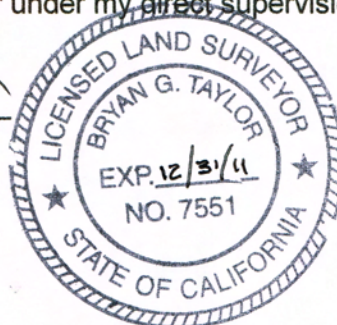
Containing a gross area of 1,068,665 sq.ft./24.53317 acres, more or less.

As shown on that certain Record of Survey which was filed for record in Volume 35 of LLS Maps, pages 97-98 on April 7th, 2011, San Mateo County records

END OF DESCRIPTION

This description was prepared by me or under my direct supervision.


Bryan G. Taylor, PLS
License No. 7551, Expires 12/31/11



25 APRIL 2011
Date

APPENDIX B
***MATRIX – O&M PERSONNEL ROLES AND
RESPONSIBILITIES***

APPENDIX B

MATRIX - O&M PERSONNEL ROLES AND RESPONSIBILITIES

	Arsenic Coordinator	O&M Professional	School Site Designee	Maintenance Staff
1. Training				
Coordinate training and refresher requirements for district administrators, faculty and maintenance personnel	✕			
Track and schedule training and refresher requirements for district staff	✕			
Coordinate arsenic awareness training for designated contractors working at site	✕			
2. Inspections, Maintenance, and Repairs				
Direct monthly/annual/5-year inspections of engineered controls and completion of the inspection checklists in compliance with O&M Plan	✕			
Coordinate monitoring of onsite maintenance activities for compliance with dust mitigation and air monitoring requirements	✕			
Direct and oversee maintenance activities involving disturbance of arsenic-containing soils to ensure that SOP is followed	✕			
Direct and oversee implementation of contingency plan in compliance with O&M Plan; obtain DTSC approval of workplan when required	✕			
Notify district staff and parents regarding the O&M Plan; respond to questions	✕		✕	
Perform Inspections, maintenance and repairs.				✕

	Arsenic Coordinator	O&M Professional	School Site Designee	Maintenance Staff
Conduct Annual Review inspections	×			×
Conduct Five-Year Review inspections	×	×		×
3. Record Keeping and Checklists				
Maintain records of all O&M-related activities	×			×
Document activities that will potentially disturb arsenic-containing soils	×			×
Maintain files of maintenance reports	×			
Complete maintenance reports and records				×
Document provision of arsenic awareness training for designated contractors and staff	×			
Complete Inspection checklist and file checklist	×			×
4. Reporting				
Coordinate reporting to regulatory agencies	×			
Notify regulatory agencies of planned and unplanned activities that disturb arsenic-containing soil	×			
Develop, complete, and submit arsenic-intrusive work completion report	×	×		
Develop, complete and submit five-year review reports	×	×		

APPENDIX C

RESUME OF O&M PROFESSIONAL

JOHN WESLEY HAWTHORNE, P.E., P.G.

PRESIDENT

SUMMARY OF EXPERIENCE:

Mr. Hawthorne is an expert in environmental investigation and characterization studies with ample experience as a project manager at numerous environmental sites. Having registration as both an engineer and geologist, he is uniquely qualified to manage all aspects of environmental projects. His technical understanding of various environmental disciplines allows quick and informed decisions for nearly any environmental challenge. He currently manages several remedial projects, where he is responsible for evaluation and implementation of innovative remedial technologies, for tracking costs and meeting project budgets, for data evaluation and interpretation, and for allocating resources to meet project needs. He has also provided environmental consulting services for several real estate transactions and construction projects. Mr. Hawthorne holds a Masters degree from Stanford University and has over 18 years of professional experience in environmental consulting.

EDUCATION:

M.S., Environmental Engineering, Stanford University, 1999

B.S., Geology, Purdue University, 1998

B.S.E., Geological Engineering, Purdue University, 1998

REGISTRATION/CERTIFICATION:

Registered Professional Engineer, State of California

Registered Professional Geologist, State of California

Lead Verifier of Greenhouse Gas Emissions, State of California

Lead Carbon Offset Verifier, State of California

40-Hour OSHA Training in Compliance With 29 CFR 1910.120, 1999

Engineer in Training, 1999

Training Course on 3D Groundwater Flow and Transport using Visual MODFLOW, 2000

Training Course on Statistics for Groundwater Investigations, 2002

PROFESSIONAL QUALIFICATIONS:

A summary of Mr. Hawthorne's professional experience includes:

- ◆ **Philips Semiconductors, Sunnyvale, California.** Mr. Hawthorne currently manages five distinct environmental sites for this client. The projects include preparation of reports, management of project budgets, and supervision of the operation of five groundwater treatment systems. Under his supervision, several cost-saving upgrades have been made to the treatment systems, and one of the sites has been successfully closed following a low-threat closure approval from RWQCB. Another site is approaching closure following a risk-based evaluation of vapor intrusion. This project also includes two separate implementations of enhanced
-

anaerobic bioremediation studies designed to accelerate groundwater cleanup.

Mr. Hawthorne has also provided support services to the client for the property sale and redevelopment of three sites. The projects began with Phase I and Phase II investigations for each site. Mr. Hawthorne also prepared a remedial plan and risk management plan for the project, and coordinated activities with the property owner, purchaser, and regulatory agencies. To evaluate the potential for remaining soil contamination on the property, Mr. Hawthorne used a passive soil-gas survey, followed by targeted soil sampling. This innovative and cost-effective technology allowed the evaluation of a large area at relatively low cost. Mr. Hawthorne is currently managing the remedial implementation, while carefully addressing the needs of the tenant occupying the property.

- ◆ **California's Great America, Santa Clara, California.** Mr. Hawthorne has been the consultant project manager for this theme park for over ten years. In that time, he has been the key contact for regulators and the client, and has completed Phase I/II environmental investigations for 15 identified source areas, and has obtained approval for closure for most of those areas. He also assisted the client through the permitting process for NPDES discharge from a surface pond, and prepared mitigation strategies for minimizing concerns associated with that discharge.
 - ◆ **Offsite Operable Unit, Sunnyvale, California.** Mr. Hawthorne coordinated collection of thousands of indoor, outdoor, and background air samples from four schools as well as a residential neighborhood to evaluate vapor intrusion at a VOC contaminated site. The phased investigation included modeling, soil-flux and subslab sampling, soil-gas investigations, and indoor air sampling. For buildings where indoor air sampling was required, Mr. Hawthorne supervised inspection of building ventilation systems, potential vapor intrusion pathways, and installation of ventilation improvements or other mitigation measures where appropriate. Mr. Hawthorne also coordinated public communication activities for the project, including fact sheet preparation and meetings with building owners, tenants, and agency representatives.
 - ◆ **Santa Clara Valley Transportation Authority, Santa Clara, California.** As the project manager for this as-needed environmental contract, Mr. Hawthorne has been responsible for completion of several tasks, including design and implementation of remedial investigations, management and permitting for impacted groundwater, and waste disposal arrangements. Mr. Hawthorne has supported several phases of the BART extension project, including collection and analysis of analytical data for soil and groundwater along the planned construction route. Throughout these efforts, Mr. Hawthorne has been able to accommodate strict schedule requirements that were needed to ensure no delays for this time-critical project.
 - ◆ **San Mateo Union High School District, San Mateo, California.** Mr. Hawthorne has consulted for this school district on several properties, including support of a remedial implementation for arsenic-impacted soil. This includes review and recommendations for maintaining cap coverage, and interaction with the governing agency. Mr. Hawthorne has also provided general support for compliance with local, state, and federal regulations on all properties owned by the school district.
 - ◆ **Raytheon Company, Mountain View, California.** Mr. Hawthorne has completed several tasks for this VOC remediation project, which is part of one of the largest Superfund investigations in the country. Mr. Hawthorne developed two detailed two-year performance evaluation reports and a comprehensive five-year performance evaluation for the site. He has also prepared specialized Remedial Investigation and Feasibility Study documents for addressing the vapor intrusion
-

pathway at this site, using statistical evaluations, soil vapor transport models, and EPA risk guidance to evaluate the impact of vapor intrusion on indoor air. In addition, he prepared an evaluation of remedial alternatives and work plan for a pilot test using in-situ chemical oxidation.

- ◆ **Santa Clara Valley Water District, San Jose, California.** Mr. Hawthorne performed a study to evaluate the potential impacts to groundwater caused by expanded use of recycled water for irrigation. Mr. Hawthorne developed a multi-faceted approach to obtain the most defensible conclusions for the project. The project includes literature review, mathematical modeling, bench scale testing, and a full-scale pilot study. The scope of the project includes several emerging contaminants, including n-nitrosodimethylamine (NDMA), and uses innovative field technologies such as depth-discrete soil moisture lysimeters to obtain the necessary data.
 - ◆ **Fairchild Semiconductor Corp., San Rafael, California.** Mr. Hawthorne developed a final remedial action plan for this industrial site, including a comprehensive human health risk assessment and an evaluation of remedial alternatives. Mr. Hawthorne also managed environmental aspects of the redevelopment of this site, considering modifications to the remedial system and addressing the vapor intrusion pathway.
 - ◆ **Port of Los Angeles, Wilmington, California.** Mr. Hawthorne coordinated work and ensuring budgets and deadlines were met for a variety of projects, including environmental support for construction projects, remediation design, and multiple Phase I/Phase II environmental site assessments. In his role as project manager for this contract, Mr. Hawthorne reviewed all final work products to ensure high quality deliverables throughout the project.
 - ◆ **FMC Corporation, Fresno, California.** Mr. Hawthorne completed a MODFLOW model to evaluate potential remedial alternatives for this site. This included a complete recalibration and balancing of extraction rates to achieve appropriate capture zones using particle tracking software. Mr. Hawthorne also performed risk modeling using Risk Based Corrective Action guidance to determine an acceptable remedial goal for one of the chemicals of concern.
 - ◆ **Santa Clara Valley Water District, Morgan Hill, California.** Mr. Hawthorne prepared plans for sampling, analysis, and data interpretation for the occurrence of perchlorate in a South Bay groundwater subbasin. The plans were developed to derive statistically defensible answers to two problems affecting the subbasin. The sampling program used advanced techniques such as groundwater age-dating and isotopic analyses. Mr. Hawthorne worked closely with statisticians and environmental forensics experts to ensure that the resulting data set would provide sufficient information to address the project goals.
 - ◆ **Private Manufacturing Facility, Palo Alto, California.** In preparation for an upcoming business transaction, Mr. Hawthorne prepared a Phase I Environmental Site Assessment for this operating manufacturing facility. The report included a thorough review of the facility's hazardous materials business plan and identification of recognized environmental conditions. Mr. Hawthorne also completed a Phase II investigation of a former spill area and designed a remedy for a contaminated waste vault, which resulted in successful closure of the site.
 - ◆ **Greenhouse Gas Verification, Multiple Facilities and Entities throughout US.** Mr. Hawthorne has successfully completed greenhouse verification audits for dozens of public and private clients including General Electric, United Airlines, and
-

Genentech. His experience has included refineries, power generation and cogeneration facilities, and several manufacturing industries.

- ◆ **Oyster Bay Regional Park, San Leandro, California.** Mr. Hawthorne successfully developed a MODFLOW model to estimate leachate flow and evaluate alternative extraction strategies in this landfill. He used the model results in the preparation of a feasibility study for the site.
- ◆ **Private Real Estate Developer, Mountain View, California.** On behalf of this developer, Mr. Hawthorne prepared a detailed Phase I Environmental Site Assessment and evaluated the property's potential use for a residential development.
- ◆ **San Jose Water Company, San Jose, California.** Mr. Hawthorne has provided training and support for the EIM and Locus Platform users for building and maintaining software tools for managing environmental and compliance data.

PROFESSIONAL HISTORY:

Locus Technologies (1999 to present)

President

PROFESSIONAL PUBLICATIONS:

Hawthorne, J. Wesley, 2004, "Report Automation: Connecting Your Microsoft Office Documents Directly to an EIM™ Database", Locus Technologies EIM User Conference, San Ramon, California, 15 October.

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Hawthorne, J. Wesley; Barrientos, Henry; De La Piedra, Vanessa; and Wong, Norman, 2012, "CEC Migration Through the Vadose Zone: SCVWD Recycled Water Irrigation Study Results", Groundwater Resources Association of California Symposium: Compounds of Emerging Concern in Groundwater, Concord, CA, 7-8 February.

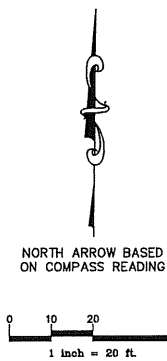
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2012, "CEC Migration Through the Vadose Zone: SCVWD Recycled Water Irrigation Study Results", Groundwater Resources Association of California Symposium: Compounds of Emerging Concern in Groundwater, Concord, CA, 7-8 February.

Hawthorne, J. Wesley; Barrientos, Henry; De La Piedra, Vanessa; and Wong, Norman, 2012, "Recycled Water Irrigation and Groundwater Study", American Water Works Association Water Quality Technology Conference, Toronto, ON, 7 November.

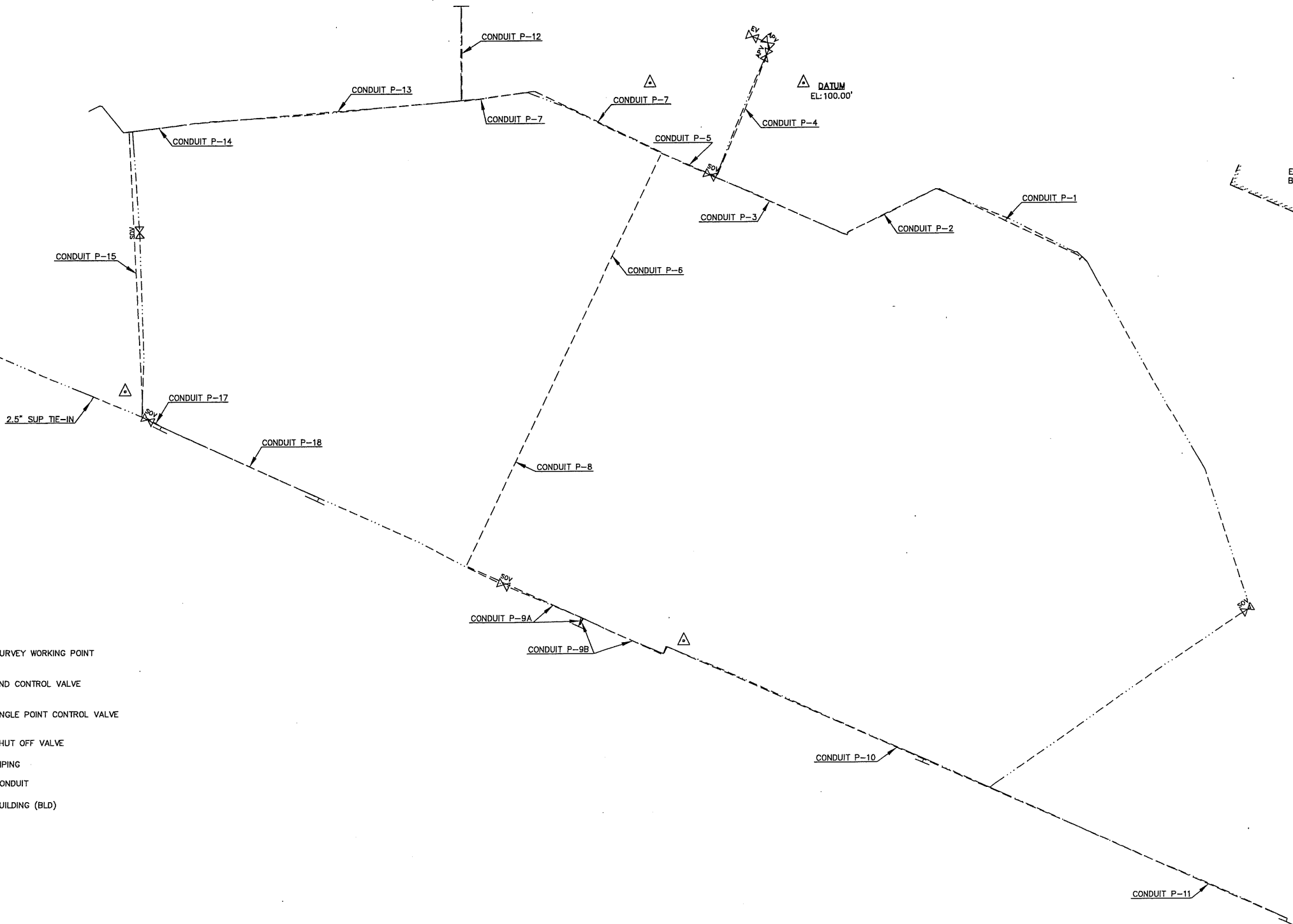
APPENDIX D

AREA E IRRIGATION SYSTEM AS-BUILT



0 10 20 40
1 inch = 20 ft.

- SURVEY WORKING POINT
- END CONTROL VALVE
- ANGLE POINT CONTROL VALVE
- SHUT OFF VALVE
- PIPING
- CONDUIT
- BUILDING (BLD)



"AS BUILT"
IRRIGATION MAP
SCALE: 1"=20'

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UTILITY SERVICE

IMPORTANT NOTICE
SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A PERMIT TO EXCAVATE WILL BE VALID FOR YOUR DIG ALERT ID NUMBER CALL UNDERGROUND SERVICE ALERT 1-800-227-2600
FOR UNDERGROUND LOCATING 2 WORKING DAYS BEFORE YOU DIG

CONSTRUCTION STAKING & INSPECTION LIABILITY WAIVER

THESE IMPROVEMENT PLANS HAVE BEEN PREPARED WITH THE INTENT THAT RENNER SURVEYING & ENGINEERING, INC. WILL BE PERFORMING THE CONSTRUCTION STAKING AND INSPECTION FOR THE COMPLETE PROJECT. IF, HOWEVER, ANOTHER ENGINEERING AND/OR SURVEYING FIRM SHOULD BE EMPLOYED TO USE THESE PLANS FOR THE PURPOSE OF CONSTRUCTION STAKING AND INSPECTION; NOTICE IS HEREBY GIVEN THAT RENNER SURVEYING & ENGINEERING, INC. WILL NOT ASSUME ANY RESPONSIBILITY FOR ERRORS OR OMISSIONS, IF ANY, WHICH MIGHT OCCUR AND WHICH COULD HAVE BEEN AVOIDED, CORRECTED OR MITIGATED IF RENNER SURVEYING & ENGINEERING, INC. HAD PERFORMED THE STAKING AND INSPECTION WORK.



"AS BUILT" IRRIGATION MAP

SAN MATEO UNION HIGH SCHOOL DISTRICT

1 MANGINI WAY

APN: 029-141-010

CITY OF BURLINGAME SAN MATEO COUNTY CALIFORNIA



RENNER SURVEYING & ENGINEERING INC.

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2125 OAK GROVE ROAD STE. 205
WALNUT CREEK, CA 94598
PHONE: (925) 855-8300
FAX: (925) 838-0366

DATE:	08-24-08
SCALE:	1" = 20'
SURVEYED:	P.H.
DRAWN:	D.J.R.
CHECKED:	E.R.
PROJ. ENGR.:	E.R.
PROJ. MGR.:	D.J.R.

NO.	BY	DATE	REVISIONS

SHEET 1 OF 1 SHEETS

JOB NO.

2525-01

APPENDIX E

INSPECTION CHECKLIST

APPENDIX E

INSPECTION CHECKLIST

Date		Inspector Name/Signature	
Inspection Frequency			

Area	Engineering Controls	Surface Condition OK?	Maintenance Required?	Comments	Corrective Action	
					Action Needed	Completion Date
Area G2 (Parking Lot Driveway Near Building E)	Asphalt covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area G3 (Near Back Fence Behind Building I)	Asphalt covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Near Back Fence Behind Building I)	Trees and soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Landscaped Area South of Building C)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Landscaped Area West of Library)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Under northeast corner of Building D)	Underneath Building D foundation	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Area Southeast Corner of Gym)	Covered with concrete	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Landscaped Area Southwest Corner of Gym)	Concrete 4" clean soil and trees	Yes ☐ No ☐	Yes ☐ No ☐			

APPENDIX E

INSPECTION CHECKLIST

Area	Engineering Controls	Surface Condition OK?	Maintenance Required?	Comments	Corrective Action	
					Action Needed	Completion Date
Area D1 (Sidewalk near Southwest Corner of Gym)	Sidewalk covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area B (South Wall of Shot Put Area)	Asphalt covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area C (Landscaped Area Around Tennis Courts)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Landscaped Area North of Oak Grove Parking)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area C (Landscaped Area West of Oak Grove Parking)	Vegetation and/or wood chips cover soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area D2 (Track Area Near Carolan Avenue)	Excavated to 24 inches, covered with woodchips	Yes ☐ No ☐	Yes ☐ No ☐			
Area F1 (Parkway on Carolan Avenue Near Track)	Concrete sidewalk covers soil	Yes ☐ No ☐	Yes ☐ No ☐			
Area E (Front Lawn)	Buried wire mesh marks impacted soil, covered with grass or wood chips	Yes ☐ No ☐	Yes ☐ No ☐	Covering thickness:		
Area F2 (Parkway on Carolan Avenue Near Front Lawn)	Concrete sidewalk or crushed rock (around trees) covers soil	Yes ☐ No ☐	Yes ☐ No ☐			

APPENDIX E

INSPECTION CHECKLIST

Area	Engineering Controls	Surface Condition OK?	Maintenance Required?	Comments	Corrective Action	
					Action Needed	Completion Date
Area H (Track and Field)	Synthetic brock truf system	Yes ☐ No ☐	Yes ☐ No ☐			

1. Areas are shown on Figures 2 through 5
2. Inspection should assess whether or not concrete has been disturbed or damaged, vegetation is healthy, wood chips are of appropriate thickness (see measuring points on Figure 2), bare soil is visible (Area C), and erosion is occurring.
3. Covering Thickness: Where indicated, measure the thickness (in inches) of the wood chips and/or clean soil covering the impacted soil.

APPENDIX F

STANDARD OPERATING PROCEDURE

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TABLES

ATTACHMENTS

LIST OF TABLES

**TABLE
NO.**

TITLE

1

Notice and Reporting Requirements of Arsenic-Intrusive Work

LIST OF ATTACHMENTS

<u>ATTACHMENT</u>	<u>TITLE</u>
--------------------------	---------------------

A	DTSC Fact Sheet on Import Fill Material
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LIST OF ACRONYMS AND ABBREVIATIONS

<u>ACRONYM</u>	<u>DESCRIPTION</u>
CCR	California Code of Regulations
CEC	California Education Code
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
District	San Mateo Union High School District
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
H&SC	Health and Safety Code
LUC	Land Use Covenant
msl	mean sea level
NOE	Notice of Exemption
OSHA	Occupational Safety and Health Administration
O&M	Operation and Maintenance
PEA	Preliminary Endangerment Assessment
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
RAW	Remedial Action Workplan
Site	Burlingame High School (400 Carolan Avenue, Burlingame, CA)
SOP	Standard Operating Procedure
SSI	Supplemental Site Investigation

APPENDIX F
STANDARD OPERATING PROCEDURE FOR
ELEVATED ARSENIC CONCENTRATIONS IN
SOIL
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE
BURLINGAME, CALIFORNIA

1. INTRODUCTION

1.1. Objective

This document has been prepared to outline the Standard Operating Procedure (SOP) for repairs, construction or maintenance activities conducted by San Mateo Union High School District (District) personnel or subcontractors at Burlingame High School, located at 400 Carolan Avenue in Burlingame, California, (Site) that may disturb soil containing arsenic. This SOP presents the procedures to be followed when arsenic-intrusive work is to be conducted at the Site. An Operation & Maintenance (O&M) Plan was prepared for the Site. This SOP is to be included in the O&M Plan as an appendix.

1.2. Arsenic Hazard Summary

Arsenic, a naturally occurring element, is found throughout the environment. For most people, food is the major source of exposure. Acute (short-term) high-level inhalation exposure to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain); central and peripheral nervous system disorders have occurred in workers acutely exposed to inorganic arsenic. Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Chronic oral exposure has resulted in gastrointestinal effects,

anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans. Inorganic arsenic exposure in humans, by the inhalation route, has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. The United States Environmental Protection Agency (EPA) has classified inorganic arsenic as a Group A, human carcinogen.

1.3. Intrusive Work

O&M personnel will submit Site construction and maintenance work order requests to the Arsenic Coordinator (see Section 1.4.1). The Arsenic Coordinator will evaluate in writing whether or not activities described in the work orders are considered "non-arsenic-intrusive" or "arsenic-intrusive". "Arsenic-intrusive" activities are prohibited at the Site unless conducted in accordance with applicable provisions of this SOP. "Arsenic intrusive" work includes construction or maintenance work activities that disturb arsenic-containing soil, including but not limited to: digging, drilling, excavating, grading, repairing, removing, trenching, filling, or gardening that has the potential to open pathways for possible human exposures to arsenic (e.g., work in arsenic-containing soil, penetration of cap over arsenic-containing soil). If work is determined to be arsenic-intrusive, the Arsenic Coordinator will ensure that work practices are followed as specified in the approved SOP. The Arsenic Coordinator will provide advance notice of scheduled work to the California Department of Toxic Substance Control (DTSC) in accordance with the provisions in Section 2.1.

1.3.1. Non-Arsenic-Intrusive Work

Construction, repair, and/or maintenance activities at the Site are restricted by DTSC in accordance with the O&M Plan only when exposures to arsenic-containing soils are reasonably anticipated or when releases occur. Notification to DTSC of construction, repairs, and maintenance activities is not required unless arsenic soils are expected to be disturbed, or are inadvertently disturbed. "Non-arsenic-intrusive work" includes construction, repairs, and/or maintenance activities at the Site where exposure of arsenic-containing soils is not anticipated and where the integrity of engineered controls, such as hardscaped or landscaped caps, is not compromised (e.g., if part of the cap is

removed, it is replaced as part of the work). Non-arsenic-intrusive work includes work where the visual marker (wire mesh or plastic orange fence), if present, will not be penetrated or breached, even though work may be performed in upper layers of a cap system, e.g., clean fill. District policies require the following procedures be taken when conducting non-arsenic-intrusive work at the Site:

- The Arsenic Coordinator will provide information regarding location of cap systems and soils containing arsenic to selected contractors and O&M personnel to minimize likelihood of arsenic intrusion.
- The O&M Professional and/or O&M personnel will conduct inspections during construction and/or maintenance activities at the Site to verify arsenic-containing soils are not being disturbed.
- In the event that arsenic-containing soils are inadvertently disturbed, the integrity of engineered controls is compromised, or a visual marker is breached, the Arsenic Coordinator will be responsible for notifying DTSC and implementing the appropriate procedures in accordance with the provisions described in Section 1.3.2 of this SOP.

1.3.2. Arsenic-Intrusive Work

The following procedures are required by the District when performing arsenic-intrusive construction, repair or maintenance activities to: a) ensure that safeguards are in place to prevent or minimize arsenic exposures to Site occupants; b) prevent untrained or unauthorized personnel from performing intrusive work in arsenic areas; and c) restore the integrity of engineering controls (cap systems) if impaired or compromised by such activities.

The Arsenic Coordinator will oversee the following procedures for all arsenic-intrusive work performed by, or on behalf of, the District at the Site:

- Provide information regarding location of cap systems and locations of soil containing arsenic to selected contractors and District personnel.

- Verify that District employees and contractors performing arsenic-intrusive work have received the appropriate training (see Section 1.5).
- Require District employees and contractors to follow established site-specific health and safety requirements (see Section 4 of the O&M Plan) before starting arsenic-intrusive work.
- Require that construction and maintenance work be performed under and in accordance with a DTSC-approved SOP.
- Evaluate timelines and school and work schedules to ensure that arsenic-intrusive work is completed as soon as possible to minimize exposure risks.
- Require reasonable restrictions to Site access to reduce exposures to non-workers during arsenic-intrusive work.
- Implement dust control practices that utilize water.
- Manage arsenic-containing soils brought to the surface, if any, in accordance with the soil management plan (see Section 5.4) and in compliance with applicable, relevant and appropriate provisions of state and federal law.
- Comply with all applicable, relevant, and appropriate federal, state, and local requirements.

1.4. O&M Personnel

1.4.1. Arsenic Coordinator

Robin Clemens
Environmental, Health & Safety Specialist
San Mateo Union High School District
839 Hinckley Road
Burlingame, California 94010
650-558-2470 (office)
650-280-8114 (mobile)
rclemens@smuhd.org

The responsibilities of the Arsenic Coordinator are as follows:

- Implement the O&M Plan;
- Be familiar with Site conditions and cap systems installed at the school Site;
- Evaluate work orders to determine if work will be arsenic-intrusive;
- Oversee implementation of a DTSC-approved SOP for arsenic-intrusive work;
- Receive and submit all notices, comments, documents, reports, approvals, decisions and other communications to and from DTSC on behalf of the District for the Site;
- Identify and oversee provision of inspection training and arsenic awareness training;
- Maintain records (e.g., O&M inspection summary reports, completed inspections forms, training records, reports);
- Accompany O&M Professional during inspections as needed;
- Ensure that identified repairs are completed on schedule;
- Submit to DTSC reports required under the O&M Plan, including Five-Year Review Reports, and Arsenic-Intrusive Work Completion/Incident Reports; and
- Ensure that issues pertaining to O&M are brought to the attention of the District's Board as appropriate, including requests for ongoing appropriations of funds and notification in the event that any exposures of arsenic occur at the Site.

In the event of the absence of the Arsenic Coordinator, his/her authority and responsibilities are delegated to:

E. Sergio Ramos Jr.
Facilities Manager
Burlingame High School
1 Mangini Way
Burlingame, CA 94010
650-280-3240 (phone)
eramos@smuhsd.org

1.4.2. O&M Professional

J. Wesley Hawthorne, P.E., P.G.
Project Manager
California P.E. License # 64452, P.G. License #7897
Locus Technologies
299 Fairchild Drive
Mountain View, California 94043
415-663-4702 (office)

hawthornej@locustec.com

The O&M Professional is a California-registered professional engineer or geologist pursuant to the California Business and Professions Code, Division 3, Chapter 7 or 12.5, and the California Code of Regulations (CCR), Title 16, Divisions 5 and 26. The O&M Professional has expertise in arsenic investigation and remediation and is familiar with the cap systems installed at the Site. To demonstrate expertise in arsenic investigation and remediation, the resume of the O&M Professional, and the statement of qualifications of the consulting firm responsible for his/her work, is included as Appendix C of the O&M Plan.

The responsibilities of the O&M Professional are as follows:

- Conduct five-year inspections;
- Evaluate the performance of the remedial measures;
- Prepare and sign Completion Reports and Five-Year Review Reports; and

- Conduct other environmental professional work related to arsenic matters at the Site.

1.4.3. School Site Designee

Paul Belzer
Principal
Burlingame High School
1 Mangini Way
Burlingame, CA 94010
650-558-2800 (office)
pbelzer@smuhsd.org

The responsibilities of the School Site Designee are to:

- Ensure that all school staff with O&M roles have received appropriate training and direction;
- Ensure that activities which may potentially disturb arsenic-containing soils will not be conducted at the Site without the knowledge and approval of the Arsenic Coordinator; and
- Provide, as necessary, information to staff and parents concerning releases of arsenic at the Site.

1.4.4. DTSC Project Manager

Letitia Shen
Northern California Schools Evaluation Unit
Site Mitigation and Restoration Program
California Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826
916-255-3744 (office)
Letitia.Shen@dtsc.ca.gov

All communication to DTSC, including notices and reports, will be sent to the DTSC Project Manager.

1.5. Arsenic Training Requirements

All existing and future new District maintenance and custodial staff (e.g., landscapers, custodians, electricians, plumbers, and grounds crew) who may come into contact with arsenic-containing soils at the Site will be required to participate in an initial arsenic awareness training. In addition, an arsenic-awareness topic shall be included in the existing District annual hazard awareness training.

District contractors who may come into contact with arsenic-containing soils at the Site will be required to have 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training with a current 8-hour refresher, in accordance with Code of Federal Regulations (CFR), Title 29, § 1910.120(e)(3)(ii) and California Code of Regulations (CCR), Title 8, § 5192(e)(3)(B). The District will provide these contractors site specific information related to arsenic concentrations and locations.

Training provided to O&M employees will be commensurate with the work class and shall include, among other topics, Site arsenic locations and health effects associated with arsenic exposure. Upon completion of training, O&M employees should have familiarity with appropriate hazard controls and work practices to avoid disturbing arsenic-containing soil and to mitigate arsenic exposures (such as use of wet methods for dust suppression; protective clothing; dust or arsenic monitors; respirators; proper cleanup and disposal; and decontamination of equipment and clothing).

1.6. Modified or New SOP

Based on changes in Site conditions, DTSC may require a modified or new SOP. Approval from DTSC will be obtained prior to the implementation of a new or modified SOP. Changes to the SOP for an arsenic-intrusive project must be approved by DTSC and documented in an Arsenic-Intrusive Work Completion Report.

2. NOTIFICATION AND REPORTING

2.1. Notification to DTSC

2.1.1. Notification Timeframes

Arsenic-intrusive work activities require notification to DTSC prior to the commencement of work, as described below. Table 1 summarizes the notice and reporting requirements for arsenic-intrusive work.

Notification to DTSC is not required for the following activities at the Site:

- Non-arsenic-intrusive work; and
- Arsenic-intrusive work (a) for which the projected duration is less than seven days from start to completion, (b) which will follow the SOP, and (c) which is either (1) unplanned work completed within 14 days of discovery of need for work or (2) planned work.

Notification to DTSC by the Arsenic Coordinator is required for other activities as follows:

- Notify DTSC 14 days in advance if the activities are for arsenic-intrusive work, are anticipated to exceed seven days in duration from start to completion, and will follow the SOP.
- Notify DTSC at least 14 days in advance if the activities are for arsenic-intrusive work, and will follow a modified SOP. DTSC's approval of the modified SOP will be obtained prior to implementation of work.
- Notify DTSC at least 30 days in advance if the activities are for arsenic-intrusive work and will follow a new SOP. DTSC's approval of the new SOP will be obtained prior to implementation of work.

- Notify DTSC of unplanned work (i.e., work resulting from an unplanned event, such as a broken sewer line) if not repaired within 14 days of discovery of need for work, if work takes longer than 7 days, or if performed using a modified or new SOP. Notify DTSC as soon as it is apparent that (a) the work will not be performed within 14 days of discovery, (b) the work will go longer than 7 days, or (c) use of a modified or new SOP is required.

2.1.2. Electronic Mail Notice Format

Written communication to DTSC may be submitted via e-mail. A sample e-mail notification to might read as follows:

“The San Mateo Union High School District plans to perform maintenance at Burlingame High School at 400 Carolan Avenue in Burlingame **[describe area, e.g., landscaped area near tennis courts]** (see attached figure showing the location) to **[describe reason for work (e.g., repair one broken sprinkler head and add one new sprinkler head)]**. As noted on the figure, the area **[has/does not have]** a visual marker and **[has/does not have]** a cap of **[X]** inches of clean fill over arsenic-containing soils. We need to **[describe impact to marker and cap (e.g., cut through the existing marker)]** and remove approximately **[X]** cubic yards of arsenic-containing soils during the activities. The action is proposed for **[start date]** and will be completed on **[end date]**. The area will be restored by **[brief description of restoration plan, including repairs to marker and cap]**. We will follow the SOP provided in the **[name and date of O&M Plan approved by DTSC]**. If you have any questions or would like to visit during the activity, please contact **[name and address of Arsenic Coordinator and/or O&M Professional and contact telephone numbers]**.”

2.2. Reporting

Arsenic-intrusive work that requires notification of DTSC (see Section 2.1.1) will be documented in an Arsenic-Intrusive Work Completion Report (AIWCR). Each AIWCR will be submitted to the DTSC within 60 days of completion of the work and will be included in an appendix in the appropriate Five-Year Report.

Arsenic-intrusive work will be documented in the appropriate Five-Year Report.

Table 1 summarizes the notice and reporting requirements for arsenic-intrusive work.

Report outlines and requirements are specified in the O&M Plan.

2.3. Public Right to Know

2.3.1. Notification to School Community Members

The Arsenic Coordinator will notify the school community members (faculty, staff and parents) prior to the start of planned arsenic-intrusive work. The format of the notification will be at the discretion of the Arsenic Coordinator but shall include, at a minimum, the following information:

- Nature and extent of work;
- Schedule (start time and projected completion date); and
- Mitigation measures that will be implemented to prevent potential arsenic exposure.

2.3.2. Notification to Contractor and District Personnel

The contractor and/or District maintenance personnel performing arsenic-intrusive work at the Site will have the following information provided to them prior to performing the work:

- Thickness/type of cap systems at the proposed work location;
- Potential arsenic concentrations expected at proposed work location; and
- Presence or absence of a warning barrier above the arsenic-containing soil.

3. WORK ORDERS

O&M personnel will submit Site construction and maintenance work orders requests to the Arsenic Coordinator. The Arsenic Coordinator will evaluate in writing whether or not activities described in the work orders are considered “non-arsenic-intrusive” or “arsenic-intrusive”. If work is determined to be arsenic-intrusive, the Arsenic Coordinator will ensure that work practices are followed as specified in this SOP.

4. HEALTH AND SAFETY REQUIREMENTS

4.1. Competent Person

The District will designate a Competent Person to oversee arsenic-intrusive work. A "Competent Person" is one who:

- is capable of identifying existing and predictable conditions in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;
- is capable of selecting the appropriate control strategies for arsenic exposure; and
- has authority to take prompt corrective measures to eliminate such identified hazards.

The Competent Person may be an environmental consultant, safety officer, or technician familiar with sampling techniques and potentially arsenic-containing media. The Competent Person may be someone who has been appropriately trained and who reports to the O&M Professional (California Certified Professional).

4.2. Exposure Assessment

The Competent Person will conduct an exposure assessment at the initiation of construction operations not previously assessed to access where airborne arsenic-containing dust may exceed the OSHA Permissible Exposure Limit (PEL) of 0.01 milligrams per cubic meter (mg/m³) during that operation. As part of this exposure assessment, dust action levels will be set to be protective against excessive arsenic concentrations in air (see Section 5.1.1).

4.3. Training

Personnel performing the O&M activities specified in this SOP will have completed the training requirements specified in Section 1.5 of this SOP.

4.4. Personal Protective Equipment

Personal protective equipment (PPE) is required at the Site for workers performing arsenic-intrusive work at the Site to protect personnel from arsenic exposure and physical hazards.

The level of PPE that will be required depends not only on existing Site conditions and hazards but also on the specific task or operation to be performed. At a minimum, personnel are required to employ Level D PPE. Level D PPE used at the Site will consist of rugged work clothing, gloves, a hardhat (around heavy equipment), steel-toed boots, hearing protection (when necessary), and safety glasses (when necessary). When working near vehicle traffic, a bright-colored safety vest must also be worn to increase visibility.

The level of protection may be upgraded to Level C if deemed necessary by the Competent Person. Level C is required when respiratory protection and a minimal level of skin protection are necessary. The need for Level C protection is indicated when:

- sustained airborne concentrations exceeding action levels (e.g., PELs) for respiratory protection are detected or anticipated prior to Site activities;
- there is a potential for exposure to other airborne contaminants (e.g., dust or particulates) above relevant standards; or
- there are changes in the routes of exposure or types and toxicity of chemicals encountered.

Level C will consist of half-face, HEPA cartridge-equipped air-purifying respirator (APR); dust-resistant coveralls and gloves; hardhat; steel-toed boots; hearing protection (when necessary); and safety glasses (when necessary). Level C PPE will not likely be needed for most arsenic-intrusive work based on air sampling data collected at the Site during the Remedial Action activities.

Dermal exposure, and subsequent incidental ingestion, can be minimized by frequent hand washing and by not eating, drinking, or smoking in the work area. Level B and Level A PPE will not be utilized for the field activities described in this SOP.

4.5. Medical Surveillance

A medical surveillance program is recommended for all personnel performing arsenic-intrusive work. Employers are required to establish a medical surveillance program for all employees who are or will be exposed to arsenic at or above the PEL of 0.01 mg/m³.

5. ARSENIC CONTROL REQUIREMENTS

5.1. Dust Control

The purpose of this section is to describe the mitigation measures and engineering controls designed to prevent the release of arsenic-containing dust generation during maintenance activities, construction and/or repairs that may disturb arsenic-containing soil.

5.1.1. Dust Monitoring

Due to the fact that the arsenic is exclusively particulate, air monitoring will focus on monitoring of airborne dust levels generated when potentially contaminated soil is disturbed.

The Cal-OSHA PEL for dust is 10 milligrams per cubic meter (mg/m^3). The concentration at which dust in the air is visible is approximately $1 \text{ mg}/\text{m}^3$. The PEL for arsenic is $0.01 \text{ mg}/\text{m}^3$. The California Office of Environmental Health Hazard Assessment (OEHHA) has established an acute recommended exposure limit (REL) for arsenic of 0.19 micrograms per cubic meters of air ($\mu\text{g}/\text{m}^3$). Based on this information (or updated criteria, as appropriate) and the anticipated maximum arsenic concentration in soil to be disturbed by the work, based on data from the site investigations and remedial action (see Table 2 and Figures 2 through 7 of the O&M Plan), the Competent Person will determine whether visual monitoring is sufficient, or monitoring with Mini-RAM dust monitors is required. If appropriate, the Competent Person will set a Site action level for dust concentrations.

Dust levels will be visually monitored during soil movement activities that may generate dust (e.g., soil excavation and truck loading). Mini-RAM dust monitors will also be use, if deemed necessary by the Competent Person. Dust should be monitored daily at the boundary of work areas where soil is disturbed. Dust monitor locations and wind direction should be recorded in field notes. Alarms should be set to sound if the dust leaving the boundary of remediation work area exceeds the Site action level. If Mini RAM dust monitors are used, average dust levels will be recorded in field notes at the end of each work day.

Work will stop if sustained wind velocity reaches or exceeds 25 miles per hour (mph).

5.1.2. Wet Methods

For arsenic-intrusive work activities, water will be utilized to adequately wet arsenic-containing soil before and during earthmoving activities to minimize the potential for the generation of dust. Additionally, temporary stockpiles of arsenic-containing soil will be adequately wetted to minimize fugitive dust generation.

Appropriate procedures to control the generation of airborne dust will be implemented during arsenic-intrusive activities with the potential to generate dust (e.g., excavation and truck loading). These procedures will include:

- Pre-water soil prior to soil movement activities;
- Apply water as necessary to maintain soils in a damp condition;
- Use a water spray as necessary at excavation and truck loading locations to minimize visible dust;
- Maintain at least six inches of freeboard on haul trucks;
- Use tarps or other suitable enclosures on haul trucks;
- Check belly-dump truck seals and remove any trapped rocks to prevent spillage;
- Limit size of staging area;
- Limit number and size of staging area entrances/exits;
- Maintain storage piles to avoid steep sides or faces; and
- Direct construction traffic over established haul routes.

Dust control methods will be evaluated during work activities. If dust control methods are deemed insufficient, the intensity and frequency of the dust control methods will be increased or soil stabilization additives will be included in the dust control water.

Caution will be exercised when performing dust control so as to avoid runoff and excessive ponding.

For dust control and safety purposes, the onsite speed limit shall be maintained at 15 mph or less.

5.1.3. Engineering Controls

To minimize dust generation, arsenic-containing soil stockpiles will be covered with heavy plastic sheeting when soil is not being added to or removed from the stockpile.

If necessary, a mist curtain may be used downwind of the work area to mitigate fugitive dust.

5.1.4. Cease Operations

All earth-moving activities associated with arsenic-intrusive work will cease in times of high wind conditions, defined as sustained wind speeds exceeding 25 mph.

5.2. Decontamination

Equipment and trucks that come into contact with potentially contaminated soil or water will be decontaminated to avoid cross-contamination. Disposable equipment intended for one time use will not be decontaminated, but will be packaged for appropriate disposal. Decontamination will occur prior to and after each designated use of a piece of equipment or truck.

Excavation and transportation equipment that handled contaminated soil will be decontaminated prior to use in uncontaminated areas and after the work is complete. Dry decontamination methods (e.g., removing soil using a shovel and brush) will be used to decontaminate excavation and transportation equipment. If dry decontamination methods are deemed insufficient, wet decontamination methods (e.g., using a water spray) may be used. Wastewater from wet decontamination, if any, will be collected and appropriately disposed.

Equipment wheels or tracks will be decontaminated at the location within the work area, i.e., at the edge of the work area so that contaminated soil remains within the work area. Excavation buckets and shovels will be decontaminated over contaminated soil, either in the work area or in the soil stockpile area.

Workers should minimize the amount of dirt and dust that may contain arsenic on their hands, face, and clothing. If any of these are visibly soiled, they should be cleaned with water or left at the Site. Footwear with visible accumulations of soil must be cleaned with a brush and water. These activities must be performed in a designated area to avoid cross-contamination.

Based on observed conditions encountered in the field, decontamination methods may be revised.

5.3. Run-On and Runoff Control

The following sections discuss the regulations and best management practices (BMPs) that shall be implemented during arsenic-intrusive work activities at the Site.

5.3.1. Storm Water Pollution Prevention Plan

The State of California Water Resources Control Board (SWRCB), in conjunction with the National Pollution Discharge Elimination System (NPDES), has adopted a statewide General Permit to discharge stormwater associated with construction activity (General Permit). The Regional Water Quality Control Board (RWQCB) is the agency in charge of enforcing the provisions of General Permits. The General Permit requires construction sites with earthmoving activities exceeding one acre or more to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP specifies BMPs to prevent discharge of sediment to storm drains, drainages and waterways in the vicinity of the Site.

5.3.2. Run-On and Runoff Control

The BMPs must be implemented during arsenic-intrusive work activities to prevent stormwater from entering the work area (run-on). BMPs will be in place to prevent stormwater/sediment migration away from the work area (runoff).

5.4. Soil Management Plan

The following sections identify the requirements for the management and handling of arsenic-containing soil at the Site.

5.4.1. Arsenic-Containing Soil Stockpile Operation

When stockpiling arsenic-containing soil generated during arsenic-intrusive work, the material will be adequately wetted. When not adding or removing soil from the stockpile, the stockpile will be covered with plastic sheeting, which will be secured in place. Additionally, soil stockpiles should be bermed to prevent run-on and runoff. Excavated soil shall be placed on plastic sheeting or other impermeable surface (e.g., concrete, asphalt) to avoid contamination of underlying soil or landscaped features, if present. As an alternative to stockpiling, soil may be placed in a bin with a cover or loaded directly into dump trucks for transportation.

5.4.2. Disposal of Arsenic-Containing Soil

If possible, arsenic-containing soil excavated during arsenic-intrusive activity will be replaced in its original location. Excess arsenic-containing soil generated during arsenic-intrusive work will be characterized and disposed of at an appropriately licensed landfill facility.

Based on a comparison of total arsenic concentrations and leachable arsenic concentrations in soil samples (see Section 6.3 and Appendix E of the Remedial Action Work Plan, dated November 14, 2007), excess soil with a total arsenic concentration equal to or exceeding 104 mg/kg will be disposed as a non-RCRA hazardous waste. Excess soil with a total arsenic concentration less than 104 mg/kg will be disposed as a non-hazardous waste. A table and chart summarizing the total vs. leachable arsenic concentrations are provided in Appendix J of the O&M Plan.

6. IMPLEMENTATION OF SOP

The SOP must be carefully implemented to ensure worker exposures are minimized and cap systems remain as protective barriers from the underlying arsenic, where present.

6.1. Field Documentation

The following sections identify the field documentation requirements for arsenic-intrusive work at the Site.

6.1.1. Field Reports

A daily field report (DFR) will be completed for each day of arsenic-intrusive work and submitted to the Arsenic Coordinator. The DFR should contain, but is not limited to, the following information:

- Project name/location;
- Contractor;
- Name of person who approved work;
- Name of person observing the work;
- Weather conditions; and
- Chronological description of events.

6.1.2. Photos

Photographic documentation is recommended for each day of arsenic-intrusive work to back up the description of events in the DFR. Photos should be submitted to the Arsenic Coordinator with the corresponding field report.

6.2. Site Preparation

Prior to beginning work, review the appropriate maps from the O&M plan to review anticipated arsenic concentrations and location or absence of warning barrier. The following sections describe other measures to be taken prior to the commencement of work that may disturb arsenic-containing soil.

6.2.1. Work Area Delineation and Security Measures

Prior to conducting maintenance work or repairs that may disturb arsenic-containing soil, an exclusion zone must be properly delineated using construction barricades, safety cones and “Caution” tape. Additionally, signs should be posted that communicate access to the area is restricted to authorized personnel only. Only personnel trained to conduct arsenic-intrusive work will be allowed inside the exclusion zone.

6.2.2. Utility Survey and Clearance

Prior to the commencement of arsenic-intrusive work, as-built drawings and school site plans will be reviewed to locate on-site underground utilities. Should proposed work areas be in the vicinity of the Site boundaries, Underground Service Alert (USA) will be contacted and the work area will be marked with white spray paint at least 48-hours in advance of any work.

6.2.3. Arsenic Control

Maintenance or repair work that may disturb arsenic-containing soil will be strictly managed to minimize potential arsenic exposure. Engineering controls will be used to control dust generation. Personnel performing intrusive work activities at the Site will attend arsenic awareness training. Further, arsenic-intrusive work should be scheduled for times when students, faculty and staff are not on Site (evening, weekends, extended summer breaks, etc.), if possible.

6.2.4. Permits and Plans

District personnel will obtain applicable permits, submit work orders, and notify the appropriate agencies of planned arsenic-intrusive work prior to starting the work.

6.3. Field Work

The following sections describe various types of field work that may take place during the course of operations and maintenance activities and the recommended procedures to follow when completing the specified work activity.

6.3.1. Excavation

Excavation using heavy machinery may be required to perform arsenic-intrusive work activities at the Site. Work that requires excavation using heavy equipment shall adhere to California Code of Regulations, Title 8, Section 1540, Excavation.

Dust mitigation measures will be strictly enforced during arsenic-intrusive excavation work. Refer to Section 5.1 of this SOP for dust control requirements.

Excavation operations shall adhere to the following procedures:

1. Remove ground cover (sod, bark, mulch, etc.) and pile away from work area to prevent mixing with arsenic-containing soil.
2. Carefully excavate clean-fill material so as not to damage the integrity of the warning barrier. Hand excavation practices may be appropriate once the excavation is within a few inches of the warning barrier.
3. Place clean-fill material on plastic sheeting or other impermeable surface (e.g., cement, asphalt) for the duration of the work to minimize the potential for the clean-fill material to mix with arsenic-containing soil located below the warning barrier.

4. If the scheduled work requires excavation into arsenic-containing soil, cut the warning barrier in a manner such that it can be folded back into place following work activities.
5. Place excavated arsenic-containing soil on plastic sheeting, plywood or other impermeable surface to minimize the potential for arsenic-containing soil to mix with surface materials.
6. Following repair work, replace arsenic-containing soil and compact according to relevant specifications.
7. Fold warning barrier back into place.
8. Perform decontamination in accordance with Section 5.2.
9. Place clean-fill material above warning barrier.
10. Replace ground cover to landscape architect's specification.
11. Discard plastic by folding inward to prevent debris from leaving plastic and place in a sealed and labeled container (drum, 6-mil plastic bags [2]) for subsequent offsite disposal.

6.3.2. Soil Staging and Storage Operations

Arsenic-containing soil stockpiles will be placed on plastic sheeting or other impermeable surface (e.g., concrete, asphalt) in an effort to minimize potential contamination of underlying soil/softscapes, if present. The soil will be adequately wetted to minimize dust generation.

When not adding or removing soil from the stockpile, the stockpile will be covered with plastic sheeting or managed by engineering controls in the form of a hardscape cap or soil cap to reduce the potential for exposure to arsenic-containing soil. Plastic sheeting or other covers will be maintained so that the stockpile remains covered. Hardscape caps consist of asphalt and concrete and, in some cases compacted aggregate base underneath the asphalt or concrete. Soil caps consist of soil, decomposed granite, and/or $\frac{3}{4}$ inch crushed rock.

6.3.3. Soil Segregation Operations

For arsenic-intrusive work that takes place in an area where the cap system is clean-fill material, reasonable efforts will be made to segregate the clean-fill material from arsenic-containing soil. Soil segregation is necessary to ensure the clean-fill material will remain an effective mitigation measure against potential arsenic exposure after the completion of work.

Excess arsenic-containing soil will have to be hauled off-site for disposal at an appropriate licensed facility. The guidelines for off-site disposal are discussed in Section 6.4.5 of this SOP.

6.4. Transportation for Offsite Disposal

The following sections describe the procedures for transportation and offsite disposal should excess arsenic-containing soil be generated during arsenic-intrusive work activities at the Site.

6.4.1. Waste Soil Loading

Excess or waste arsenic-containing soil will be loaded into trucks, either directly from the excavation or from a stockpile. Waste soil loading activities shall adhere to the following procedures:

1. Place heavy plastic sheeting beneath the trucks in the loading area to contain soil spilled during loading operations.
2. Arsenic-containing soil must be adequately wetted prior to loading into trucks to minimize dust generation.
3. Six inches or more of freeboard will be maintained when loading trucks.
4. Drop heights during loading shall be minimized.
5. Prior to moving off the plastic sheeting, each loaded truck will be swept off to remove soil spilled during loading. Moisten soil for dust control prior to sweeping it off the truck.

6. Clean off plastic sheeting prior to driving off plastic to prevent tracking of arsenic-containing soil away from the work area.
7. Loads must be wetted and covered prior to leaving the waste soil loading area.
8. Following the completion of waste soil loading activities, the plastic sheeting shall be folded inward to prevent material from leaving plastic and loaded into last truck prior to covering.

6.4.2. Dust Control During Transportation

In order to minimize the generation of dust during transportation of the loads, there will be at least 6 inches of freeboard, and soil will be adequately wetted and covered with tarps. Additionally, the condition of the trucks utilized for offsite transportation will be maintained to ensure that spillage cannot occur from holes or other openings in the cargo compartments.

6.4.3. Traffic Control

It is not anticipated that a large number of trucks will be required for most arsenic-intrusive work activities that will occur at the Site. However, if potential traffic issues are identified prior to a large-scale arsenic-intrusive work activity, then traffic control and truck coordination efforts will be put into effect.

6.4.4. Transportation Routes

Transportation of contaminated soils will be on arterial streets and/or freeways, approved for truck traffic, to minimize any potential impact on the local neighborhood. In general, the transportation trucks will exit the Site on Carolan Avenue and travel north to Broadway. Trucks will turn right (east) onto Broadway and travel to US Highway 101.

Assuming hazardous waste will go to the Chemical Waste Management Kettleman Hills facility, transportation trucks will travel south on US Highway 101, then east on California Highway 92 across the San Mateo – Hayward Bridge. The trucks will then travel north on Interstate 880, east on Interstate 238, and east on Interstate 580. The truck will then travel south on Interstate 5 to Kettleman City. The trucks will then travel south on California Highway 41 and exit on Old

Skyline Road. The trucks will then turn right and travel west on Old Skyline Road to the Kettleman Hills facility.

Assuming non-hazardous waste will go to the Altamont landfill, transport trucks will travel south on US Highway 101, then east on California Highway 92 across the San Mateo – Hayward Bridge. The trucks will then travel north on Interstate 880, east on Interstate 238, and east on Interstate 580. The truck will then exit on the Greenville Road/Altamont Pass Road. The trucks will then turn left on Southfront Road, left on Greenville Road, and right on Altamont Pass Road to the Altamont landfill.

If necessary, truckloads may be spread out over several days so as to not cause a disruption in local traffic. In addition, transportation should be timed to avoid rush traffic hours.

6.4.5. Offsite Disposal

Excess arsenic-containing soil will be handled, transported, and disposed as non-RCRA hazardous waste or non-hazardous waste, as appropriate (see Section 5.4.2). The waste shall be transported under the appropriate shipping documentation as described in Section 6.4.6, within 90 days after its generation. Final determination of the landfills used for disposal will be based on approval from the landfills.

6.4.6. Shipment Documentation

When excavated soil is profiled as a hazardous waste, the Uniform Hazardous Manifest is to be used to track the movement of hazardous waste soils from the point of generation to the point of ultimate disposition. Hazardous waste shall be transported as regulated by the Health and Safety Code Chapter 6.5 Article 6, Section 25160. Prior to transporting the excavated soil off-site, an authorized representative of the District or its designated representative will sign each hazardous waste manifest. The hazardous waste hauler will then sign the manifest and distribute one signed copy to the District representative.

When excavated soil is profiled as non-hazardous waste, proper shipping documentation, such as a bill of lading or invoice, will be used to document and accompany each truck shipment. At a minimum, the shipping document will include the following information:

- Name and Address of Waste Generator
- Name and Address of Waste Transporter
- Name and Address of Disposal Facility
- Description of the Waste
- Quantity of Waste Shipped

The contractor's Site Manager will maintain a copy of the shipping document for each truckload on-site until completion of the remedial action.

6.5. Backfill, Compaction, and Site Restoration

Following completion of arsenic-intrusive work, the engineering controls that make up the cap system shall be restored to the RAW specifications. The warning barrier, if any, shall be restored to its original condition prior to the placement of clean fill. Material used as backfill shall be compacted to meet the relevant specifications.

If imported soil is required to restore the site, it will be evaluated for the presence of contaminants prior to its use as replacement fill at the Site. Only soil that meets DTSC criteria will be transported to the Site. A reasonable approach to confirming the absence of chemical contaminants for potential fill sources is to follow DTSC's Fact Sheet on Import Fill Material (see Attachment A).

6.6. Work Completion Inspection

Following completion of arsenic-intrusive work activities and prior to reopening the area for public use, the Arsenic Coordinator shall conduct an inspection to ensure the Site has been restored to its original condition.

Additionally, a Completion Report for arsenic-intrusive work will be completed by either the Arsenic Coordinator or the O&M Professional within 60 days of completing the arsenic-intrusive work. The Completion Report for arsenic-intrusive work will follow the outline included in Appendix G of the O&M Plan. Completion reports prepared for arsenic-intrusive work shall be included in the following Five-Year Report prepared for the Site.

7. REFERENCES

Kleinfelder, 2007, Final Remedial Action Workplan (RAW), Burlingame High School, Kleinfelder Document No. SJ07R416, November 14.

TABLES

TABLE 1
NOTICE AND REPORTING REQUIREMENTS FOR ARSENIC-INTRUSIVE WORK
STANDARD OPERATING PROCEDURE
BURLINGAME HIGH SCHOOL
400 CAROLAN AVENUE, BURLINGAME, CALIFORNIA

	Planned Work ≤ 7 Calendar Days in Duration	Planned Work > 7 Calendar Days in Duration	Unplanned Work Completed ≤ 14 Calendar Days After Discovery and ≤ 7 Days in Duration	Unplanned Work Completed > 14 Calendar Days After Discovery or > 7 Days in Duration
Using Approved SOP	Notification not required. Document in Five-Year Report.	Notify DTSC at least 14 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notification not required. Document in Five-Year Report.	Notify DTSC as soon as apparent work will take more than 7 days or be completed more than 14 days after discovery. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.
Using Modified SOP	Notify DTSC at least 14 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC at least 14 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work will require modified SOP. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work (a) will required modified SOP, (b) will take more than 7 days or (c) be completed more than 14 days after discovery. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.
Using New SOP	Notify DTSC at least 30 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC at least 30 days before work begins. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work will require new SOP. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.	Notify DTSC as soon as apparent work (a) will required new SOP, (b) will take more than 7 days or (c) be completed more than 14 days after discovery. Submit Completion Report to DTSC within 60 days of completion of work and include in Five-Year Report.

Attachment A

DTSC FACT SHEET ON IMPORT FILL MATERIAL

October 2001

Information Advisory

Clean Imported Fill Material



DEPARTMENT OF TOXIC SUBSTANCES CONTROL

It is DTSC's mission to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California



California
Environmental
Protection Agency



Executive Summary

This fact sheet has been prepared to ensure that inappropriate fill material is not introduced onto sensitive land use properties under the oversight of the DTSC or applicable regulatory authorities. Sensitive land use properties include those that contain facilities such as hospitals, homes, day care centers, and schools. This document only focuses on human health concerns and ecological issues are not addressed. It identifies those types of land use activities that may be appropriate when determining whether a site may be used as a fill material source area. It also provides guidelines for the appropriate types of analyses that should be performed relative to the former land use, and for the number of samples that should be collected and analyzed based on the estimated volume of fill material that will need to be used. The information provided in this fact sheet is not regulatory in nature, rather is to be used as a guide, and in most situations the final decision as to the acceptability of fill material for a sensitive land use property is made on a case-by-case basis by the appropriate regulatory agency.

Introduction

The use of imported fill material has recently come under scrutiny because of the instances where contaminated soil has been brought onto an otherwise clean site. However, there are currently no established standards in the statutes or regulations that address environmental requirements for imported fill material. Therefore, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has prepared this fact sheet to identify procedures that can be used to minimize the possibility of introducing contaminated soil onto a site that requires imported fill material. Such sites include those that are undergoing site remediation, corrective action, and closure activities overseen by DTSC or the appropriate regulatory agency. These procedures may also apply to construction projects that will result in sensitive land uses. The intent of this fact sheet is to protect people who live on or otherwise use a sensitive land use property. By using this fact sheet as a guide, the reader will minimize the chance of introducing fill material that may result in potential risk to human health or the environment at some future time.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.dtsc.ca.gov.

Overview

Both natural and manmade fill materials are used for a variety of purposes. Fill material properties are commonly controlled to meet the necessary site specific engineering specifications. Because most sites requiring fill material are located in or near urban areas, the fill materials are often obtained from construction projects that generate an excess of soil, and from demolition debris (asphalt, broken concrete, etc.). However, materials from those types of sites may or may not be appropriate, depending on the proposed use of the fill, and the quality of the assessment and/or mitigation measures, if necessary. Therefore, unless material from construction projects can be demonstrated to be free of contami-

nation and/or appropriate for the proposed use, the use of that material as fill should be avoided.

Selecting Fill Material

In general, the fill source area should be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to insure that the fill does not include former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous ma-

Potential Contaminants Based on the Fill Source Area

Fill Source:	Target Compounds
Land near to an existing freeway	Lead (EPA methods 6010B or 7471A), PAHs (EPA method 8310)
Land near a mining area or rock quarry	Heavy Metals (EPA methods 6010B and 7471A), asbestos (polarized light microscopy), pH
Agricultural land	Pesticides (Organochlorine Pesticides: EPA method 8081A or 8080A; Organophosphorus Pesticides: EPA method 8141A; Chlorinated Herbicides: EPA method 8151A), heavy metals (EPA methods 6010B and 7471A)
Residential/acceptable commercial land	VOCs (EPA method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035), semi-VOCs (EPA method 8270C), TPH (modified EPA method 8015), PCBs (EPA method 8082 or 8080A), heavy metals including lead (EPA methods 6010B and 7471A), asbestos (OSHA Method ID-191)

**The recommended analyses should be performed in accordance with USEPA SW-846 methods (1996). Other possible analyses include Hexavalent Chromium: EPA method 7199*

Recommended Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 acres or less	Minimum of 4 samples
2 to 4 acres	Minimum of 1 sample every 1/2 acre
4 to 10 acres	Minimum of 8 samples
Greater than 10 acres	Minimum of 8 locations with 4 subsamples per location
Volume of Borrow Area Stockpile	Samples per Volume
Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1000 cubic yards + 1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

materials were used, handled or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil. Undesirable commercial sites include former gasoline service stations, retail strip malls that contained dry cleaners or photographic processing facilities, paint stores, auto repair and/or painting facilities. Undesirable industrial facilities include metal processing shops, manufacturing facilities, aerospace facilities, oil refineries, waste treatment plants, etc. Alternatives to using fill from construction sites include the use of fill material obtained from a commercial supplier of fill material or from soil pits in rural or suburban areas. However, care should be taken to ensure that those materials are also uncontaminated.

Documentation and Analysis

In order to minimize the potential of introducing contaminated fill material onto a site, it is necessary

to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. It is recommended that any such documentation should be signed by an appropriately licensed (CA-registered) individual. If such documentation is not available or is inadequate, samples of the fill material should be chemically analyzed. Analysis of the fill material should be based on the source of the fill and knowledge of the prior land use.

Detectable amounts of compounds of concern within the fill material should be evaluated for risk in accordance with the DTSC Preliminary Endangerment Assessment (PEA) Guidance Manual. If

metal analyses are performed, only those metals (CAM 17 / Title 22) to which risk levels have been assigned need to be evaluated. At present, the DTSC is working to establish California Screening Levels (CSL) to determine whether some compounds of concern pose a risk. Until such time as these CSL values are established, DTSC recommends that the DTSC PEA Guidance Manual or an equivalent process be referenced. This guidance may include the Regional Water Quality Control Board's (RWQCB) guidelines for reuse of non-hazardous petroleum hydrocarbon contaminated soil as applied to Total Petroleum Hydrocarbons (TPH) only. The RWQCB guidelines should not be used for volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCS). In addition, a standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results should also accompany all analytical reports.

When possible, representative samples should be collected at the borrow area while the potential fill material is still in place, and analyzed prior to removal from the borrow area. In addition to performing the appropriate analyses of the fill material, an appropriate number of samples should also be determined based on the approximate volume or area of soil to be used as fill material. The table above can be used as a guide to determine the number of samples needed to adequately characterize the fill material when sampled at the borrow site.

Alternative Sampling

A Phase I or PEA may be conducted prior to sampling to determine whether the borrow area may have been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with DTSC or appropriate regulatory agency. However, if it is not possible to analyze the fill material at the borrow area or determine that it is appropriate for use via a Phase I or PEA, it is recommended that one (1) sample per truckload be collected and analyzed for all com-

pounds of concern to ensure that the imported soil is uncontaminated and acceptable. (See chart on Potential Contaminants Based on the Fill Source Area for appropriate analyses). This sampling frequency may be modified upon consultation with the DTSC or appropriate regulatory agency if all of the fill material is derived from a common borrow area. However, fill material that is not characterized at the borrow area will need to be stockpiled either on or off-site until the analyses have been completed. In addition, should contaminants exceeding acceptance criteria be identified in the stockpiled fill material, that material will be deemed unacceptable and new fill material will need to be obtained, sampled and analyzed. Therefore, the DTSC recommends that all sampling and analyses should be completed prior to delivery to the site to ensure the soil is free of contamination, and to eliminate unnecessary transportation charges for unacceptable fill material.

Composite sampling for fill material characterization may or may not be appropriate, depending on quality and homogeneity of source/borrow area, and compounds of concern. Compositing samples for volatile and semivolatile constituents is not acceptable. Composite sampling for heavy metals, pesticides, herbicides or PAH's from unanalyzed stockpiled soil is also unacceptable, unless it is stockpiled at the borrow area and originates from the same source area. In addition, if samples are composited, they should be from the same soil layer, and not from different soil layers.

When very large volumes of fill material are anticipated, or when larger areas are being considered as borrow areas, the DTSC recommends that a Phase I or PEA be conducted on the area to ensure that the borrow area has not been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with the DTSC.

For further information, call Richard Coffman, Ph.D., R.G., at (818) 551-2175.

APPENDIX G
ARSENIC-INTRUSIVE WORK COMPLETION REPORT
OUTLINE

APPENDIX G

ARSENIC-INTRUSIVE WORK COMPLETION REPORT OUTLINE

Table of Contents

1.0	GENERAL INFORMATION
2.0	PUBLIC NOTIFICATION ACTIVITIES (if applicable)
3.0	SUMMARY OF WORK ORDER
3.1	Work Location (maps and figures for larger projects)
3.2	Description of Work Activities
3.3	SOP (cite relevant SOP)
4.0	SITE PREPARATION
4.1	Permits (if applicable)
4.2	Site Preparation and Security Measures
5.0	REPAIR, MAINTENANCE, AND SITE RESTORATION
5.1	Excavation
5.1.1	Summary of Excavation
5.1.2	Soil Staging, Segregation and Storage Operations
5.1.3	Decontamination
5.2	Repair or Maintenance
5.3	Compliance with Health and Safety Requirements
5.4	Dust Control
5.5	Field Documentation
5.6	Transportation Plan for Offsite Disposal (if applicable)
5.7	Backfill and Site Restoration
6.0	FIELD VARIANCE OR CHANGE ORDER (if applicable)
7.0	SIGNATURE

APPENDIX H

(RESERVED)

APPENDIX I

ARSENIC FIVE YEAR REVIEW REPORT OUTLINE

APPENDIX I

ARSENIC FIVE YEAR REPORT OUTLINE

Table of Contents

1. INFORMATION
 - 1.1. Site Background
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 - 1.3. Site Chronology
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 - 2.1. Purpose of Current Five Year Review and Inspection
 - 2.2. Citation and Location of Previous Annual and Five Year Reviews, Removal Action Plan, Removal Action Completion Report
 - 2.3. Summary of Cap Systems
3. SUMMARY OF PERIODIC INSPECTIONS FOR MOST RECENT TWO-YEAR PERIOD
4. SUMMARY OF ACTIONS COMPLETED SINCE PREVIOUS BIENNIAL REPORT
 - 4.1. Repairs
 - 4.2. Significant changes in site conditions or usage
5. NARRATIVE OF OBSERVATIONS
 - 5.1. School Site Walkthrough
 - 5.2. Annual Inspection Checklist and Field Log
 - 5.2.1. Areas Requiring Action
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 - 5.3.1. Hardscape Areas – Cap Integrity
 - i. Corrective Action Schedule
 - 5.3.2. Landscape Areas – Cap Integrity
 - i. Evaluation of Cap Thickness
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6. SUMMARY OF CHANGES SINCE PREVIOUS FIVE YEAR REVIEW
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 - 7.1. Summary of previous annual reports and inspections
 - 7.2. Evaluation of ongoing cap protectiveness
8. CONCLUSIONS AND RECOMMENDATIONS
 - 8.1. Conclusions
 - 8.2. Recommendations
9. SIGNATURE (Requires O&M Project Professional and Project Coordinator signatures)

Appendices

- A. Site Location Map
- B. Site Plan Map
- C. Periodic Inspection Checklists
- D. Training Records
- E. Notifications and Completion Reports (if applicable)
- F. Annual Inspection Checklist and Field Notes
- G. Photo Log: Include photographs depicting site conditions
- H. Report and Inspection Schedule

APPENDIX J

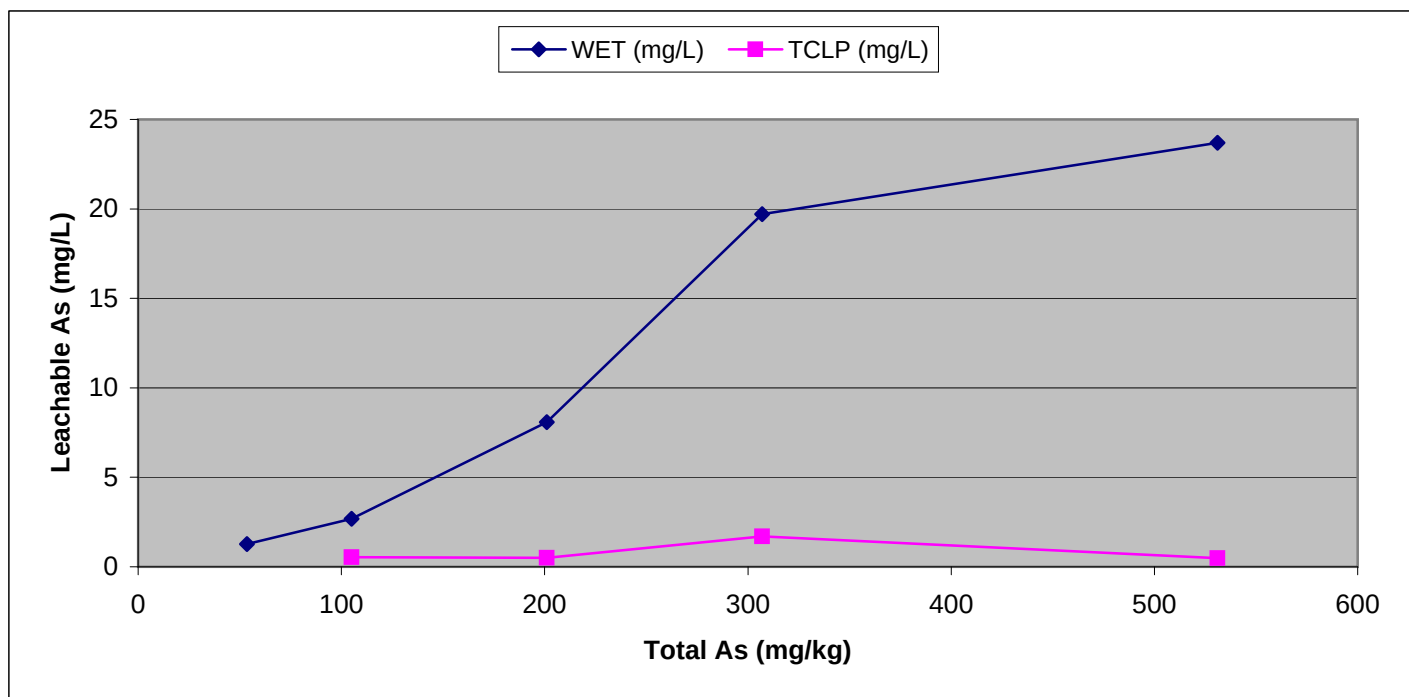
TOTAL VS. LEACHING ARSENIC CONCENTRATIONS

TOTAL AND LEACHABLE ARSENIC CONCENTRATIONS
Burlingame High School
400 Carolan Avenue, Burlingame, California

ID	Total (mg/kg)	WET (mg/L)	TCLP (mg/L)
C-3-3	53.6	1.27	-
SC-5-6	105	2.68	0.54
C-6-4	201	8.09	0.498
C-9-3	307	19.7	1.70
C-8-3.5	531	23.7	0.477

WET = California Waste Extraction Test

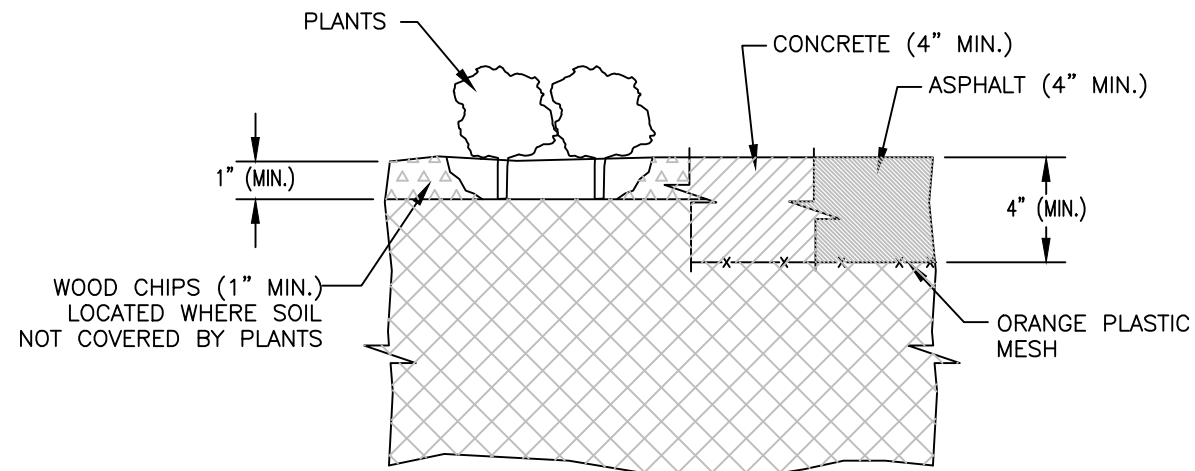
TCLP = Federal Toxicity Characteristic Leaching Procedure



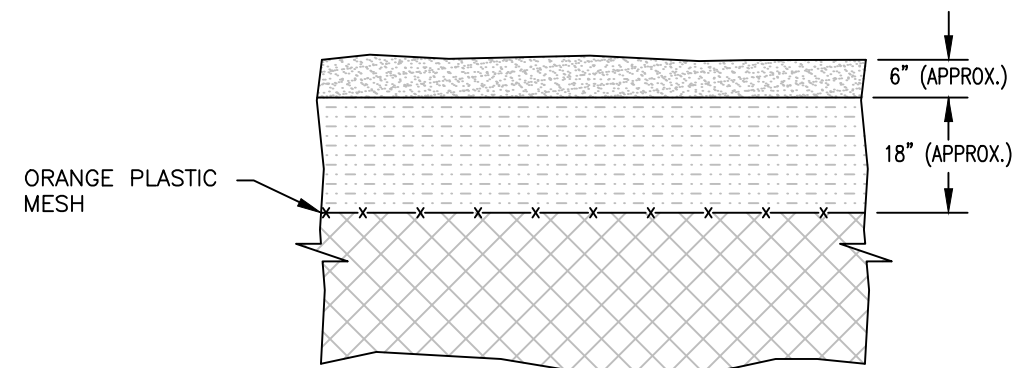
APPENDIX K

AREAS OF CONCERN CROSS-SECTIONS

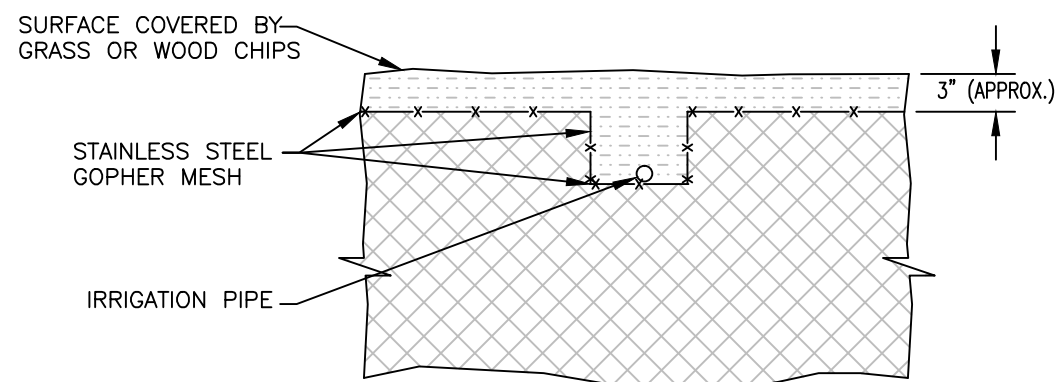
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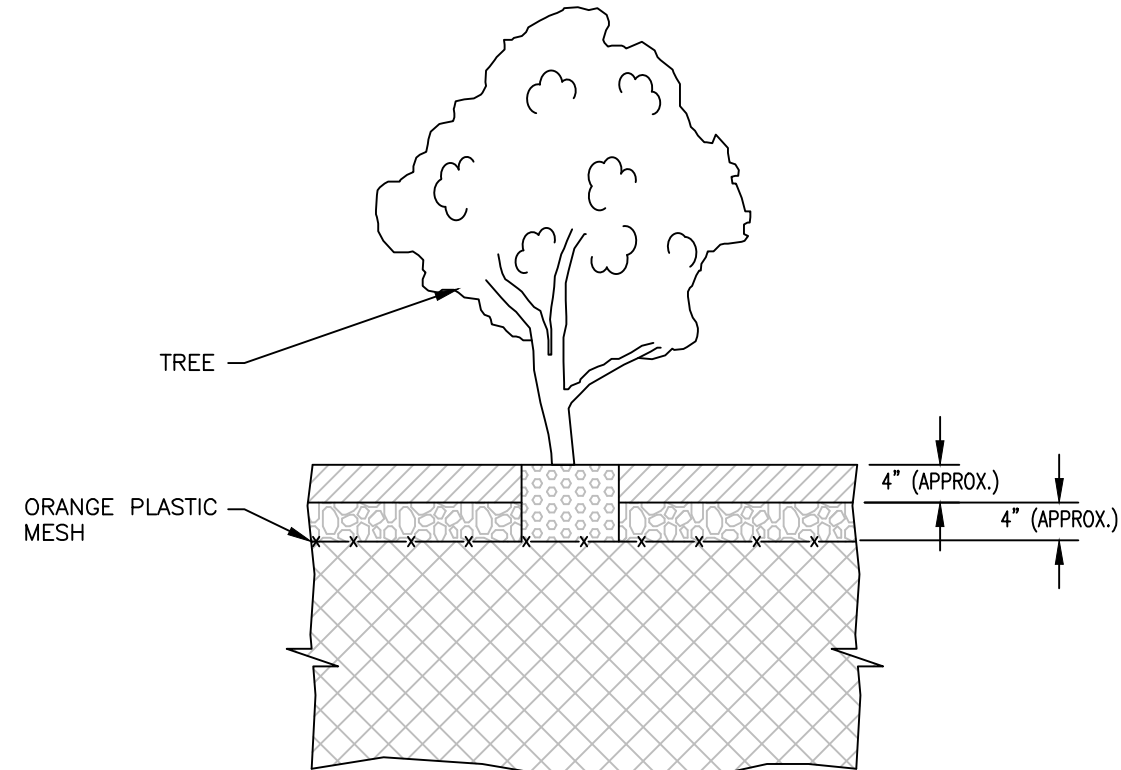
AREA C CROSS-SECTION (TYP.)



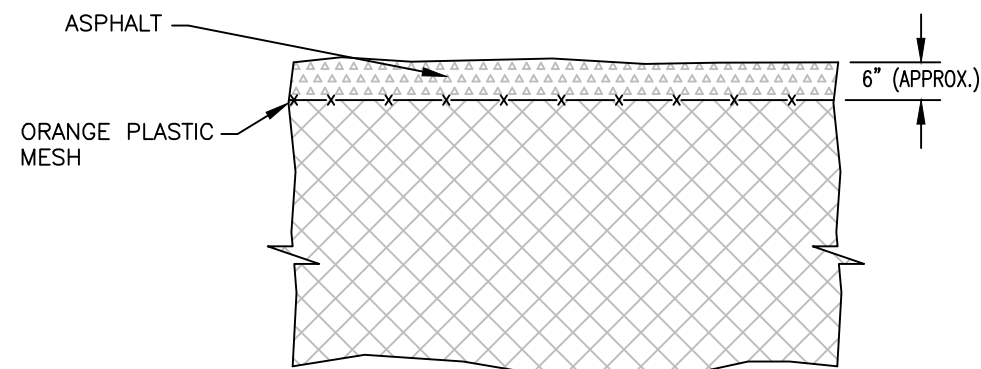
AREA D2 CROSS-SECTION (TYP.)



AREA E CROSS-SECTION (TYP.)



AREA F1 AND F2 CROSS-SECTION (TYP.)



AREA G3 CROSS-SECTION (TYP.)

LEGEND

- WOOD CHIPS
- DECOMPOSED GRANITE
- CLEAN FILL SOIL
- CONCRETE
- ASPHALT
- AGGREGATE BASE
- CRUSHED ROCK
- SOIL CONTAINING ARSENIC CONCENTRATIONS ABOVE CLEANUP SCREENING LEVELS

AREAS OF CONCERN
CROSS-SECTIONS

PREPARED FOR

BURLINGAME HIGH SCHOOL

08/01/11	DRAFT	MSR	AJK	
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY
			AP'D BY	



DRAWING NO.	29091-11-1000
FIGURE K-1	

APPENDIX L
SELECTED TABLES AND FIGURES FROM SSI REPORT
AND RAW

Table 4
Confirmation Sample Analytical Results for Arsenic in Soil - Area D

Burlingame High School
400 Carolan Avenue, Burlingame, California

Sample ID	Date	Depth (Inches)	Concentration (mg/kg)
Area D1			
D-BC-1	1/21/2008	22	2.8
D-BC-2	1/21/2008	26	4.4
D-SC-3	1/31/2008	12	15
D-SC-4	1/31/2008	12	28
D-SC-5	1/31/2008	12	5.9
D-SC-6	1/31/2008	12	2.2
D-SC-7	1/31/2008	12	2.4
Area D2			
D-BC-8	2/13/2008	25 ⁽¹⁾	54
D-SC-8E	2/13/2008	11	15
D-SC-8-N	2/13/2008	11 ⁽¹⁾	290
D-SC-8W	2/13/2008	14 ⁽¹⁾	370
D-BC-9	2/13/2008	23	4.0
D-SC-9E	2/13/2008	11.5	6.0
D-BC-10	2/13/2008	36	210
D-SC-10E	2/13/2008	18.0	5.6
D-BC-11	2/14/2008	28.0	2.5
D-SC-11E	2/14/2008	14.0	4.4
D-BC-12	2/14/2008	23.0	5.9
D-SC-12E	2/14/2008	11.5	37

Notes:

All samples were analyzed at Torrent Laboratory in Milpitas, California.

Sample depth is in inches below ground surface.

Sample concentrations above the Cleanup Screening level (CSL) of 19.7 mg/kg are indicated in **bold**.

"BC" indicates sample is from bottom of excavation (e.g., D-BC-1).

"SC" indicates sample is from sidewall of excavation (e.g., D-SC-3).

⁽¹⁾ Rough estimate.

Table 5
Confirmation Sample Analytical Results for Arsenic in Soil - Area F

Burlingame High School
400 Carolan Avenue, Burlingame, California

Sample ID	Date	Depth (Inches)	Concentration (mg/kg)
Area F1			
F-BC-1	2/21/2008	8 ⁽¹⁾	370
F-BC-2	2/21/2008	8 ⁽¹⁾	480
F-BC-3	2/21/2008	8 ⁽¹⁾	89
F-BC-4	2/21/2008	8 ⁽¹⁾	22
F-BC-5	2/21/2008	8 ⁽¹⁾	8.1
F-BC-6	2/21/2008	8 ⁽¹⁾	300
F-BC-7	4/2/2008	8	150
F-BC-8	4/2/2008	8	330
F-BC-9	4/2/2008	8	240
Area F2			
F-BC-10	4/2/2008	8	220
F-BC-11	4/2/2008	8	47
F-BC-12	4/8/2008	8.5 ⁽¹⁾	18
F-BC-13	4/8/2008	8.5 ⁽¹⁾	160
F-BC-14	4/8/2008	8.5 ⁽¹⁾	8.7
F-BC-15	4/8/2008	8.5 ⁽¹⁾	44
F-BC-16	4/8/2008	8.5 ⁽¹⁾	530
F-BC-17	4/8/2008	8.5 ⁽¹⁾	3.8
F-BC-18	4/15/2008	8.5 ⁽¹⁾	100
F-BC-19	4/15/2008	8.5 ⁽¹⁾	32
F-BC-20	4/15/2008	8.5 ⁽¹⁾	630
F-BC-21	4/15/2008	8.5 ⁽¹⁾	620
F-BC-22	4/15/2008	8.5 ⁽¹⁾	76
F-BC-23	4/15/2008	8.5 ⁽¹⁾	520
F-BC-24	4/15/2008	8.5 ⁽¹⁾	190

Notes:

All samples were analyzed at Torrent Laboratory in Milpitas, California.

Sample depth is in inches below ground surface.

Sample concentrations above the Cleanup Screening level (CSL) of 19.7 mg/kg are indicated in **bold**.

"BC" indicates sample is from bottom of excavation (e.g., F-BC-2).

⁽¹⁾ Rough estimate.

Table 6
Confirmation Sample Analytical Results for Arsenic in Soil - Area G

Burlingame High School
400 Carolan Avenue, Burlingame, California

Sample ID	Date	Depth (Inches)	Concentration (mg/kg)
Area G1			
G-BC-1	12/10/2007	22	53
G-SC-1	12/10/2007	0	86
G-BC-2	12/10/2007	30	70
G-SC-2	12/10/2007	0	30
G-BC-3	12/10/2007	29	43
G-SC-3	12/10/2007	0	65
G-BC-4	12/10/2007	24	69
G-SC-4	12/10/2007	0	78
G-BC-5	12/10/2007	33	130
G-SC-5	12/10/2007	0	210
G-BC-6	12/10/2007	29	98
G-SC-6	12/10/2007	0	100
G-BC-7	12/10/2007	33	26
G-SC-7	12/10/2007	0	90
G-BC-8	12/10/2007	26	81
G-SC-8	12/10/2007	0	8.2
G-BC-9	12/10/2007	24	250
G-SC-9	12/10/2007	0	14
G-BC-10	12/10/2007	23	280
G-SC-10	12/10/2007	0	31
G-BC-11	12/10/2007	26	29
G-SC-11	12/10/2007	0	58
G-BC-41 ⁽²⁾	1/3/2008	36	2.0
G-BC-42	1/3/2008	12	2.2
G-BC-43	1/3/2008	36	3.2
G-BC-44	1/3/2008	12	<1.7
G-BC-45	1/3/2008	34	<1.7
G-BC-46	1/3/2008	12	4.4
G-SC-47	1/3/2008	0	18
G-BC-48	1/21/2008	34	3.0
G-BC-49	1/21/2008	18	7.0
G-SC-49	1/21/2008	0	4.1
G-BC-50	1/21/2008	32	4.4
G-BC-51	1/21/2008	16	4.2
G-SC-51	1/21/2008	0	2.5
G-BC-52	1/21/2008	36	3.2
G-BC-53	1/21/2008	14	11
G-SC-53	1/21/2008	0	2.4
G-BC-54	1/21/2008	34	4.4
G-BC-55	1/21/2008	14	2.2
G-SC-55	1/21/2008	0	4.4
G-BC-56	1/21/2008	31	2.3
G-BC-57	1/21/2008	14	4.5
G-SC-57	1/21/2008	0	6.0

Table 6
Confirmation Sample Analytical Results for Arsenic in Soil - Area G

Burlingame High School
400 Carolan Avenue, Burlingame, California

Sample ID	Date	Depth (Inches)	Concentration (mg/kg)
G-BC-58	1/21/2008	29	3.4
G-BC-59	1/21/2008	14	2.4
G-SC-59	1/21/2008	0	9.2
G-BC-60	1/21/2008	30	2.8
G-BC-61	1/21/2008	18	3.9
G-SC-61	1/21/2008	0	57
G-SC-62	1/31/2008	42	73
G-BC-63	2/5/2008	15 ⁽¹⁾	4.7
G-SC-63W	2/5/2008	8	3.5
G-SC-63N	2/5/2008	6	5.9
Area G2			
G-BC-64	3/12/2008	26	5.4
G-SC-64	3/12/2008	13	17
G-BC-65	3/12/2008	22	4.2
G-SC-65	3/12/2008	11	77
G-BC-66	3/12/2008	24	4.4
G-SC-66	3/12/2008	12	14
G-BC-67	3/12/2008	17	5.0
G-SC-67	3/12/2008	12	85
Area G3			
G-BC-68	11/3/2008	5	5.1
G-BC-69	11/3/2008	6	280
G-BC-70	11/3/2008	6	100
G-BC-71	11/3/2008	6	55

Notes:

All samples were analyzed at Torrent Laboratory in Milpitas, California.

Sample depth is in inches below ground surface.

Sample concentrations above the Cleanup Screening level (CSL) of 19.7 mg/kg are indicated in **bold**.

"BC" indicates sample is from bottom of excavation (e.g., G-BC-11).

"SC" indicates sample is from sidewall of excavation (e.g., G-SC-11).

Shading indicates the soil in the area of the sample was removed during subsequent excavation.

"<" indicates the concentration was less than the detection limit listed.

⁽¹⁾ Rough estimate.

⁽²⁾ Gap in sequence due to numbering error in the field.

APPENDIX M

RESPONSES TO DTSC COMMENTS

Response To DTSC Comments
On Review Of The Draft Updated Operations And Maintenance Plan,
San Mateo Union High School District, Burlingame High School
400 Carolan Avenue, Burlingame, California
[Site Code 204083]

DTSC Comment Number	DTSC Comments [May 12, 2015]	Response to DTSC Comments [May 18, 2015]
1.	Cover page. DTSC recommends indicating that the O&M Plan has been updated (e.g., Updated – 23 April 2015).	The Cover page will be updated per the recommendation from DTSC.
2.	Section 1.1 Introduction, Page 1–1. Please indicate in this section that the O&M Plan has been updated and was prepared in conjunction with a required five–year review of the mitigation measures at the site.	Section 1.1 Introduction will be updated as per the comments from DTSC.
3.	Section 2.2 Post–Mitigation Sit Conditions, 2 nd paragraph, Page 2–3. Please update this paragraph to indicate that the District has entered into a covenant and agreement to restrict the use of property (i.e. Land Use Covenant [LUC]). A LUC is required because there are hazardous substances remaining onsite at concentrations which do not allow for unrestricted use of the property. The LUC runs with the land pursuant to Health and Safety Code 25355.5 and Civil Code Section 1471. In addition, the District completes a LUC Report on an annual basis (July 1 st to June 30 th) to document the inspection of the capped areas, verifying compliance with the environmental restrictions stated in the LUC.	Section 2.2 Post–Mitigation Sit Conditions, 2 nd paragraph will be updated per the comments from DTSC.

Response To DTSC Comments
On Review Of The Draft Updated Operations And Maintenance Plan,
San Mateo Union High School District, Burlingame High School
400 Carolan Avenue, Burlingame, California
[Site Code 204083]

4.	Section 3. Summary of Engineering Controls – Selected Cap and Landscape Remedies, 2 nd paragraph, Page 3–1. The locations of the engineering controls are shown on Figures 2 through 5 and 9. Please include a reference to Figure 9 in the 2 nd sentence of this section.	Modifications will be made as per the comments from DTSC.
5.	Section 3. Summary of Engineering Controls – Selected Cap and Landscape Remedies, Area E, Page 3–2. Please revise the text to include the 2014 Arsenic Five Year Summary Report, Section 1.3 Summary of Cap Systems Information that states that Area E is covered by 3–14 inches clean soil.	The Section 3 Summary of Engineering Controls – Area E will be updated to include the modifications done per the 2014 Arsenic Five Year Summary Report, Section 1.3.
6.	Section 3. Summary of Engineering Controls – Selected Cap and Landscape Remedies, Area H, Page 3–3. Please revise the Area H Cap text to include information from the 2014 Arsenic Five Year Summary Report Section 1.3 Summary of Cap Systems.	The Section 3 Summary of Engineering Controls – Area H will be updated to include the modifications done per the 2014 Arsenic Five Year Summary Report, section 1.3.
7.	Table 3 Summary of Cap and Landscape Systems. Please update the information in the Table 3, since Area C along the southeast sides of the gym is capped with concrete.	Table 3 Summary of Cap and Landscape Systems, will be updated to include the current summary of cap and landscape systems in the site.
8.	Figure 2 Site Map Showing All Remaining Areas of Concern. Please revise Figure 2 since Area C along the southeast and southwest sides of the gym is capped with concrete.	The Figure 2 Site Map will be updated to display the current engineering controls installed in the site.

Response To DTSC Comments
On Review Of The Draft Updated Operations And Maintenance Plan,
San Mateo Union High School District, Burlingame High School
400 Carolan Avenue, Burlingame, California
[Site Code 204083]

9.	Appendix F Standard Operating Procedure. The Standard Operating Procedure (SOP) in the document appears to be similar to the O&M Plan. Please include the SOP from the DTSC–approved O&M Plan with changes made to the personnel and their contact information.	The Appendix F Standard Operating Procedure (SOP) will be modified per the comments from DTSC.
10.	Appendix H Arsenic Biennial Inspection Report Outline. DTSC recommends revising the Arsenic Biennial Report Outline per the DTSC O&M Plan template Appendix H NOA Annual Inspection Summary Report Outline (see attached).	The Appendix H Arsenic Biennial Inspection Report Outline will be modified per the comments from DTSC.
11.	Appendix I Arsenic Five Year Report Outline. DTSC recommends revising the Arsenic Five Year Report Outline per the DTSC O&M Plan template Appendix J NOA Five–Year Review Report Outline (see attached).	The Appendix I Arsenic Five Year Report Outline will be modified per the comments from DTSC.

APPENDIX N
LABORATORY ANALYTICAL DATA – AREA H

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica San Francisco

1220 Quarry Lane

Pleasanton, CA 94566

Tel: (925)484-1919

TestAmerica Job ID: 720-36277-1

Client Project/Site: Burlingame High School

For:

Cleary Consultants, Inc

900 N. San Antonio Road

Suite 100

Los Altos, California 94022

Attn: Chris Cienchanowski

Surinder Sidhu

Authorized for release by:

07/19/2011 04:34:43 PM

Surinder Sidhu

Customer Service Manager

surinder.sidhu@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

Case Narrative

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Job ID: 720-36277-1

Laboratory: TestAmerica San Francisco

Narrative

Job Narrative 720-36277-1

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC/MS VOA

No analytical or quality issues were noted.

GC/MS Semi VOA

Method(s) 8270C: The following sample(s) was diluted due to the abundance of non-target analytes: COMPOSITE (720-36277-5).
Elevated reporting limits (RLs) are provided.

Method(s) 8270C: Surrogate recovery for the following sample(s) was outside control limits: COMPOSITE (720-36277-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

GC VOA

No analytical or quality issues were noted.

GC Semi VOA

Method(s) 8015B: The matrix spike(MS) recoveries for batch 95204 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8015B: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 95204 was outside control limits.
Non-homogeneity of the sample matrix is suspected. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance criteria.

Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: (720-36178-5 MS), (720-36178-5 MSD).

Method(s) 8015B: Due to the level of dilution required for the following sample(s), surrogate recoveries are not reported: COMPOSITE (720-36277-5).

Method(s) 8081A: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for batch 95245 exceeded control limits for the following analytes: methoxychlor. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8081A: The matrix spike / matrix spike duplicate (MS/MSD) precision for batch 95248 was outside control limits. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance criteria.

No other analytical or quality issues were noted.

Metals

Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for prep batch 95225 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted.

Case Narrative

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Job ID: 720-36277-1 (Continued)

Laboratory: TestAmerica San Francisco (Continued)

Organic Prep

No analytical or quality issues were noted.

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Detection Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Client Sample ID: COMPOSITE

Lab Sample ID: 720-36277-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	100		50	24	ug/Kg	1		8260B	Total/NA
2-Butanone (MEK)	33	J	50	21	ug/Kg	1		8260B	Total/NA
Phenol	2.1		0.13	0.011	mg/Kg	2		8270C	Total/NA
Methylphenol, 3 & 4	0.11	J	0.13	0.019	mg/Kg	2		8270C	Total/NA
Fluoranthene	0.032	J	0.13	0.015	mg/Kg	2		8270C	Total/NA
Pyrene	0.021	J	0.13	0.0075	mg/Kg	2		8270C	Total/NA
Bis(2-ethylhexyl) phthalate	0.11	J	0.66	0.013	mg/Kg	2		8270C	Total/NA
Benzo[a]pyrene	0.015	J	0.13	0.013	mg/Kg	2		8270C	Total/NA
Diesel Range Organics [C10-C28]	160	B	5.0	1.7	mg/Kg	5		8015B	Silica Gel Clear
Motor Oil Range Organics [C24-C36]	520	B	250	8.5	mg/Kg	5		8015B	Silica Gel Clear
4,4'-DDE	9.6		2.0	0.82	ug/Kg	1		8081A	Total/NA
Chlordane (technical)	230		80	3.6	ug/Kg	2		8081A	Total/NA
alpha-Chlordane	61		2.0	0.82	ug/Kg	1		8081A	Total/NA
gamma-Chlordane	47		2.0	0.82	ug/Kg	1		8081A	Total/NA
Antimony	0.56	J	1.8	0.30	mg/Kg	4		6010B	Total/NA
Arsenic	21		3.6	0.31	mg/Kg	4		6010B	Total/NA
Barium	78		1.8	0.26	mg/Kg	4		6010B	Total/NA
Cadmium	0.14	J	0.45	0.045	mg/Kg	4		6010B	Total/NA
Chromium	34		1.8	0.19	mg/Kg	4		6010B	Total/NA
Cobalt	6.1		0.72	0.072	mg/Kg	4		6010B	Total/NA
Copper	13		5.4	2.6	mg/Kg	4		6010B	Total/NA
Lead	13		1.8	0.38	mg/Kg	4		6010B	Total/NA
Nickel	28		1.8	0.18	mg/Kg	4		6010B	Total/NA
Vanadium	29		1.8	0.25	mg/Kg	4		6010B	Total/NA
Zinc	57		5.4	2.3	mg/Kg	4		6010B	Total/NA
Chromium	0.46		0.25	0.018	mg/L	2.5		6010B	STLC Citrate
Mercury	0.054		0.0086	0.0021	mg/Kg	1		7471A	Total/NA

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Acetone	100		50	24	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Benzene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Dichlorobromomethane	ND		5.0	0.38	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Bromobenzene	ND		5.0	0.40	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Chlorobromomethane	ND		20	0.38	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Bromoform	ND		5.0	0.36	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Bromomethane	ND		9.9	0.49	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
2-Butanone (MEK)	33	J	50	21	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
n-Butylbenzene	ND		5.0	0.42	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
sec-Butylbenzene	ND		5.0	0.43	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
tert-Butylbenzene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Carbon disulfide	ND		5.0	0.46	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Carbon tetrachloride	ND		5.0	0.45	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Chlorobenzene	ND		5.0	0.35	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Chloroethane	ND		9.9	0.45	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Chloroform	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Chloromethane	ND		9.9	0.49	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
2-Chlorotoluene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
4-Chlorotoluene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Chlorodibromomethane	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2-Dichlorobenzene	ND		5.0	0.43	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,3-Dichlorobenzene	ND		5.0	0.35	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,4-Dichlorobenzene	ND		5.0	0.36	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,3-Dichloropropane	ND		5.0	0.39	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,1-Dichloropropene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.60	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Ethylene Dibromide	ND		5.0	1.4	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Dibromomethane	ND		9.9	0.35	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Dichlorodifluoromethane	ND		9.9	0.78	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,1-Dichloroethane	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2-Dichloroethane	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,1-Dichloroethene	ND		5.0	0.36	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
cis-1,2-Dichloroethene	ND		5.0	0.37	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
trans-1,2-Dichloroethene	ND		5.0	0.54	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2-Dichloropropane	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
trans-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Ethylbenzene	ND		5.0	0.36	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Hexachlorobutadiene	ND		5.0	0.59	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
2-Hexanone	ND		50	9.9	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Isopropylbenzene	ND		5.0	0.52	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
4-Isopropyltoluene	ND		5.0	0.41	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Methylene Chloride	ND		9.9	1.3	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
4-Methyl-2-pentanone (MIBK)	ND		50	9.9	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Naphthalene	ND		9.9	0.79	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
N-Propylbenzene	ND		5.0	0.37	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Styrene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1

TestAmerica San Francisco

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.49	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Tetrachloroethene	ND		5.0	0.44	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Toluene	ND		5.0	0.52	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2,3-Trichlorobenzene	ND		5.0	0.73	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,1,1-Trichloroethane	ND		5.0	0.54	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,1,2-Trichloroethane	ND		5.0	0.37	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Trichloroethene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Trichlorofluoromethane	ND		5.0	0.56	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2,3-Trichloropropane	ND		5.0	0.51	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	2.1	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,2,4-Trimethylbenzene	ND		5.0	0.39	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
1,3,5-Trimethylbenzene	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Vinyl acetate	ND		50	1.1	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Vinyl chloride	ND		5.0	0.53	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
Xylenes, Total	ND		9.9	0.52	ug/Kg		07/14/11 17:00	07/14/11 17:59	1
2,2-Dichloropropane	ND		5.0	0.34	ug/Kg		07/14/11 17:00	07/14/11 17:59	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		45 - 131	07/14/11 17:00	07/14/11 17:59	1
1,2-Dichloroethane-d4 (Surr)	90		60 - 140	07/14/11 17:00	07/14/11 17:59	1
Toluene-d8 (Surr)	95		58 - 140	07/14/11 17:00	07/14/11 17:59	1

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Client Sample ID: COMPOSITE

Lab Sample ID: 720-36277-5

Date Collected: 07/14/11 13:17

Matrix: Solid

Date Received: 07/14/11 16:12

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	2.1		0.13	0.011	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Bis(2-chloroethyl)ether	ND		0.13	0.014	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2-Chlorophenol	ND		0.13	0.0074	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
1,3-Dichlorobenzene	ND		0.13	0.0079	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
1,4-Dichlorobenzene	ND		0.13	0.018	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Benzyl alcohol	ND		0.34	0.010	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
1,2-Dichlorobenzene	ND		0.13	0.0093	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2-Methylphenol	ND		0.13	0.0099	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Methylphenol, 3 & 4	0.11	J	0.13	0.019	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
N-Nitrosodi-n-propylamine	ND		0.13	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Hexachloroethane	ND		0.13	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Nitrobenzene	ND		0.13	0.028	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Isophorone	ND		0.13	0.0093	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2-Nitrophenol	ND		0.13	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2,4-Dimethylphenol	ND		0.13	0.011	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Bis(2-chloroethoxy)methane	ND		0.34	0.011	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2,4-Dichlorophenol	ND		0.66	0.0089	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
1,2,4-Trichlorobenzene	ND		0.13	0.014	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Naphthalene	ND		0.13	0.0095	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
4-Chloroaniline	ND		0.34	0.0087	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Hexachlorobutadiene	ND		0.13	0.010	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
4-Chloro-3-methylphenol	ND		0.34	0.011	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2-Methylnaphthalene	ND		0.13	0.012	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Hexachlorocyclopentadiene	ND		0.34	0.0085	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2,4,6-Trichlorophenol	ND		0.34	0.019	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2,4,5-Trichlorophenol	ND		0.13	0.0083	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2-Chloronaphthalene	ND		0.13	0.0095	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2-Nitroaniline	ND		0.66	0.068	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Dimethyl phthalate	ND		0.34	0.012	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Acenaphthylene	ND		0.13	0.011	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
3-Nitroaniline	ND		0.34	0.077	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Acenaphthene	ND		0.13	0.0075	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2,4-Dinitrophenol	ND		0.66	0.068	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
4-Nitrophenol	ND		0.66	0.068	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Dibenzofuran	ND		0.13	0.011	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2,4-Dinitrotoluene	ND		0.13	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2,6-Dinitrotoluene	ND		0.13	0.068	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Diethyl phthalate	ND		0.34	0.0093	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
4-Chlorophenyl phenyl ether	ND		0.34	0.012	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Fluorene	ND		0.13	0.0079	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
4-Nitroaniline	ND		0.66	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
2-Methyl-4,6-dinitrophenol	ND		0.66	0.068	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
N-Nitrosodiphenylamine	ND		0.13	0.0077	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
4-Bromophenyl phenyl ether	ND		0.34	0.010	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Hexachlorobenzene	ND		0.13	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Pentachlorophenol	ND		0.66	0.032	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Phenanthrene	ND		0.13	0.0091	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Anthracene	ND		0.13	0.0085	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Di-n-butyl phthalate	ND		0.34	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2

TestAmerica San Francisco

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.032	J	0.13	0.015	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Pyrene	0.021	J	0.13	0.0075	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Butyl benzyl phthalate	ND		0.34	0.011	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
3,3'-Dichlorobenzidine	ND		0.34	0.020	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Benzo[a]anthracene	ND		0.66	0.036	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Bis(2-ethylhexyl) phthalate	0.11	J	0.66	0.013	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Chrysene	ND		0.13	0.066	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Di-n-octyl phthalate	ND		0.34	0.0095	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Benzo[b]fluoranthene	ND		0.13	0.019	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Benzo[a]pyrene	0.015	J	0.13	0.013	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Benzo[k]fluoranthene	ND		0.13	0.028	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Indeno[1,2,3-cd]pyrene	ND		0.13	0.026	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Benzo[g,h,i]perylene	ND		0.13	0.040	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Benzoic acid	ND		0.66	0.068	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Azobenzene	ND		0.13	0.012	mg/Kg		07/14/11 22:08	07/17/11 23:14	2
Dibenz(a,h)anthracene	ND		0.13	0.030	mg/Kg		07/14/11 22:08	07/17/11 23:14	2

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	57		21 - 98	07/14/11 22:08	07/17/11 23:14	2
2-Fluorobiphenyl	76		30 - 112	07/14/11 22:08	07/17/11 23:14	2
Terphenyl-d14	93		32 - 117	07/14/11 22:08	07/17/11 23:14	2
2-Fluorophenol	63		28 - 98	07/14/11 22:08	07/17/11 23:14	2
Phenol-d5	73		23 - 101	07/14/11 22:08	07/17/11 23:14	2
2,4,6-Tribromophenol	30	X	37 - 114	07/14/11 22:08	07/17/11 23:14	2

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	160	B	5.0	1.7	mg/Kg		07/14/11 22:09	07/15/11 16:18	5
Motor Oil Range Organics [C24-C36]	520	B	250	8.5	mg/Kg		07/14/11 22:09	07/15/11 16:18	5
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Capric Acid (Surr)	2		0 - 5				07/14/11 22:09	07/15/11 16:18	5
p-Terphenyl	0	D	50 - 150				07/14/11 22:09	07/15/11 16:18	5

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.82	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Dieldrin	ND		2.0	0.27	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Endrin aldehyde	ND		2.0	0.83	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Endrin	ND		2.0	0.82	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Endrin ketone	ND		2.0	0.40	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Heptachlor	ND		2.0	0.82	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Heptachlor epoxide	ND		2.0	0.24	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
4,4'-DDT	ND		2.0	0.14	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
4,4'-DDE	9.6		2.0	0.82	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
4,4'-DDD	ND		2.0	0.17	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Endosulfan I	ND		2.0	0.82	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Endosulfan II	ND		2.0	0.83	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
alpha-BHC	ND		2.0	0.10	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
beta-BHC	ND		2.0	0.83	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
gamma-BHC (Lindane)	ND		2.0	0.10	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
delta-BHC	ND		2.0	0.12	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Endosulfan sulfate	ND		2.0	0.19	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Methoxychlor	ND		2.0	0.17	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Toxaphene	ND		40	6.8	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Chlordane (technical)	230		80	3.6	ug/Kg		07/15/11 08:56	07/18/11 18:31	2
alpha-Chlordane	61		2.0	0.82	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
gamma-Chlordane	47		2.0	0.82	ug/Kg		07/15/11 08:56	07/17/11 00:43	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	89		45 - 119				07/15/11 08:56	07/17/11 00:43	1
DCB Decachlorobiphenyl	104		27 - 136				07/15/11 08:56	07/17/11 00:43	1

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:15	1
PCB-1221	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:15	1
PCB-1232	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:15	1
PCB-1242	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:15	1
PCB-1248	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:15	1
PCB-1254	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:15	1
PCB-1260	ND		50	1.5	ug/Kg		07/15/11 08:59	07/17/11 04:15	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	88		32 - 112				07/15/11 08:59	07/17/11 04:15	1
DCB Decachlorobiphenyl	73		2 - 122				07/15/11 08:59	07/17/11 04:15	1

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 6010B - Metals (ICP)

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.56	J	1.8	0.30	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Arsenic	21		3.6	0.31	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Barium	78		1.8	0.26	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Beryllium	ND		0.36	0.12	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Cadmium	0.14	J	0.45	0.045	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Chromium	34		1.8	0.19	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Cobalt	6.1		0.72	0.072	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Copper	13		5.4	2.6	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Lead	13		1.8	0.38	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Molybdenum	ND		1.8	0.23	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Nickel	28		1.8	0.18	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Selenium	ND		3.6	0.54	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Silver	ND		0.90	0.18	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Thallium	ND		1.8	0.52	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Vanadium	29		1.8	0.25	mg/Kg		07/15/11 08:56	07/16/11 17:26	4
Zinc	57		5.4	2.3	mg/Kg		07/15/11 08:56	07/16/11 17:26	4

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 6010B - Metals (ICP) - STLC Citrate

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.46		0.25	0.018	mg/L		07/18/11 12:08	07/18/11 16:22	2.5

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: COMPOSITE

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.054		0.0086	0.0021	mg/Kg		07/14/11 18:28	07/15/11 10:34	1

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-95376/1-A

Matrix: Solid

Analysis Batch: 95143

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95376

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Acetone	ND		50	24	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Benzene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Dichlorobromomethane	ND		5.0	0.38	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Bromobenzene	ND		5.0	0.40	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Chlorobromomethane	ND		20	0.38	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Bromoform	ND		5.0	0.36	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Bromomethane	ND		10	0.49	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
2-Butanone (MEK)	ND		50	21	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
n-Butylbenzene	ND		5.0	0.42	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
sec-Butylbenzene	ND		5.0	0.43	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
tert-Butylbenzene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Carbon disulfide	ND		5.0	0.46	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Carbon tetrachloride	ND		5.0	0.45	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Chlorobenzene	ND		5.0	0.35	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Chloroethane	ND		10	0.45	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Chloroform	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Chloromethane	ND		10	0.49	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
2-Chlorotoluene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
4-Chlorotoluene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Chlorodibromomethane	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2-Dichlorobenzene	ND		5.0	0.43	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,3-Dichlorobenzene	ND		5.0	0.35	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,4-Dichlorobenzene	ND		5.0	0.36	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,3-Dichloropropane	ND		5.0	0.39	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,1-Dichloropropene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.60	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Ethylene Dibromide	ND		5.0	1.4	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Dibromomethane	ND		10	0.35	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Dichlorodifluoromethane	ND		10	0.79	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,1-Dichloroethane	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2-Dichloroethane	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,1-Dichloroethene	ND		5.0	0.36	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
cis-1,2-Dichloroethene	ND		5.0	0.37	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
trans-1,2-Dichloroethene	ND		5.0	0.54	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2-Dichloropropane	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
cis-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
trans-1,3-Dichloropropene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Ethylbenzene	ND		5.0	0.36	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Hexachlorobutadiene	ND		5.0	0.59	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
2-Hexanone	ND		50	10	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Isopropylbenzene	ND		5.0	0.52	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
4-Isopropyltoluene	ND		5.0	0.41	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Methylene Chloride	ND		10	1.3	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
4-Methyl-2-pentanone (MIBK)	ND		50	10	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Naphthalene	ND		10	0.80	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
N-Propylbenzene	ND		5.0	0.37	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Styrene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,1,1,2-Tetrachloroethane	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-95376/1-A

Matrix: Solid

Analysis Batch: 95143

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95376

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		5.0	0.49	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Tetrachloroethene	ND		5.0	0.44	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Toluene	0.578	J	5.0	0.52	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2,3-Trichlorobenzene	ND		5.0	0.74	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2,4-Trichlorobenzene	ND		5.0	0.55	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,1,1-Trichloroethane	ND		5.0	0.54	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,1,2-Trichloroethane	ND		5.0	0.37	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Trichloroethene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Trichlorofluoromethane	ND		5.0	0.56	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2,3-Trichloropropane	ND		5.0	0.51	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	2.1	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,2,4-Trimethylbenzene	ND		5.0	0.39	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
1,3,5-Trimethylbenzene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Vinyl acetate	ND		50	1.1	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Vinyl chloride	ND		5.0	0.53	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
m-Xylene & p-Xylene	ND		5.0	0.67	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
o-Xylene	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
Xylenes, Total	0.639	J	10	0.52	ug/Kg		07/14/11 08:10	07/14/11 09:48	1
2,2-Dichloropropane	ND		5.0	0.34	ug/Kg		07/14/11 08:10	07/14/11 09:48	1

Surrogate	MB % Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		45 - 131	07/14/11 08:10	07/14/11 09:48	1
1,2-Dichloroethane-d4 (Surr)	98		60 - 140	07/14/11 08:10	07/14/11 09:48	1
Toluene-d8 (Surr)	98		58 - 140	07/14/11 08:10	07/14/11 09:48	1

Lab Sample ID: LCS 720-95376/2-A

Matrix: Solid

Analysis Batch: 95143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95376

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Methyl tert-butyl ether	50.0	48.2		ug/Kg		96	71 - 144
Acetone	250	221		ug/Kg		88	30 - 162
Benzene	50.0	45.4		ug/Kg		91	82 - 124
Dichlorobromomethane	50.0	47.0		ug/Kg		94	86 - 131
Bromobenzene	50.0	47.2		ug/Kg		94	88 - 120
Chlorobromomethane	50.0	48.0		ug/Kg		96	81 - 116
Bromoform	50.0	50.6		ug/Kg		101	59 - 158
Bromomethane	50.0	47.6		ug/Kg		95	59 - 132
2-Butanone (MEK)	250	249		ug/Kg		99	61 - 150
n-Butylbenzene	50.0	48.2		ug/Kg		96	80 - 142
sec-Butylbenzene	50.0	45.6		ug/Kg		91	85 - 136
tert-Butylbenzene	50.0	45.0		ug/Kg		90	71 - 130
Carbon disulfide	50.0	37.2		ug/Kg		74	60 - 136
Carbon tetrachloride	50.0	42.8		ug/Kg		86	81 - 138
Chlorobenzene	50.0	46.2		ug/Kg		92	87 - 113
Chloroethane	50.0	45.8		ug/Kg		92	69 - 141
Chloroform	50.0	42.8		ug/Kg		86	77 - 127
Chloromethane	50.0	41.4		ug/Kg		83	60 - 149
2-Chlorotoluene	50.0	45.0		ug/Kg		90	80 - 138

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-95376/2-A

Matrix: Solid

Analysis Batch: 95143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95376

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.
	Added	Result	Qualifier				Limits
4-Chlorotoluene	50.0	44.8		ug/Kg		90	79 - 136
Chlorodibromomethane	50.0	50.8		ug/Kg		102	75 - 146
1,2-Dichlorobenzene	50.0	46.6		ug/Kg		93	84 - 130
1,3-Dichlorobenzene	50.0	46.8		ug/Kg		94	84 - 131
1,4-Dichlorobenzene	50.0	46.6		ug/Kg		93	85 - 125
1,3-Dichloropropane	50.0	50.8		ug/Kg		102	79 - 140
1,1-Dichloropropene	50.0	44.4		ug/Kg		89	70 - 130
1,2-Dibromo-3-Chloropropane	50.0	54.0		ug/Kg		108	68 - 145
Ethylene Dibromide	50.0	53.0		ug/Kg		106	79 - 140
Dibromomethane	50.0	49.2		ug/Kg		98	80 - 139
Dichlorodifluoromethane	50.0	35.4		ug/Kg		71	37 - 158
1,1-Dichloroethane	50.0	42.4		ug/Kg		85	85 - 124
1,2-Dichloroethane	50.0	42.8		ug/Kg		86	72 - 130
1,1-Dichloroethene	50.0	38.0		ug/Kg		76	76 - 122
cis-1,2-Dichloroethene	50.0	50.2		ug/Kg		100	87 - 138
trans-1,2-Dichloroethene	50.0	34.4		ug/Kg		69	67 - 108
1,2-Dichloropropane	50.0	46.2		ug/Kg		92	73 - 127
cis-1,3-Dichloropropene	50.0	47.8		ug/Kg		96	68 - 147
trans-1,3-Dichloropropene	50.0	51.0		ug/Kg		102	84 - 136
Ethylbenzene	50.0	46.0		ug/Kg		92	80 - 137
Hexachlorobutadiene	50.0	46.0		ug/Kg		92	72 - 132
2-Hexanone	250	249		ug/Kg		100	60 - 161
Isopropylbenzene	50.0	46.0		ug/Kg		92	88 - 128
4-Isopropyltoluene	50.0	46.2		ug/Kg		92	85 - 133
Methylene Chloride	50.0	41.0		ug/Kg		82	72 - 134
4-Methyl-2-pentanone (MIBK)	250	255		ug/Kg		102	69 - 160
Naphthalene	50.0	57.8		ug/Kg		116	70 - 147
N-Propylbenzene	50.0	43.6		ug/Kg		87	72 - 125
Styrene	50.0	48.4		ug/Kg		97	89 - 126
1,1,1,2-Tetrachloroethane	50.0	46.2		ug/Kg		92	90 - 130
1,1,2,2-Tetrachloroethane	50.0	51.4		ug/Kg		103	82 - 146
Tetrachloroethene	50.0	44.2		ug/Kg		88	78 - 132
Toluene	50.0	46.4		ug/Kg		93	83 - 128
1,2,3-Trichlorobenzene	50.0	52.8		ug/Kg		106	82 - 135
1,2,4-Trichlorobenzene	50.0	50.4		ug/Kg		101	70 - 131
1,1,1-Trichloroethane	50.0	41.4		ug/Kg		83	80 - 127
1,1,2-Trichloroethane	50.0	51.0		ug/Kg		102	82 - 125
Trichloroethene	50.0	44.8		ug/Kg		90	81 - 133
Trichlorofluoromethane	50.0	45.4		ug/Kg		91	71 - 139
1,2,3-Trichloropropane	50.0	52.8		ug/Kg		106	76 - 146
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	40.4		ug/Kg		81	70 - 130
1,2,4-Trimethylbenzene	50.0	44.8		ug/Kg		90	84 - 130
1,3,5-Trimethylbenzene	50.0	45.8		ug/Kg		92	82 - 131
Vinyl acetate	50.0	50.6		ug/Kg		101	38 - 176
Vinyl chloride	50.0	40.4		ug/Kg		81	63 - 140
m-Xylene & p-Xylene	100	89.6		ug/Kg		90	79 - 146
o-Xylene	50.0	45.4		ug/Kg		91	84 - 140
2,2-Dichloropropane	50.0	43.8		ug/Kg		88	73 - 162

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-95376/2-A

Matrix: Solid

Analysis Batch: 95143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95376

	LCS	LCS	
Surrogate	% Recovery	Qualifier	Limits
4-Bromofluorobenzene	96		45 - 131
1,2-Dichloroethane-d4 (Surr)	90		60 - 140
Toluene-d8 (Surr)	98		58 - 140

Lab Sample ID: LCSD 720-95376/3-A

Matrix: Solid

Analysis Batch: 95143

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95376

Analyte	Spike	LCSD	LCSD			% Rec.		RPD	
	Added	Result	Qualifier	Unit	D	% Rec	Limits	RPD	Limit
Methyl tert-butyl ether	50.0	48.8		ug/Kg		98	71 - 144	1	20
Acetone	250	197		ug/Kg		79	30 - 162	11	30
Benzene	50.0	47.8		ug/Kg		96	82 - 124	5	20
Dichlorobromomethane	50.0	49.0		ug/Kg		98	86 - 131	4	20
Bromobenzene	50.0	49.4		ug/Kg		99	88 - 120	5	20
Chlorobromomethane	50.0	49.6		ug/Kg		99	81 - 116	3	20
Bromoform	50.0	51.2		ug/Kg		102	59 - 158	1	20
Bromomethane	50.0	49.0		ug/Kg		98	59 - 132	3	20
2-Butanone (MEK)	250	231		ug/Kg		92	61 - 150	7	20
n-Butylbenzene	50.0	50.6		ug/Kg		101	80 - 142	5	20
sec-Butylbenzene	50.0	48.4		ug/Kg		97	85 - 136	6	20
tert-Butylbenzene	50.0	47.8		ug/Kg		96	71 - 130	6	20
Carbon disulfide	50.0	39.0		ug/Kg		78	60 - 136	5	20
Carbon tetrachloride	50.0	45.4		ug/Kg		91	81 - 138	6	20
Chlorobenzene	50.0	48.4		ug/Kg		97	87 - 113	5	20
Chloroethane	50.0	47.4		ug/Kg		95	69 - 141	3	20
Chloroform	50.0	44.8		ug/Kg		90	77 - 127	5	20
Chloromethane	50.0	42.4		ug/Kg		85	60 - 149	2	20
2-Chlorotoluene	50.0	47.8		ug/Kg		96	80 - 138	6	20
4-Chlorotoluene	50.0	47.2		ug/Kg		94	79 - 136	5	20
Chlorodibromomethane	50.0	52.6		ug/Kg		105	75 - 146	3	20
1,2-Dichlorobenzene	50.0	48.6		ug/Kg		97	84 - 130	4	20
1,3-Dichlorobenzene	50.0	49.2		ug/Kg		98	84 - 131	5	20
1,4-Dichlorobenzene	50.0	49.2		ug/Kg		98	85 - 125	5	20
1,3-Dichloropropane	50.0	52.0		ug/Kg		104	79 - 140	2	20
1,1-Dichloropropene	50.0	46.6		ug/Kg		93	70 - 130	5	20
1,2-Dibromo-3-Chloropropane	50.0	52.4		ug/Kg		105	68 - 145	3	20
Ethylene Dibromide	50.0	53.4		ug/Kg		107	79 - 140	1	20
Dibromomethane	50.0	50.2		ug/Kg		100	80 - 139	2	20
Dichlorodifluoromethane	50.0	35.0		ug/Kg		70	37 - 158	1	20
1,1-Dichloroethane	50.0	44.6		ug/Kg		89	85 - 124	5	20
1,2-Dichloroethane	50.0	44.2		ug/Kg		88	72 - 130	3	20
1,1-Dichloroethene	50.0	39.8		ug/Kg		80	76 - 122	5	20
cis-1,2-Dichloroethene	50.0	52.6		ug/Kg		105	87 - 138	5	20
trans-1,2-Dichloroethene	50.0	36.2		ug/Kg		72	67 - 108	5	20
1,2-Dichloropropane	50.0	48.4		ug/Kg		97	73 - 127	5	20
cis-1,3-Dichloropropene	50.0	50.4		ug/Kg		101	68 - 147	5	20
trans-1,3-Dichloropropene	50.0	52.6		ug/Kg		105	84 - 136	3	20
Ethylbenzene	50.0	48.6		ug/Kg		97	80 - 137	5	20
Hexachlorobutadiene	50.0	48.0		ug/Kg		96	72 - 132	4	20

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-95376/3-A

Matrix: Solid

Analysis Batch: 95143

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95376

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	RPD Limit
							Limits			
2-Hexanone	250	233		ug/Kg		93	60 - 161		6	20
Isopropylbenzene	50.0	48.6		ug/Kg		97	88 - 128		5	20
4-Isopropyltoluene	50.0	48.8		ug/Kg		98	85 - 133		5	20
Methylene Chloride	50.0	42.6		ug/Kg		85	72 - 134		4	20
4-Methyl-2-pentanone (MIBK)	250	244		ug/Kg		98	69 - 160		4	20
Naphthalene	50.0	58.6		ug/Kg		117	70 - 147		1	20
N-Propylbenzene	50.0	46.2		ug/Kg		92	72 - 125		6	20
Styrene	50.0	50.6		ug/Kg		101	89 - 126		4	20
1,1,1,2-Tetrachloroethane	50.0	48.8		ug/Kg		98	90 - 130		5	20
1,1,2,2-Tetrachloroethane	50.0	51.2		ug/Kg		102	82 - 146		0	20
Tetrachloroethene	50.0	47.2		ug/Kg		94	78 - 132		7	20
Toluene	50.0	49.2		ug/Kg		98	83 - 128		6	20
1,2,3-Trichlorobenzene	50.0	54.8		ug/Kg		110	82 - 135		4	20
1,2,4-Trichlorobenzene	50.0	52.4		ug/Kg		105	70 - 131		4	20
1,1,1-Trichloroethane	50.0	43.8		ug/Kg		88	80 - 127		6	20
1,1,2-Trichloroethane	50.0	52.0		ug/Kg		104	82 - 125		2	20
Trichloroethene	50.0	47.4		ug/Kg		95	81 - 133		6	20
Trichlorofluoromethane	50.0	46.8		ug/Kg		94	71 - 139		3	20
1,2,3-Trichloropropane	50.0	51.8		ug/Kg		104	76 - 146		2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	42.4		ug/Kg		85	70 - 130		5	20
1,2,4-Trimethylbenzene	50.0	47.4		ug/Kg		95	84 - 130		6	20
1,3,5-Trimethylbenzene	50.0	48.8		ug/Kg		98	82 - 131		6	20
Vinyl acetate	50.0	50.2		ug/Kg		100	38 - 176		1	20
Vinyl chloride	50.0	42.2		ug/Kg		84	63 - 140		4	20
m-Xylene & p-Xylene	100	94.4		ug/Kg		94	79 - 146		5	20
o-Xylene	50.0	48.0		ug/Kg		96	84 - 140		6	20
2,2-Dichloropropane	50.0	46.2		ug/Kg		92	73 - 162		5	20

Surrogate	LCSD		Limits
	% Recovery	Qualifier	
4-Bromofluorobenzene	96		45 - 131
1,2-Dichloroethane-d4 (Surr)	89		60 - 140
Toluene-d8 (Surr)	98		58 - 140

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Lab Sample ID: MB 720-95207/1-A

Matrix: Solid

Analysis Batch: 95270

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95207

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Phenol	ND		0.066	0.0055	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Bis(2-chloroethyl)ether	ND		0.066	0.0069	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2-Chlorophenol	ND		0.066	0.0037	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
1,3-Dichlorobenzene	ND		0.066	0.0040	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
1,4-Dichlorobenzene	ND		0.066	0.0089	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Benzyl alcohol	ND		0.17	0.0052	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
1,2-Dichlorobenzene	ND		0.066	0.0047	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2-Methylphenol	ND		0.066	0.0050	mg/Kg		07/14/11 14:36	07/15/11 13:03	1

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-95207/1-A

Matrix: Solid

Analysis Batch: 95270

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95207

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methylphenol, 3 & 4	ND		0.066	0.0094	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
N-Nitrosodi-n-propylamine	ND		0.066	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Hexachloroethane	ND		0.066	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Nitrobenzene	ND		0.066	0.014	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Isophorone	ND		0.066	0.0047	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2-Nitrophenol	ND		0.066	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2,4-Dimethylphenol	ND		0.066	0.0056	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Bis(2-chloroethoxy)methane	ND		0.17	0.0055	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2,4-Dichlorophenol	ND		0.33	0.0045	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
1,2,4-Trichlorobenzene	ND		0.066	0.0069	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Naphthalene	ND		0.066	0.0048	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
4-Chloroaniline	ND		0.17	0.0044	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Hexachlorobutadiene	ND		0.066	0.0052	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
4-Chloro-3-methylphenol	ND		0.17	0.0054	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2-Methylnaphthalene	ND		0.066	0.0061	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Hexachlorocyclopentadiene	ND		0.17	0.0043	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2,4,6-Trichlorophenol	ND		0.17	0.0097	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2,4,5-Trichlorophenol	ND		0.066	0.0042	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2-Chloronaphthalene	ND		0.066	0.0048	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2-Nitroaniline	ND		0.33	0.034	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Dimethyl phthalate	ND		0.17	0.0058	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Acenaphthylene	ND		0.066	0.0056	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
3-Nitroaniline	ND		0.17	0.039	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Acenaphthene	ND		0.066	0.0038	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2,4-Dinitrophenol	ND		0.33	0.034	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
4-Nitrophenol	ND		0.33	0.034	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Dibenzofuran	ND		0.066	0.0053	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2,4-Dinitrotoluene	ND		0.066	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2,6-Dinitrotoluene	ND		0.066	0.034	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Diethyl phthalate	ND		0.17	0.0047	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
4-Chlorophenyl phenyl ether	ND		0.17	0.0059	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Fluorene	ND		0.066	0.0040	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
4-Nitroaniline	ND		0.33	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
2-Methyl-4,6-dinitrophenol	ND		0.33	0.034	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
N-Nitrosodiphenylamine	ND		0.066	0.0039	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
4-Bromophenyl phenyl ether	ND		0.17	0.0051	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Hexachlorobenzene	ND		0.066	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Pentachlorophenol	ND		0.33	0.016	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Phenanthrene	ND		0.066	0.0046	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Anthracene	ND		0.066	0.0043	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Di-n-butyl phthalate	ND		0.17	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Fluoranthene	ND		0.066	0.0072	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Pyrene	ND		0.066	0.0038	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Butyl benzyl phthalate	ND		0.17	0.0054	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
3,3'-Dichlorobenzidine	ND		0.17	0.0099	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Benzo[a]anthracene	ND		0.33	0.018	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Bis(2-ethylhexyl) phthalate	ND		0.33	0.0065	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Chrysene	ND		0.066	0.033	mg/Kg		07/14/11 14:36	07/15/11 13:03	1

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: MB 720-95207/1-A

Matrix: Solid

Analysis Batch: 95270

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95207

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		0.17	0.0048	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Benzo[b]fluoranthene	ND		0.066	0.0094	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Benzo[a]pyrene	ND		0.066	0.0065	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Benzo[k]fluoranthene	ND		0.066	0.014	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Indeno[1,2,3-cd]pyrene	ND		0.066	0.013	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Benzo[g,h,i]perylene	ND		0.066	0.020	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Benzoic acid	ND		0.33	0.034	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Azobenzene	ND		0.066	0.0058	mg/Kg		07/14/11 14:36	07/15/11 13:03	1
Dibenz(a,h)anthracene	ND		0.066	0.015	mg/Kg		07/14/11 14:36	07/15/11 13:03	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	82		21 - 98	07/14/11 14:36	07/15/11 13:03	1
2-Fluorobiphenyl	84		30 - 112	07/14/11 14:36	07/15/11 13:03	1
Terphenyl-d14	88		32 - 117	07/14/11 14:36	07/15/11 13:03	1
2-Fluorophenol	85		28 - 98	07/14/11 14:36	07/15/11 13:03	1
Phenol-d5	76		23 - 101	07/14/11 14:36	07/15/11 13:03	1
2,4,6-Tribromophenol	88		37 - 114	07/14/11 14:36	07/15/11 13:03	1

Lab Sample ID: LCS 720-95207/2-A

Matrix: Solid

Analysis Batch: 95270

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95207

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Phenol	1.64	1.35		mg/Kg		82	48 - 115
Bis(2-chloroethyl)ether	1.64	1.39		mg/Kg		85	45 - 115
2-Chlorophenol	1.64	1.39		mg/Kg		84	48 - 115
1,3-Dichlorobenzene	1.64	1.25		mg/Kg		76	41 - 115
1,4-Dichlorobenzene	1.64	1.21		mg/Kg		74	40 - 115
Benzyl alcohol	1.64	1.47		mg/Kg		89	54 - 115
1,2-Dichlorobenzene	1.64	1.28		mg/Kg		78	44 - 115
2-Methylphenol	1.64	1.34		mg/Kg		82	54 - 115
Methylphenol, 3 & 4	3.29	2.68		mg/Kg		82	50 - 115
N-Nitrosodi-n-propylamine	1.64	1.51		mg/Kg		92	46 - 115
Hexachloroethane	1.64	1.30		mg/Kg		79	44 - 115
Nitrobenzene	1.64	1.42		mg/Kg		86	48 - 115
Isophorone	1.64	1.44		mg/Kg		87	54 - 115
2-Nitrophenol	1.64	1.46		mg/Kg		89	48 - 115
2,4-Dimethylphenol	1.64	1.39		mg/Kg		85	52 - 115
Bis(2-chloroethoxy)methane	1.64	1.37		mg/Kg		83	46 - 115
2,4-Dichlorophenol	1.64	1.44		mg/Kg		88	49 - 100
1,2,4-Trichlorobenzene	1.64	1.37		mg/Kg		83	47 - 115
Naphthalene	1.64	1.37		mg/Kg		83	44 - 115
4-Chloroaniline	1.64	1.21		mg/Kg		73	30 - 115
Hexachlorobutadiene	1.64	1.37		mg/Kg		83	44 - 115
4-Chloro-3-methylphenol	1.64	1.53		mg/Kg		93	58 - 115
2-Methylnaphthalene	1.64	1.44		mg/Kg		88	49 - 115
Hexachlorocyclopentadiene	1.64	1.47		mg/Kg		90	42 - 132
2,4,6-Trichlorophenol	1.64	1.56		mg/Kg		95	45 - 115

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS 720-95207/2-A

Matrix: Solid

Analysis Batch: 95270

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95207

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.
	Added	Result	Qualifier				Limits
2,4,5-Trichlorophenol	1.64	1.51		mg/Kg		92	48 - 115
2-Chloronaphthalene	1.64	1.41		mg/Kg		86	52 - 115
2-Nitroaniline	1.64	1.57		mg/Kg		96	54 - 115
Dimethyl phthalate	1.64	1.49		mg/Kg		90	64 - 119
Acenaphthylene	1.64	1.62		mg/Kg		98	61 - 129
3-Nitroaniline	1.64	1.32		mg/Kg		80	50 - 115
Acenaphthene	1.64	1.44		mg/Kg		88	50 - 115
2,4-Dinitrophenol	1.64	1.55		mg/Kg		94	21 - 115
4-Nitrophenol	1.64	1.75		mg/Kg		106	54 - 125
Dibenzofuran	1.64	1.50		mg/Kg		91	55 - 115
2,4-Dinitrotoluene	1.64	1.57		mg/Kg		95	57 - 115
2,6-Dinitrotoluene	1.64	1.64		mg/Kg		100	54 - 119
Diethyl phthalate	1.64	1.51		mg/Kg		92	49 - 117
4-Chlorophenyl phenyl ether	1.64	1.64		mg/Kg		100	57 - 115
Fluorene	1.64	1.50		mg/Kg		91	54 - 115
4-Nitroaniline	1.64	1.67		mg/Kg		101	59 - 115
2-Methyl-4,6-dinitrophenol	1.64	1.50		mg/Kg		91	48 - 115
N-Nitrosodiphenylamine	1.64	1.52		mg/Kg		92	56 - 115
4-Bromophenyl phenyl ether	1.64	1.53		mg/Kg		93	53 - 115
Hexachlorobenzene	1.64	1.53		mg/Kg		93	55 - 115
Pentachlorophenol	1.64	1.65		mg/Kg		101	35 - 115
Phenanthrene	1.64	1.48		mg/Kg		90	54 - 115
Anthracene	1.64	1.54		mg/Kg		94	55 - 115
Di-n-butyl phthalate	1.64	1.64		mg/Kg		100	55 - 115
Fluoranthene	1.64	1.55		mg/Kg		94	54 - 115
Pyrene	1.64	1.57		mg/Kg		96	48 - 115
Butyl benzyl phthalate	1.64	1.69		mg/Kg		103	53 - 115
3,3'-Dichlorobenzidine	1.64	1.35		mg/Kg		82	42 - 115
Benzo[a]anthracene	1.64	1.58		mg/Kg		96	55 - 115
Bis(2-ethylhexyl) phthalate	1.64	1.88		mg/Kg		115	53 - 115
Chrysene	1.64	1.62		mg/Kg		98	58 - 115
Di-n-octyl phthalate	1.64	1.68		mg/Kg		102	53 - 115
Benzo[b]fluoranthene	1.64	1.42		mg/Kg		87	56 - 115
Benzo[a]pyrene	1.64	1.48		mg/Kg		90	55 - 115
Benzo[k]fluoranthene	1.64	1.69		mg/Kg		103	57 - 115
Indeno[1,2,3-cd]pyrene	1.64	1.64		mg/Kg		100	56 - 115
Benzo[g,h,i]perylene	1.64	1.67		mg/Kg		102	56 - 115
Benzoic acid	1.64	1.72		mg/Kg		105	10 - 115
Azobenzene	1.64	1.47		mg/Kg		89	52 - 115
Dibenz(a,h)anthracene	1.64	1.63		mg/Kg		99	58 - 115

Surrogate	LCS LCS		Limits
	% Recovery	Qualifier	
Nitrobenzene-d5	90		21 - 98
2-Fluorobiphenyl	87		30 - 112
Terphenyl-d14	96		32 - 117
2-Fluorophenol	88		28 - 98
Phenol-d5	85		23 - 101
2,4,6-Tribromophenol	91		37 - 114

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCSD 720-95207/3-A

Matrix: Solid

Analysis Batch: 95270

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95207

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec	% Rec.	RPD	Limit
	Added	Result	Qualifier				Limits		
Phenol	1.66	1.37		mg/Kg		83	48 - 115	1	35
Bis(2-chloroethyl)ether	1.66	1.36		mg/Kg		82	45 - 115	2	35
2-Chlorophenol	1.66	1.43		mg/Kg		86	48 - 115	3	35
1,3-Dichlorobenzene	1.66	1.25		mg/Kg		75	41 - 115	1	35
1,4-Dichlorobenzene	1.66	1.25		mg/Kg		75	40 - 115	3	35
Benzyl alcohol	1.66	1.48		mg/Kg		89	54 - 115	1	35
1,2-Dichlorobenzene	1.66	1.30		mg/Kg		79	44 - 115	2	35
2-Methylphenol	1.66	1.37		mg/Kg		83	54 - 115	2	35
Methylphenol, 3 & 4	3.31	2.76		mg/Kg		83	50 - 115	3	35
N-Nitrosodi-n-propylamine	1.66	1.57		mg/Kg		95	46 - 115	4	35
Hexachloroethane	1.66	1.31		mg/Kg		79	44 - 115	1	35
Nitrobenzene	1.66	1.47		mg/Kg		89	48 - 115	3	35
Isophorone	1.66	1.47		mg/Kg		89	54 - 115	2	35
2-Nitrophenol	1.66	1.50		mg/Kg		91	48 - 115	3	35
2,4-Dimethylphenol	1.66	1.43		mg/Kg		86	52 - 115	3	35
Bis(2-chloroethoxy)methane	1.66	1.40		mg/Kg		84	46 - 115	2	35
2,4-Dichlorophenol	1.66	1.50		mg/Kg		91	49 - 100	4	35
1,2,4-Trichlorobenzene	1.66	1.43		mg/Kg		86	47 - 115	4	35
Naphthalene	1.66	1.43		mg/Kg		86	44 - 115	4	35
4-Chloroaniline	1.66	1.25		mg/Kg		75	30 - 115	3	35
Hexachlorobutadiene	1.66	1.45		mg/Kg		88	44 - 115	6	35
4-Chloro-3-methylphenol	1.66	1.59		mg/Kg		96	58 - 115	4	35
2-Methylnaphthalene	1.66	1.53		mg/Kg		93	49 - 115	6	35
Hexachlorocyclopentadiene	1.66	1.56		mg/Kg		94	42 - 132	6	35
2,4,6-Trichlorophenol	1.66	1.57		mg/Kg		95	45 - 115	1	35
2,4,5-Trichlorophenol	1.66	1.59		mg/Kg		96	48 - 115	5	35
2-Chloronaphthalene	1.66	1.48		mg/Kg		89	52 - 115	5	35
2-Nitroaniline	1.66	1.62		mg/Kg		98	54 - 115	3	35
Dimethyl phthalate	1.66	1.51		mg/Kg		91	64 - 119	2	35
Acenaphthylene	1.66	1.68		mg/Kg		101	61 - 129	4	35
3-Nitroaniline	1.66	1.39		mg/Kg		84	50 - 115	5	35
Acenaphthene	1.66	1.50		mg/Kg		91	50 - 115	4	35
2,4-Dinitrophenol	1.66	1.52		mg/Kg		92	21 - 115	2	35
4-Nitrophenol	1.66	1.75		mg/Kg		106	54 - 125	0	35
Dibenzofuran	1.66	1.56		mg/Kg		94	55 - 115	4	35
2,4-Dinitrotoluene	1.66	1.61		mg/Kg		97	57 - 115	3	35
2,6-Dinitrotoluene	1.66	1.67		mg/Kg		101	54 - 119	2	35
Diethyl phthalate	1.66	1.54		mg/Kg		93	49 - 117	2	35
4-Chlorophenyl phenyl ether	1.66	1.73		mg/Kg		104	57 - 115	5	35
Fluorene	1.66	1.56		mg/Kg		94	54 - 115	4	35
4-Nitroaniline	1.66	1.77		mg/Kg		107	59 - 115	6	35
2-Methyl-4,6-dinitrophenol	1.66	1.51		mg/Kg		91	48 - 115	1	35
N-Nitrosodiphenylamine	1.66	1.51		mg/Kg		91	56 - 115	0	35
4-Bromophenyl phenyl ether	1.66	1.52		mg/Kg		92	53 - 115	1	35
Hexachlorobenzene	1.66	1.57		mg/Kg		95	55 - 115	2	35
Pentachlorophenol	1.66	1.64		mg/Kg		99	35 - 115	1	35
Phenanthrene	1.66	1.54		mg/Kg		93	54 - 115	4	35
Anthracene	1.66	1.58		mg/Kg		95	55 - 115	2	35

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8270C - Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (Continued)

Lab Sample ID: LCS2 720-95207/3-A

Matrix: Solid

Analysis Batch: 95270

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95207

Analyte	Spike Added	LCSD		Unit	D	% Rec	% Rec.		RPD	
		Result	Qualifier				Limits	RPD	Limit	
Di-n-butyl phthalate	1.66	1.67		mg/Kg		101	55 - 115	2	35	
Fluoranthene	1.66	1.58		mg/Kg		96	54 - 115	2	35	
Pyrene	1.66	1.59		mg/Kg		96	48 - 115	1	35	
Butyl benzyl phthalate	1.66	1.69		mg/Kg		102	53 - 115	0	35	
3,3'-Dichlorobenzidine	1.66	1.34		mg/Kg		81	42 - 115	0	35	
Benzo[a]anthracene	1.66	1.57		mg/Kg		95	55 - 115	0	35	
Bis(2-ethylhexyl) phthalate	1.66	1.89		mg/Kg		114	53 - 115	0	35	
Chrysene	1.66	1.66		mg/Kg		100	58 - 115	2	35	
Di-n-octyl phthalate	1.66	1.69		mg/Kg		102	53 - 115	0	35	
Benzo[b]fluoranthene	1.66	1.48		mg/Kg		89	56 - 115	4	35	
Benzo[a]pyrene	1.66	1.47		mg/Kg		89	55 - 115	0	35	
Benzo[k]fluoranthene	1.66	1.65		mg/Kg		100	57 - 115	2	35	
Indeno[1,2,3-cd]pyrene	1.66	1.66		mg/Kg		100	56 - 115	1	35	
Benzo[g,h,i]perylene	1.66	1.66		mg/Kg		100	56 - 115	1	35	
Benzoic acid	1.66	1.67		mg/Kg		101	10 - 115	3	35	
Azobenzene	1.66	1.45		mg/Kg		88	52 - 115	1	35	
Dibenz(a,h)anthracene	1.66	1.67		mg/Kg		101	58 - 115	2	35	

Surrogate	LCSD		Limits
	% Recovery	Qualifier	
Nitrobenzene-d5	92		21 - 98
2-Fluorobiphenyl	92		30 - 112
Terphenyl-d14	97		32 - 117
2-Fluorophenol	89		28 - 98
Phenol-d5	87		23 - 101
2,4,6-Tribromophenol	93		37 - 114

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-95204/1-A

Matrix: Solid

Analysis Batch: 95146

Client Sample ID: Method Blank

Prep Type: Silica Gel Cleanup

Prep Batch: 95204

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics [C10-C28]	0.404	J	1.0	0.34	mg/Kg		07/14/11 14:28	07/14/11 23:02	1
Motor Oil Range Organics [C24-C36]	3.21	J	50	1.7	mg/Kg		07/14/11 14:28	07/14/11 23:02	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier				
Capric Acid (Surr)	0.2		0 - 5	07/14/11 14:28	07/14/11 23:02	1
p-Terphenyl	103		50 - 150	07/14/11 14:28	07/14/11 23:02	1

Lab Sample ID: LCS 720-95204/2-A

Matrix: Solid

Analysis Batch: 95146

Client Sample ID: Lab Control Sample

Prep Type: Silica Gel Cleanup

Prep Batch: 95204

Analyte	Spike Added	LCS		Unit	D	% Rec	% Rec.	
		Result	Qualifier				Limits	
Diesel Range Organics [C10-C28]	82.2	80.7		mg/Kg		98	50 - 150	

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 720-95204/2-A

Matrix: Solid

Analysis Batch: 95146

Client Sample ID: Lab Control Sample

Prep Type: Silica Gel Cleanup

Prep Batch: 95204

	LCS	LCS	
Surrogate	% Recovery	Qualifier	Limits
p-Terphenyl	109		50 - 150

Lab Sample ID: LCSD 720-95204/3-A

Matrix: Solid

Analysis Batch: 95146

Client Sample ID: Lab Control Sample Dup

Prep Type: Silica Gel Cleanup

Prep Batch: 95204

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	83.1	80.7		mg/Kg		97	50 - 150	0	35

	LCSD	LCSD	
Surrogate	% Recovery	Qualifier	Limits
p-Terphenyl	108		50 - 150

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 720-95248/1-A

Matrix: Solid

Analysis Batch: 95347

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		2.0	0.81	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Dieldrin	ND		2.0	0.27	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Endrin aldehyde	ND		2.0	0.82	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Endrin	ND		2.0	0.81	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Endrin ketone	ND		2.0	0.40	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Heptachlor	ND		2.0	0.81	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Heptachlor epoxide	ND		2.0	0.24	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
4,4'-DDT	ND		2.0	0.14	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
4,4'-DDE	ND		2.0	0.81	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
4,4'-DDD	ND		2.0	0.17	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Endosulfan I	ND		2.0	0.81	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Endosulfan II	ND		2.0	0.82	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
alpha-BHC	ND		2.0	0.099	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
beta-BHC	ND		2.0	0.82	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
gamma-BHC (Lindane)	ND		2.0	0.099	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
delta-BHC	ND		2.0	0.12	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Endosulfan sulfate	ND		2.0	0.19	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Methoxychlor	ND		2.0	0.17	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Toxaphene	ND		40	6.8	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
Chlordane (technical)	ND		40	1.8	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
alpha-Chlordane	ND		2.0	0.81	ug/Kg		07/15/11 08:56	07/16/11 18:28	1
gamma-Chlordane	ND		2.0	0.81	ug/Kg		07/15/11 08:56	07/16/11 18:28	1

	MB	MB					Prepared	Analyzed	Dil Fac
Surrogate	% Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	83		45 - 119				07/15/11 08:56	07/16/11 18:28	1
DCB Decachlorobiphenyl	112		27 - 136				07/15/11 08:56	07/16/11 18:28	1

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 720-95248/2-A

Matrix: Solid

Analysis Batch: 95347

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Aldrin	16.5	14.2		ug/Kg		86	54 - 120	
Dieldrin	16.5	14.6		ug/Kg		88	59 - 120	
Endrin aldehyde	16.5	16.9		ug/Kg		102	40 - 120	
Endrin	16.5	15.2		ug/Kg		92	53 - 120	
Endrin ketone	16.5	16.4		ug/Kg		99	40 - 120	
Heptachlor	16.5	14.7		ug/Kg		89	54 - 120	
Heptachlor epoxide	16.5	15.3		ug/Kg		93	40 - 120	
4,4'-DDT	16.5	15.1		ug/Kg		92	51 - 120	
4,4'-DDE	16.5	14.5		ug/Kg		87	40 - 120	
4,4'-DDD	16.5	14.6		ug/Kg		89	40 - 120	
Endosulfan I	16.5	15.5		ug/Kg		94	40 - 120	
Endosulfan II	16.5	10.7		ug/Kg		65	40 - 120	
alpha-BHC	16.5	13.6		ug/Kg		82	40 - 120	
beta-BHC	16.5	15.3		ug/Kg		92	40 - 120	
gamma-BHC (Lindane)	16.5	14.1		ug/Kg		85	58 - 120	
delta-BHC	16.5	13.3		ug/Kg		80	40 - 120	
Endosulfan sulfate	16.5	16.8		ug/Kg		101	40 - 120	
Methoxychlor	16.5	19.4		ug/Kg		118	40 - 120	
alpha-Chlordane	16.5	14.9		ug/Kg		90	40 - 120	
gamma-Chlordane	16.5	15.0		ug/Kg		91	40 - 120	

Surrogate	LCS		Limits
	% Recovery	Qualifier	
Tetrachloro-m-xylene	94		45 - 119
DCB Decachlorobiphenyl	114		27 - 136

Lab Sample ID: LCSD 720-95248/3-A

Matrix: Solid

Analysis Batch: 95347

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95248

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits		RPD	Limit
Aldrin	16.6	14.3		ug/Kg		86	54 - 120		1	20
Dieldrin	16.6	14.5		ug/Kg		88	59 - 120		0	20
Endrin aldehyde	16.6	16.1		ug/Kg		97	40 - 120		5	20
Endrin	16.6	15.1		ug/Kg		91	53 - 120		1	20
Endrin ketone	16.6	16.1		ug/Kg		97	40 - 120		2	20
Heptachlor	16.6	14.8		ug/Kg		89	54 - 120		0	20
Heptachlor epoxide	16.6	15.4		ug/Kg		93	40 - 120		0	20
4,4'-DDT	16.6	14.7		ug/Kg		89	51 - 120		3	20
4,4'-DDE	16.6	14.1		ug/Kg		85	40 - 120		2	20
4,4'-DDD	16.6	14.2		ug/Kg		86	40 - 120		3	20
Endosulfan I	16.6	15.4		ug/Kg		93	40 - 120		0	20
Endosulfan II	16.6	15.3		ug/Kg		92	40 - 120		35	35
alpha-BHC	16.6	13.6		ug/Kg		82	40 - 120		1	20
beta-BHC	16.6	15.1		ug/Kg		91	40 - 120		1	20
gamma-BHC (Lindane)	16.6	14.1		ug/Kg		85	58 - 120		0	20
delta-BHC	16.6	12.9		ug/Kg		78	40 - 120		3	20
Endosulfan sulfate	16.6	16.5		ug/Kg		100	40 - 120		2	20
Methoxychlor	16.6	18.6		ug/Kg		112	40 - 120		5	20
alpha-Chlordane	16.6	15.4		ug/Kg		93	40 - 120		3	20

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCSD 720-95248/3-A

Matrix: Solid

Analysis Batch: 95347

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95248

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
gamma-Chlordane	16.6	15.2		ug/Kg		92	40 - 120	2	20
Surrogate	% Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	94		45 - 119						
DCB Decachlorobiphenyl	111		27 - 136						

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 720-95249/1-A

Matrix: Solid

Analysis Batch: 95336

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95249

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:32	1
PCB-1221	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:32	1
PCB-1232	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:32	1
PCB-1242	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:32	1
PCB-1248	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:32	1
PCB-1254	ND		50	1.8	ug/Kg		07/15/11 08:59	07/17/11 04:32	1
PCB-1260	ND		50	1.5	ug/Kg		07/15/11 08:59	07/17/11 04:32	1
Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
Tetrachloro-m-xylene	93		32 - 112	07/15/11 08:59	07/17/11 04:32	1			
DCB Decachlorobiphenyl	85		2 - 122	07/15/11 08:59	07/17/11 04:32	1			

Lab Sample ID: LCS 720-95249/2-A

Matrix: Solid

Analysis Batch: 95336

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95249

			Spike	LCS	LCS				% Rec.		
Analyte			Added	Result	Qualifier	Unit	D	% Rec	Limits		
PCB-1016			131	141		ug/Kg		107	65 - 120		
PCB-1260			131	134		ug/Kg		102	65 - 120		
			LCS	LCS							
Surrogate	% Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	104		32 - 112								
DCB Decachlorobiphenyl	86		2 - 122								

Lab Sample ID: LCSD 720-95249/3-A

Matrix: Solid

Analysis Batch: 95336

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95249

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
PCB-1016	131	140		ug/Kg		107	65 - 120	0	20
PCB-1260	131	132		ug/Kg		100	65 - 120	2	20
Surrogate	% Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	102		32 - 112						
DCB Decachlorobiphenyl	87		2 - 122						

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-95225/1-A

Matrix: Solid

Analysis Batch: 95367

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95225

Analyte	Result	MB MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50	0.083	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Arsenic	ND		1.0	0.085	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Barium	ND		0.50	0.071	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Beryllium	ND		0.10	0.033	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Cadmium	ND		0.13	0.012	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Chromium	ND		0.50	0.053	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Cobalt	ND		0.20	0.020	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Copper	ND		1.5	0.71	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Lead	ND		0.50	0.11	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Molybdenum	0.0678	J	0.50	0.064	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Nickel	ND		0.50	0.051	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Selenium	ND		1.0	0.15	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Silver	ND		0.25	0.051	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Thallium	ND		0.50	0.15	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Vanadium	ND		0.50	0.068	mg/Kg		07/14/11 18:50	07/16/11 15:57	1
Zinc	ND		1.5	0.64	mg/Kg		07/14/11 18:50	07/16/11 15:57	1

Lab Sample ID: LCS 720-95225/2-A

Matrix: Solid

Analysis Batch: 95367

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95225

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Antimony	50.0	46.6		mg/Kg		93	80 - 120
Arsenic	50.0	46.1		mg/Kg		92	80 - 120
Barium	50.0	47.3		mg/Kg		95	80 - 120
Beryllium	50.0	47.3		mg/Kg		95	80 - 120
Cadmium	50.0	46.5		mg/Kg		93	80 - 120
Chromium	50.0	47.0		mg/Kg		94	80 - 120
Cobalt	50.0	47.5		mg/Kg		95	80 - 120
Copper	50.0	46.9		mg/Kg		94	80 - 120
Lead	50.0	47.5		mg/Kg		95	80 - 120
Molybdenum	50.0	48.3		mg/Kg		97	80 - 120
Nickel	50.0	47.6		mg/Kg		95	80 - 120
Selenium	50.0	45.8		mg/Kg		92	80 - 120
Silver	25.0	23.2		mg/Kg		93	80 - 120
Thallium	50.0	47.8		mg/Kg		96	80 - 120
Vanadium	50.0	47.1		mg/Kg		94	80 - 120
Zinc	50.0	46.2		mg/Kg		92	80 - 120

Lab Sample ID: LCSD 720-95225/3-A

Matrix: Solid

Analysis Batch: 95367

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95225

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD Limit
Antimony	50.0	45.3		mg/Kg		91	80 - 120	3 20
Arsenic	50.0	44.9		mg/Kg		90	80 - 120	2 20
Barium	50.0	46.1		mg/Kg		92	80 - 120	3 20
Beryllium	50.0	46.2		mg/Kg		92	80 - 120	2 20
Cadmium	50.0	45.3		mg/Kg		91	80 - 120	3 20
Chromium	50.0	45.8		mg/Kg		92	80 - 120	3 20

TestAmerica San Francisco

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 720-95225/3-A

Matrix: Solid

Analysis Batch: 95367

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95225

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
Cobalt	50.0	46.3		mg/Kg		93	80 - 120	3		20
Copper	50.0	45.7		mg/Kg		91	80 - 120	3		20
Lead	50.0	46.2		mg/Kg		92	80 - 120	3		20
Molybdenum	50.0	47.2		mg/Kg		94	80 - 120	2		20
Nickel	50.0	46.2		mg/Kg		92	80 - 120	3		20
Selenium	50.0	44.5		mg/Kg		89	80 - 120	3		20
Silver	25.0	22.7		mg/Kg		91	80 - 120	3		20
Thallium	50.0	46.6		mg/Kg		93	80 - 120	3		20
Vanadium	50.0	45.8		mg/Kg		92	80 - 120	3		20
Zinc	50.0	44.8		mg/Kg		90	80 - 120	3		20

Lab Sample ID: MB 720-95401/1-A

Matrix: Solid

Analysis Batch: 95414

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 95401

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.010	0.00070	mg/L		07/18/11 12:08	07/18/11 14:20	1

Lab Sample ID: LCS 720-95401/2-A

Matrix: Solid

Analysis Batch: 95414

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 95401

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Chromium	1.00	0.962		mg/L		96	80 - 120	

Lab Sample ID: LCSD 720-95401/3-A

Matrix: Solid

Analysis Batch: 95414

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 95401

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	Limit
							Limits	RPD		
Chromium	1.00	0.950		mg/L		95	80 - 120	1		20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-95223/1-A

Matrix: Solid

Analysis Batch: 95281

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95223

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00250	J	0.010	0.0025	mg/Kg		07/14/11 18:28	07/15/11 10:17	1

Lab Sample ID: LCS 720-95223/2-A

Matrix: Solid

Analysis Batch: 95281

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95223

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec.	
							Limits	
Mercury	0.833	0.808		mg/Kg		97	80 - 120	

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 720-95223/3-A

Matrix: Solid

Analysis Batch: 95281

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95223

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec.		RPD	
							Limits		RPD	Limit
Mercury	0.833	0.808		mg/Kg		97	80 - 120		0	20

QC Association Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

GC/MS VOA

Analysis Batch: 95143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95376/1-A	Method Blank	Total/NA	Solid	8260B	95376
LCS 720-95376/2-A	Lab Control Sample	Total/NA	Solid	8260B	95376
LCSD 720-95376/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B	95376
720-36277-5	COMPOSITE	Total/NA	Solid	8260B	95376

Prep Batch: 95376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95376/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 720-95376/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 720-95376/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
720-36277-5	COMPOSITE	Total/NA	Solid	5030B	

GC/MS Semi VOA

Prep Batch: 95207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95207/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-95207/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 720-95207/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
720-36277-5	COMPOSITE	Total/NA	Solid	3546	

Analysis Batch: 95270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-95207/2-A	Lab Control Sample	Total/NA	Solid	8270C	95207
LCSD 720-95207/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C	95207
MB 720-95207/1-A	Method Blank	Total/NA	Solid	8270C	95207

Analysis Batch: 95353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	Total/NA	Solid	8270C	95207

GC Semi VOA

Analysis Batch: 95146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95204/1-A	Method Blank	Silica Gel Cleanup	Solid	8015B	95204
LCS 720-95204/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	8015B	95204
LCSD 720-95204/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	8015B	95204

Prep Batch: 95204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95204/1-A	Method Blank	Silica Gel Cleanup	Solid	3546	
LCS 720-95204/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	3546	
LCSD 720-95204/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	3546	
720-36277-5	COMPOSITE	Silica Gel Cleanup	Solid	3546	

Prep Batch: 95248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95248/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-95248/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 720-95248/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
720-36277-5	COMPOSITE	Total/NA	Solid	3546	

QC Association Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

GC Semi VOA (Continued)

Prep Batch: 95248 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	Total/NA	Solid	3546	

Prep Batch: 95249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95249/1-A	Method Blank	Total/NA	Solid	3546	
LCS 720-95249/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 720-95249/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
720-36277-5	COMPOSITE	Total/NA	Solid	3546	

Analysis Batch: 95262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	Silica Gel Cleanup	Solid	8015B	95204

Analysis Batch: 95336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	Total/NA	Solid	8082	95249
MB 720-95249/1-A	Method Blank	Total/NA	Solid	8082	95249
LCS 720-95249/2-A	Lab Control Sample	Total/NA	Solid	8082	95249
LCSD 720-95249/3-A	Lab Control Sample Dup	Total/NA	Solid	8082	95249

Analysis Batch: 95347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95248/1-A	Method Blank	Total/NA	Solid	8081A	95248
LCS 720-95248/2-A	Lab Control Sample	Total/NA	Solid	8081A	95248
LCSD 720-95248/3-A	Lab Control Sample Dup	Total/NA	Solid	8081A	95248
720-36277-5	COMPOSITE	Total/NA	Solid	8081A	95248

Analysis Batch: 95418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	Total/NA	Solid	8081A	95248

Metals

Prep Batch: 95223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95223/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 720-95223/2-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 720-95223/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
720-36277-5	COMPOSITE	Total/NA	Solid	7471A	

Prep Batch: 95225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95225/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-95225/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 720-95225/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
720-36277-5	COMPOSITE	Total/NA	Solid	3050B	

Analysis Batch: 95281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95223/1-A	Method Blank	Total/NA	Solid	7471A	95223
LCS 720-95223/2-A	Lab Control Sample	Total/NA	Solid	7471A	95223
LCSD 720-95223/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	95223

TestAmerica San Francisco

QC Association Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Metals (Continued)

Analysis Batch: 95281 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	Total/NA	Solid	7471A	95223

Leach Batch: 95329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	STLC Citrate	Solid	CA WET Citrate	

Analysis Batch: 95367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95225/1-A	Method Blank	Total/NA	Solid	6010B	95225
LCS 720-95225/2-A	Lab Control Sample	Total/NA	Solid	6010B	95225
LCSD 720-95225/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	95225
720-36277-5	COMPOSITE	Total/NA	Solid	6010B	95225

Prep Batch: 95401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95401/1-A	Method Blank	Total Recoverable	Solid	3005A	
LCS 720-95401/2-A	Lab Control Sample	Total Recoverable	Solid	3005A	
LCSD 720-95401/3-A	Lab Control Sample Dup	Total Recoverable	Solid	3005A	
720-36277-5	COMPOSITE	STLC Citrate	Solid	3005A	95329

Analysis Batch: 95414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-95401/1-A	Method Blank	Total Recoverable	Solid	6010B	95401
LCS 720-95401/2-A	Lab Control Sample	Total Recoverable	Solid	6010B	95401
LCSD 720-95401/3-A	Lab Control Sample Dup	Total Recoverable	Solid	6010B	95401

Analysis Batch: 95426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-36277-5	COMPOSITE	STLC Citrate	Solid	6010B	95401

Certification Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica San Francisco	California	State Program	9	2496

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Method Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SF
8270C	Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	SW846	TAL SF
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL SF
8081A	Organochlorine Pesticides (GC)	SW846	TAL SF
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL SF
6010B	Metals (ICP)	SW846	TAL SF
7471A	Mercury (CVAA)	SW846	TAL SF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-36277-5	COMPOSITE	Solid	07/14/11 13:17	07/14/11 16:12

1

2

3

4

5

6

7

8

9

10

11

12

13

Login Sample Receipt Checklist

Client: Cleary Consultants, Inc

Job Number: 720-36277-1

Login Number: 36277

List Source: TestAmerica San Francisco

List Number: 1

Creator: Hoang, Julie

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica San Francisco

1220 Quarry Lane

Pleasanton, CA 94566

Tel: (925)484-1919

TestAmerica Job ID: 720-36277-2

Client Project/Site: Burlingame High School

For:

Cleary Consultants, Inc

900 N. San Antonio Road

Suite 100

Los Altos, California 94022

Attn: Chris Cienchanowski

Surinder Sidhu

Authorized for release by:

08/22/2011 03:10:28 PM

Surinder Sidhu

Customer Service Manager

surinder.sidhu@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit (Dioxin)
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or method detection limit if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Job ID: 720-36277-2

Laboratory: TestAmerica San Francisco

Narrative

Job Narrative
720-36277-2

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

Metals

No analytical or quality issues were noted.

Detection Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Client Sample ID: #1 D-ZONE-WEST 0-18"

Lab Sample ID: 720-36277-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15		3.9	0.33	mg/Kg	4		6010B	Total/NA

Client Sample ID: #2 WEST 20 YARS LINE 0-18"

Lab Sample ID: 720-36277-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.8		3.8	0.32	mg/Kg	4		6010B	Total/NA

Client Sample ID: #3 EAST 20 YARS LINE 0-18"

Lab Sample ID: 720-36277-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	20		4.0	0.34	mg/Kg	4		6010B	Total/NA

Client Sample ID: #4 D-ZONE-EAST 0-12"

Lab Sample ID: 720-36277-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	70		3.7	0.31	mg/Kg	4		6010B	Total/NA

Client Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Method: 6010B - Metals (ICP)

Client Sample ID: #1 D-ZONE-WEST 0-18"

Date Collected: 07/14/11 13:17

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-1

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		3.9	0.33	mg/Kg		08/19/11 16:41	08/20/11 16:03	4

Client Sample ID: #2 WEST 20 YARS LINE 0-18"

Date Collected: 07/14/11 13:20

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-2

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.8		3.8	0.32	mg/Kg		08/19/11 16:41	08/20/11 16:11	4

Client Sample ID: #3 EAST 20 YARS LINE 0-18"

Date Collected: 07/14/11 13:27

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-3

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20		4.0	0.34	mg/Kg		08/19/11 16:41	08/20/11 16:16	4

Client Sample ID: #4 D-ZONE-EAST 0-12"

Date Collected: 07/14/11 13:33

Date Received: 07/14/11 16:12

Lab Sample ID: 720-36277-4

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	70		3.7	0.31	mg/Kg		08/19/11 16:41	08/20/11 16:20	4

QC Sample Results

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-97604/1-A
Matrix: Solid
Analysis Batch: 97655

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 97604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.085	mg/Kg		08/19/11 16:41	08/20/11 15:43	1

Lab Sample ID: LCS 720-97604/2-A
Matrix: Solid
Analysis Batch: 97655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 97604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	50.0	47.8		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 720-97604/3-A
Matrix: Solid
Analysis Batch: 97655

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 97604

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	50.0	46.5		mg/Kg		93	80 - 120	3	20

Lab Sample ID: LCSSRM 720-97604/25-A
Matrix: Solid
Analysis Batch: 97655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 97604

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	79.4	70.6		mg/Kg		89	69 - 119

Lab Sample ID: 720-36277-1 MS
Matrix: Solid
Analysis Batch: 97655

Client Sample ID: #1 D-ZONE-WEST 0-18"
Prep Type: Total/NA
Prep Batch: 97604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Arsenic	15		49.5	57.6		mg/Kg		85	75 - 125

Lab Sample ID: 720-36277-1 MSD
Matrix: Solid
Analysis Batch: 97655

Client Sample ID: #1 D-ZONE-WEST 0-18"
Prep Type: Total/NA
Prep Batch: 97604

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Arsenic	15		48.5	60.4		mg/Kg		93	75 - 125	5	20

QC Association Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Metals

Prep Batch: 97604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-97604/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 720-97604/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 720-97604/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
720-36277-1 MS	#1 D-ZONE-WEST 0-18"	Total/NA	Solid	3050B	
720-36277-1 MSD	#1 D-ZONE-WEST 0-18"	Total/NA	Solid	3050B	
720-36277-1	#1 D-ZONE-WEST 0-18"	Total/NA	Solid	3050B	
720-36277-2	#2 WEST 20 YARS LINE 0-18"	Total/NA	Solid	3050B	
720-36277-3	#3 EAST 20 YARS LINE 0-18"	Total/NA	Solid	3050B	
720-36277-4	#4 D-ZONE-EAST 0-12"	Total/NA	Solid	3050B	
LCSSRM 720-97604/25-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 97655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 720-97604/1-A	Method Blank	Total/NA	Solid	6010B	97604
LCS 720-97604/2-A	Lab Control Sample	Total/NA	Solid	6010B	97604
LCSD 720-97604/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	97604
720-36277-1 MS	#1 D-ZONE-WEST 0-18"	Total/NA	Solid	6010B	97604
720-36277-1 MSD	#1 D-ZONE-WEST 0-18"	Total/NA	Solid	6010B	97604
720-36277-1	#1 D-ZONE-WEST 0-18"	Total/NA	Solid	6010B	97604
720-36277-2	#2 WEST 20 YARS LINE 0-18"	Total/NA	Solid	6010B	97604
720-36277-3	#3 EAST 20 YARS LINE 0-18"	Total/NA	Solid	6010B	97604
720-36277-4	#4 D-ZONE-EAST 0-12"	Total/NA	Solid	6010B	97604
LCSSRM 720-97604/25-A	Lab Control Sample	Total/NA	Solid	6010B	97604

Certification Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica San Francisco	California	State Program	9	2496

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL SF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SF = TestAmerica San Francisco, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: Cleary Consultants, Inc
Project/Site: Burlingame High School

TestAmerica Job ID: 720-36277-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-36277-1	#1 D-ZONE-WEST 0-18"	Solid	07/14/11 13:17	07/14/11 16:12
720-36277-2	#2 WEST 20 YARS LINE 0-18"	Solid	07/14/11 13:20	07/14/11 16:12
720-36277-3	#3 EAST 20 YARS LINE 0-18"	Solid	07/14/11 13:27	07/14/11 16:12
720-36277-4	#4 D-ZONE-EAST 0-12"	Solid	07/14/11 13:33	07/14/11 16:12

720-36277-2

Sharma, Dimple

From: Chris Ciechanowski [chris@clearyconsultantsinc.com]
Sent: Friday, August 19, 2011 12:55 PM
To: Sidhu, Surinder; Sharma, Dimple
Subject: FW: BHS Information sent via e-mails (photos & analytical results)

Here is what was sent to us in response to the test results for Job 720-36277-1

"Thanks for sending some of the information we've discussed during our conference call on July 12th. I have looked over the photos and reviewed the analytical results for one composite sample (Lab sample ID: 720-36277-5). The following are my comments:

1. The planter shown in the four photos you provided is located on the east side of the library. This planter is also part of Area C and included in the scope of the O&M plan. However, the planter that DTSC is concerned about is located on the north side of the former Building D/Wood Shop. Please see DTSC letter dated July 20, 2011 for additional information.
2. Four soil samples were collected on July 14, 2011 (D-zone West 0-18"; West 20 yard line 0-18"; East 20 yard line 0-12"; and, D-zone East 0-12") and composited into one sample (4:1 composite). Typically, arsenic samples are analyzed discretely and not as a composite sample. If the collected samples are still available, please have the discrete samples analyzed. Also, please send the sampling plan used & include the rationale for collecting the samples at two depths (0-12" and 0-18").
3. The lab result indicated that the arsenic level is 21 mg/kg which slightly exceeds the cleanup screening level determined for the site in the DTSC- approved RAW of 19.7 mg/kg. Additional sampling may be required to characterize the track & field area."

Please let me know if this can be done.

Thank you,

Chris Ciechanowski

Cleary Consultants, Inc.

650-948-0574

Due mon 8/22/11

RUSH

Login Sample Receipt Checklist

Client: Cleary Consultants, Inc

Job Number: 720-36277-2

Login Number: 36277

List Source: TestAmerica San Francisco

List Number: 1

Creator: Hoang, Julie

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	



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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 279212
ANALYTICAL REPORT**

San Mateo Unio High School District
300 Piedmont Avenue
San Bruno, CA 94066

Project : STANDARD
Location : SMUHSD - BHS July 2016
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
C-BHS-A-J2016	279212-001
C-BHS-B-J2016	279212-002
C-BHS-C-J2016	279212-003
C-BHS-D-J2016	279212-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 08/08/2016

Will Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 279212
Client: San Mateo Unio High School District
Location: SMUHSD - BHS July 2016
Request Date: 08/01/16
Samples Received: 08/01/16

This data package contains sample and QC results for four soil samples, requested for the above referenced project on 08/01/16. The samples were received cold and intact.

Metals (EPA 6010B):

No analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 279212 Date Received 08/01/16 Number of coolers 0
 Client SMUHS Project SMUHS - DHS July 2016
 Date Opened 08/01 By (print) SE (sign) [Signature]
 Date Logged in ↓ By (print) DTN (sign) [Signature]
 Date Labelled ↓ By (print) ↓ (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES ☒ NO

Shipping info _____

2A. Were custody seals present? ☐ YES (circle) on cooler on samples ☒ NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO ☒ N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap

☐ Foam blocks

☒ Bags

☐ None

☐ Cloth material

☐ Cardboard

☐ Styrofoam

☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☐ Blue/Gel ☒ None Temp(°C) _____

☐ Temperature blank(s) included? ☐ Thermometer# _____ ☐ IR Gun# _____

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? _____ YES NO ☒ N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO ☒ N/A

17. Did you document your preservative check? (pH strip lot# _____) YES NO ☒ N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO ☒ N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO ☒ N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO ☒ N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Detections Summary for 279212

Results for any subcontracted analyses are not included in this summary.

Client : San Mateo Unio High School District
Project : STANDARD
Location : SMUHSD - BHS July 2016

Client Sample ID : C-BHS-A-J2016 Laboratory Sample ID : 279212-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	47		0.23	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : C-BHS-B-J2016 Laboratory Sample ID : 279212-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	21		0.25	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : C-BHS-C-J2016 Laboratory Sample ID : 279212-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	10		0.24	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Client Sample ID : C-BHS-D-J2016 Laboratory Sample ID : 279212-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Arsenic	25		0.27	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Arsenic			
Lab #:	279212	Location:	SMUHSD - BHS July 2016
Client:	San Mateo Unio High School District	Prep:	EPA 3050B
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	237656
Matrix:	Soil	Sampled:	07/29/16
Units:	mg/Kg	Received:	08/01/16
Basis:	as received	Prepared:	08/03/16
Diln Fac:	1.000		

Field ID	Type	Lab ID	Result	RL	Analyzed
C-BHS-A-J2016	SAMPLE	279212-001	47	0.23	08/03/16
C-BHS-B-J2016	SAMPLE	279212-002	21	0.25	08/03/16
C-BHS-C-J2016	SAMPLE	279212-003	10	0.24	08/04/16
C-BHS-D-J2016	SAMPLE	279212-004	25	0.27	08/04/16
	BLANK	QC845722	ND	0.23	08/03/16

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Arsenic			
Lab #:	279212	Location:	SMUHSD - BHS July 2016
Client:	San Mateo Unio High School District	Prep:	EPA 3050B
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	237656
MSS Lab ID:	279181-001	Sampled:	07/24/16
Matrix:	Soil	Received:	07/28/16
Units:	mg/Kg	Prepared:	08/03/16
Basis:	as received	Analyzed:	08/03/16

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC845723		50.00	53.68	107	80-120		
BSD	QC845724		50.51	52.48	104	80-120	3	20
MS	QC845725	2.179	54.95	53.94	94	69-120		
MSD	QC845726		52.63	54.22	99	69-120	5	35

RPD= Relative Percent Difference



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 279500
ANALYTICAL REPORT**

San Mateo Unio High School District
300 Piedmont Avenue
San Bruno, CA 94066

Project : STANDARD
Location : SMUHSD - BHS July 2016
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
C-BHS-A-J2016	279500-001
C-BHS-B-J2016	279500-002
C-BHS-C-J2016	279500-003
C-BHS-D-J2016	279500-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: 
Tracy Babjar
Project Manager
tracy.babjar@ctberk.com
(510) 204-2226

Date: 08/17/2016

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 279500
Client: San Mateo Unio High School District
Location: SMUHSD - BHS July 2016
Request Date: 08/09/16
Samples Received: 08/01/16

This data package contains sample and QC results for four soil samples, requested for the above referenced project on 08/09/16. The samples were received cold and intact.

Metals (EPA 6010B):

No analytical problems were encountered.

CT# 279500

Subject: Additional Analysis for Client 279212
From: Robin Clemens <rclemens@smuhsd.org>
Date: 8/9/2016 3:37 PM
To: Tracy Babjar <tracy.babjar@ctberk.com>

Hi Tracy,

Can you please add a TCLP for arsenic to each of the 4 samples that we submitted on 8/1/2016?

Laboratory number: 279212
Client: San Mateo Union High School District
Location: SMUHSD - BHS July 2016
Request Date: 08/09/16
Samples Received: 08/01/16

Thank you!

--

Robin Clemens
San Mateo Union High School District
Environmental Health and Safety Specialist
300 Piedmont Avenue, Bldg D-415
San Bruno, CA 94066
650.558.2470 (office)
650.280.8114 (cell)
rclemens@smuhsd.org

Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

Page 1 of 1
Chain of Custody #: _____

C&T LOGIN # 279212

Project No: SMUHS D - BHS July 2016

Sampler: Robina Clemens

Project Name:

Report To: Robin Clemens

EDD Format: _____ Rpt Level: ☐ I ☐ II ☐ III ☐

Company: SWIA USD -

Turnaround Time: ☐ RUSH ☒ Standard

Company: SMU KSP-
Telephone: 650-782-8114

Email: rclmens@smahsd.org

[illegible]

Notes:

SAMPLE RECEIPT

☐ Intact ☐ Cold

☐ interact ☐ could

☐ On loc ☐ Ambit:

☐ On Ice ☐ Ambient

RELINQUISHED BY:

nyce

[illegible]

DATE/TIME	22/2100
-----------	---------

RECEIVED BY:

8.1.16

DATE/TIME

DATE/TIME

4 of 8

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 279212 Date Received 08/01/16 Number of coolers 0
 Client SMUHSD Project SMUHSD - DHS July 2016
 Date Opened 08/01 By (print) SE (sign) [Signature]
 Date Logged in J By (print) DTN (sign) [Signature]
 Date Labelled J By (print) J (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES ☒ NO

Shipping info _____

2A. Were custody seals present? ☐ YES (circle) on cooler on samples ☒ NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO ☒ N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap

☐ Foam blocks

☒ Bags

☐ None

☐ Cloth material

☐ Cardboard

☐ Styrofoam

☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☐ Wet ☐ Blue/Gel ☒ None Temp(°C) _____

☐ Temperature blank(s) included? ☐ Thermometer# _____ ☐ IR Gun# _____

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO ☒ N/A

16. Did you check preservatives for all bottles for each sample? YES NO ☒ N/A

17. Did you document your preservative check? (pH strip lot# _____) YES NO ☒ N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO ☒ N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO ☒ N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO ☒ N/A

21. Was the client contacted concerning this sample delivery? YES NO ☒ NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Detections Summary for 279500

Results for any subcontracted analyses are not included in this summary.

Client : San Mateo Unio High School District
Project : STANDARD
Location : SMUHSD - BHS July 2016

Client Sample ID : C-BHS-A-J2016	Laboratory Sample ID :	279500-001
No Detections		
Client Sample ID : C-BHS-B-J2016	Laboratory Sample ID :	279500-002
No Detections		
Client Sample ID : C-BHS-C-J2016	Laboratory Sample ID :	279500-003
No Detections		
Client Sample ID : C-BHS-D-J2016	Laboratory Sample ID :	279500-004
No Detections		

Arsenic			
Lab #:	279500	Location:	SMUHSD - BHS July 2016
Client:	San Mateo Unio High School District	Prep:	EPA 3010A
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	238032
Matrix:	TCLP Leachate	Sampled:	07/29/16
Units:	mg/L	Received:	08/01/16
Diln Fac:	10.00	Prepared:	08/14/16

Field ID	Type	Lab ID	Result	RL	Analyzed
C-BHS-A-J2016	SAMPLE	279500-001	ND	0.050	08/16/16
C-BHS-B-J2016	SAMPLE	279500-002	ND	0.050	08/15/16
C-BHS-C-J2016	SAMPLE	279500-003	ND	0.050	08/15/16
C-BHS-D-J2016	SAMPLE	279500-004	ND	0.050	08/15/16
	BLANK	QC847230	ND	0.050	08/16/16

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Arsenic			
Lab #:	279500	Location:	SMUHSD - BHS July 2016
Client:	San Mateo Unio High School District	Prep:	EPA 3010A
Project#:	STANDARD	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	238032
Field ID:	C-BHS-A-J2016	Sampled:	07/29/16
MSS Lab ID:	279500-001	Received:	08/01/16
Matrix:	TCLP Leachate	Prepared:	08/14/16
Units:	mg/L	Analyzed:	08/16/16

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
BS	QC847231		0.1000	0.1012	101	80-120			1.000	
BSD	QC847232		0.1000	0.1031	103	80-120	2	20	1.000	
MS	QC847233	0.04933	0.1000	0.1450	96	80-127			10.00	
MSD	QC847234		0.1000	0.1310	82	80-127	10	25	10.00	

RPD= Relative Percent Difference

APPENDIX O

INFORMING THE COMMUNITY OF FIVE-YEAR REVIEWS

APPENDIX O

INFORMING THE COMMUNITY OF FIVE-YEAR REVIEWS

At the beginning: inform the community that a five-year review will be conducted. The following should be included:

- District name, school name and location;
- State the district will be conducting the review ;
- Brief description of the remediation cap (the selected remedy);
- Summary of the NOA (contamination) addressed by the remediation cap;
- How the community can contribute during the review process;
- Contact name, telephone and e-mail address for further information; and
- The scheduled completion date of the five-year review.

At the end: inform the community that a five-year review has been completed. The following should be included:

- District name, school name and location;
- State the district conducted the review;
- Brief description of the remediation cap (the selected remedy);
- Summary of the NOA (contamination) addressed by the remediation cap as provided in the initially informed;
- Brief summary of the five-year review results;
- Protectiveness statement(s) – (remedy functioning as intended)
- A brief summary of data and information that provided the basis for determining protectiveness, issues, recommendations, and follow-up actions directly related to the protectiveness of the remedy;
- Location(s) where a copy of the five-year review can be viewed
- A contact name, telephone number and e-mail address for further information or where questions can be asked about the results; and
- The date of the next five-year review or a statement and supporting rationale that five-year reviews will no longer be required.

APPENDIX P

GUIDELINES FOR SUBMITTING PDF DOCUMENTS

APPENDIX P

GUIDELINES FOR SUBMITTING PDF DOCUMENTS

With the introduction of the Cleanup Program's database, EnviroStor, the public can now download and view project related documents online. To provide the public with this vital source of information, please provide a PDF copy of reports, even if a hard copy will be supplied.

Due to differences in internet downloading capabilities and resolutions of PDF files, many users have trouble downloading and viewing large PDF files. The following guidelines were created to provide consistency in PDF files and allow most users to access these files.

- 1) File size: For each file that needs to be uploaded, the maximum file size should be kept to 30 megabytes (MB). If you have a large file, please save large color images (e.g., figures, site photos, maps) and supplemental information (appendices) in separate PDF files. If you are creating PDF files by scanning a paper document, the recommended resolution setting is 200 SPI.
- 2) Naming PDF files: It is recommended that the files be named by using an abbreviated site name, report title, date, and, if multiple files are being uploaded, the section of report (e.g., Site_report_mmddyy_section.pdf, 968-81stAve_PEA_072706_text.pdf, etc). Please do not use spaces in your filename.
- 3) Accessibility: To ensure that all files uploaded into EnviroStor are searchable and comply with California's Web Accessibility law, please run all PDF files through an Optical Character Recognition (OCR) process prior to submitting the file to DTSC.
- 4) Bookmarks: For large reports, bookmarks should be created in the PDF for ease of navigation.
- 5) FTP server: To submit large files or a group of files that cannot be sent via e-mail, they can be sent to a DTSC staff member via the FTP server. It is recommended that if you are sending multiple files via the FTP server, that you place all files into a folder and ZIP the folder. Below are the instructions to submit files via the FTP server:

Link: http://www.dtsc.ca.gov/database/DTSC_FTP_Requests/index.cfm

i. Provide Upload File Information: Please provide the requested information about yourself, the recipient, and the name of the computer file to be uploaded. This tells our system:

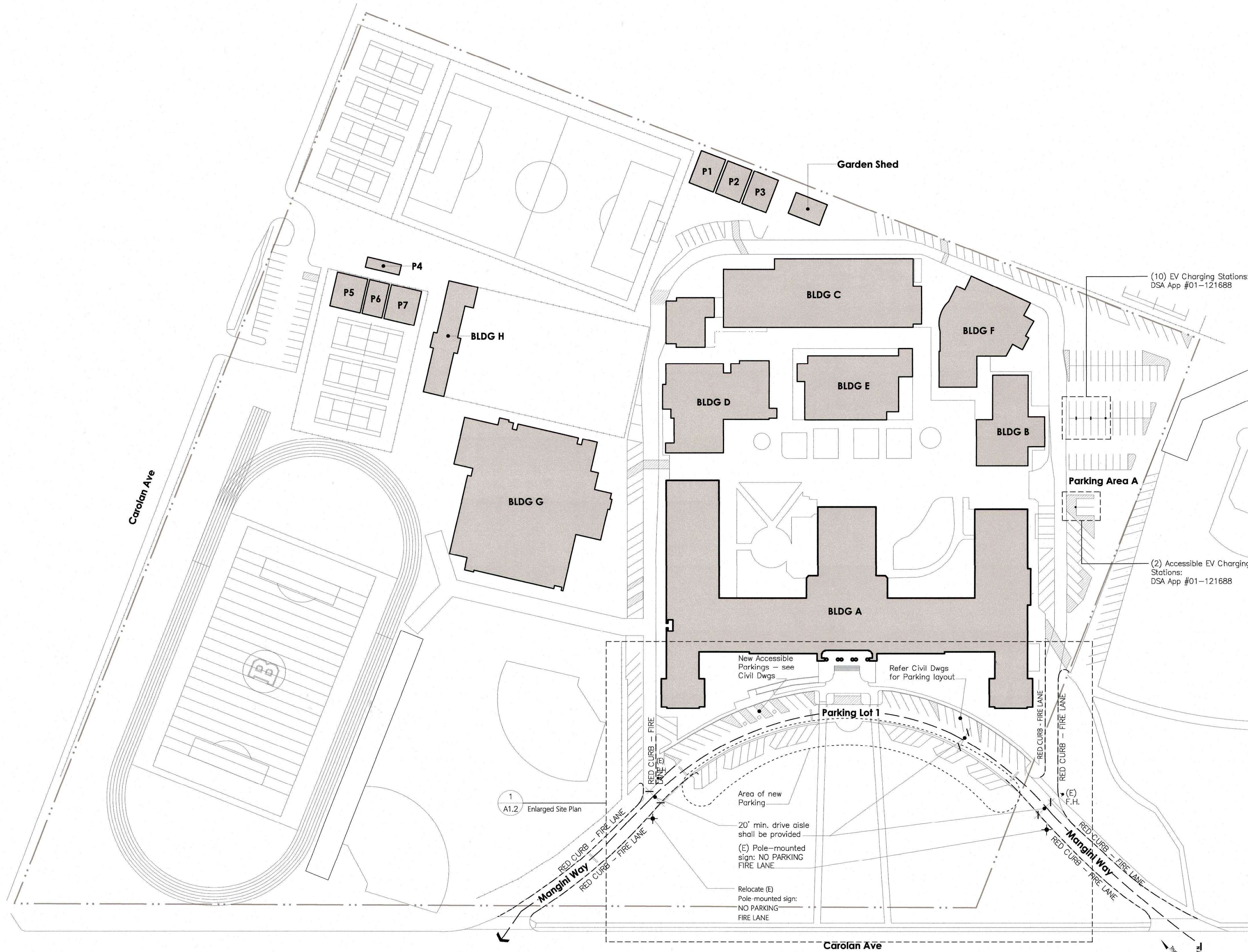
- a. to expect and allow your file onto the FTP server
- b. to whom the recipient is
- c. to let the recipient know who sent the file

Please assure that the file name and specified name of the file (with extension)

exactly match the actual name of the file being sent. If the names do not match exactly, then the file will be deleted as spam. Do not specify a drive or directory.

ii. Transfer the File: Once your information is provided in the first step, you have 60 minutes to send your file to our server. You will be provided with an FTP location after providing the information.

For further assistance, contact the appropriate project manager, or the envirostor help desk at (916) 323-3400 or by email to: ENVIROSTOR@DTSC.CA.GOV.



1 BHS Site Plan

Legend		Note
---	Property Line	Fire lane as shown only through area of work at parking addition
---	Fire Lane	
-x-x-	Fence	
-----	Area of (N) Parking	
(N)	New	
(E)	Existing	



810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy PL 09-01: Fire Flow for Buildings.

PROJECT INFORMATION		
School District/Owner:	San Mateo Union High School District	
Project Name/School:	Burlingame High School	
Project Address:	1 Mangini Way, Burlingame, CA 94010	
FIRE & LIFE SAFETY INFORMATION		
1. Has a fire hydrant flow test been performed within the past 12 months? (If yes, provide a copy of the test data.)	Yes ☐	No ☒
2. Was the fire hydrant water flow test performed as part of this LFA review? Flowtest performed in 2023 for Gym Project	Yes ☐	No ☒
3. Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? (If yes, indicate FHSZ classification below.)	Yes ☐	No ☒
Refer to the following website for FHSZ locations: Fire Hazard Severity Zones in State Responsibility Area	Moderate ☐	High ☐ Very High ☐
Wildland Interface Area (WIFA) (If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)	WIFA ☐	

DSA 810 FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED			
		Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements.				
4a.	Acceptable Alternate: Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.				
5.	Fire Hydrants: Number and spacing does not meet CFC requirements.				
5a.	Acceptable Alternate: Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.				
6.	Fire Hydrants: Water flow and pressure are less than CFC minimum.				
6a.	Acceptable Alternate: The available flow and pressure is acceptable for providing fire suppression and protection of life and property.				
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.				
7a.	Acceptable Alternate: The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.				

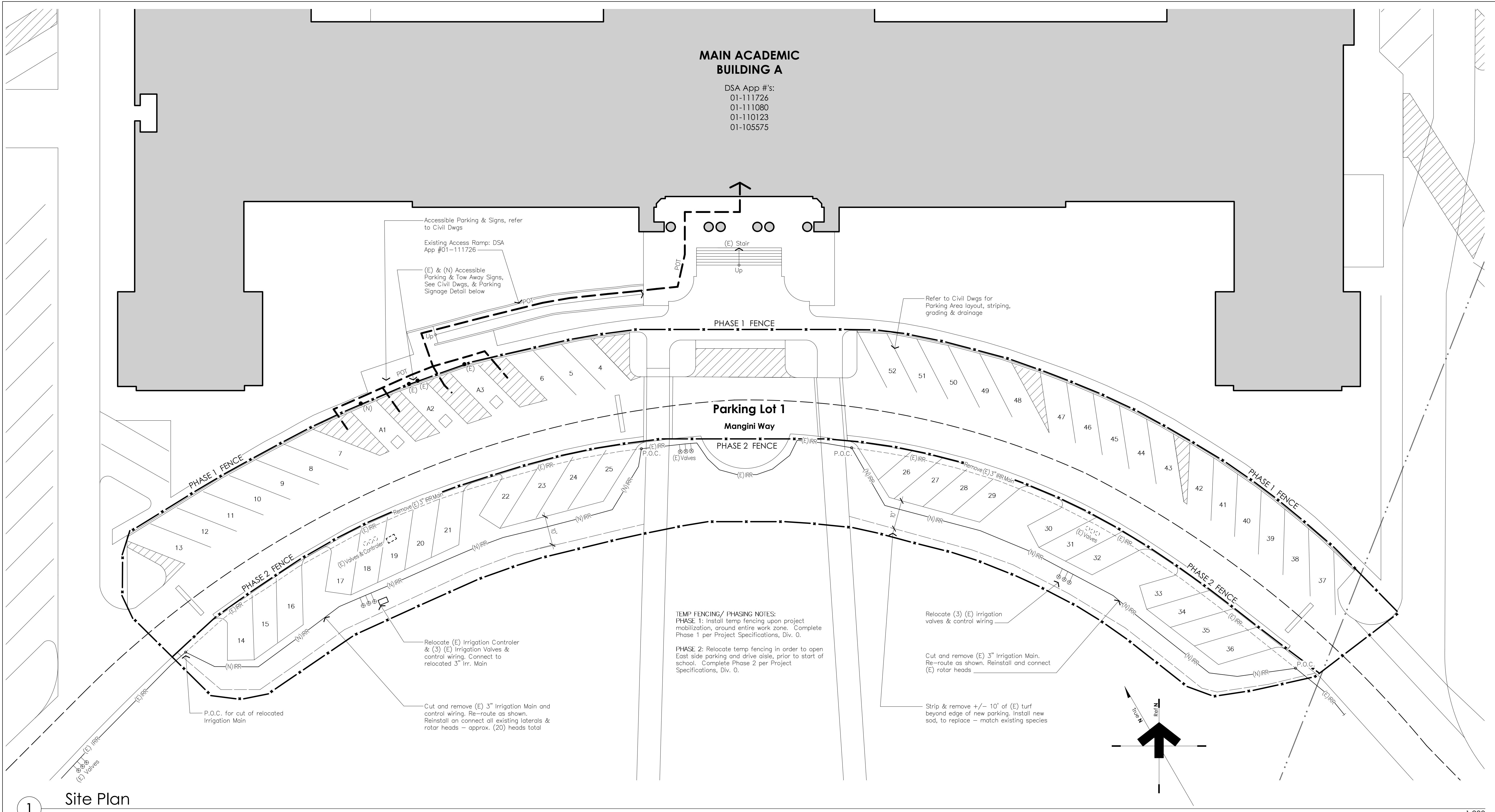
School District Acceptance of Acceptable Design Alternates
By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted by: _____ Title: _____

Signature: _____ Date: _____

LOCAL FIRE AUTHORITY (LFA) INFORMATION	
LFA Agency Name:	Central County Fire Department
LFA Review Official:	Patricia Koch
Title:	Fire Marshal
Work Phone:	(650) 558-7600
Work Email:	pkoch@ccfd.org

LFA Reviewer's Signature: Patricia A. Koch Date: 2/17/26



1 Site Plan

Parking Signage	Parking Count	Site Accessibility Notes	Site Notes	Legend																								
<div><div><div><div>2'-0"</div><div>UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE TOWED VEHICLES MAY BE RECLAIMED AT BPD 650-777-4124 OR BY TELEPHONING</div><div>2'-0"</div><div>7'-7" height above grade</div></div></div><div>(E) Accessible Tow Away Sign</div></div>	<table><tr><th colspan="2">Parking Lot 1</th></tr><tr><th>Number of Stalls</th><th>Parking Stalls / Type</th></tr><tr><td>52</td><td>Total New Stalls in Parking Lot 1</td></tr><tr><td>3</td><td>Accessible Stalls Required – per CBC 11B, Table 11B–208.2</td></tr><tr><td>3</td><td>Accessible Stalls Provided – refer to C'vil Drawings</td></tr><tr><td></td><td></td></tr><tr><th colspan="2">Electric Vehicle Charging Stations</th></tr><tr><td>82</td><td>Lot Area A Total Stalls</td></tr><tr><td>+20</td><td>Added Stalls in Parking Lot 1</td></tr><tr><td>8</td><td>Required EV Stalls for Lot Area A, per CBC Table 5.106.5.3.1</td></tr><tr><td>2</td><td>Required EV Stalls for Parking Lot 1, per CBC Table 5.106.5.3.1</td></tr><tr><td>12</td><td>Total EVSE Stalls provided – see Lot Area A, Dwg 1/A1.1</td></tr></table>	Parking Lot 1		Number of Stalls	Parking Stalls / Type	52	Total New Stalls in Parking Lot 1	3	Accessible Stalls Required – per CBC 11B, Table 11B–208.2	3	Accessible Stalls Provided – refer to C'vil Drawings			Electric Vehicle Charging Stations		82	Lot Area A Total Stalls	+20	Added Stalls in Parking Lot 1	8	Required EV Stalls for Lot Area A, per CBC Table 5.106.5.3.1	2	Required EV Stalls for Parking Lot 1, per CBC Table 5.106.5.3.1	12	Total EVSE Stalls provided – see Lot Area A, Dwg 1/A1.1	<div><div>1</div><div><p>Path of Travel (P.O.T.):</p><p>Accessible Path of Travel as indicated on plan is a barrier-free route without abrupt level changes exceeding 1/2" if beveled at 1:2 maximum slope or vertical level changes not exceeding 1/4" maximum and at least 48" in width Surface is stable, firm, and slip-resistant. Cross-slope shall not be steeper than 1:48, and slope in the direction of travel shall not be steeper than 1:20.</p><p>Accessible Path of Travel shall be maintained free of overhanging obstructions to 80" minimum and free of objects protruding more than 4" from the wall, above 27" and less than 80" above the floor. Architect shall verify that there are no barriers in the Path of Travel.</p></div></div> <div><div>Design Professional In General Responsible Charge Statement</div><div><p>The Path of Travel (POT) identified in these construction documents meets the requirements of the current applicable California Building Code (CBC) accessibility provisions for POT requirements for alterations, additions, and structural repairs. As part of the design of this project, the POT was examined and any elements, components or portions of the POT that were determined to be noncompliant with the CBC have been identified and 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 elements, components, or portions of the POT 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.</p><p>During construction, if POT items within the scope of the project represented as CBC compliant are found to be nonconforming beyond reasonable construction tolerances, the items shall be brought into compliance with the CBC as a part of this project by means of a construction change document.</p></div></div>	<div><div>1</div><div>Contractor shall notify Construction Manager & Architect immediately upon discovery of any utilities that are not indicated on survey or Civil Dwg.</div></div> <div><div>2</div><div>Contractor shall protect from damage any underground utilities shall repair any utilities damaged due to construction processes to the satisfaction of District and Architect.</div></div> <div><div>3</div><div>Existing landscaping shall be protected as required to prevent any damage to plants and trees, unless specified for removal in plans or by Owner.</div></div> <div><div>4</div><div>Verify exact location and size of (E) underground irrigation piping in field.</div></div> <div><div>5</div><div>The work zone limits (if any) are shown on the plans. The Contractor shall confine all operations, including delivery of materials, to the Work Zone unless explicit agreement has been made with the District.</div></div> <div><div>6</div><div>Roadways outside of Construction Zone shall be maintained clear of construction equipment and materials at all times.</div></div> <div><div>7</div><div>The Contractor shall notify Construction Manager on days when deliveries or other operations may impact areas outside of the Work Zone.</div></div> <div><div>8</div><div>Refer to Civil Drawings for additional paving layout and notes.</div></div> <div><div>9</div><div>Contractor shall be responsible for obtaining encroachment permits for any work in the City Right-of-Way.</div></div>	<div><div><div>— • • —</div>Property Line</div><div><div>— — — —</div>Fire Lane</div><div><div>— X — X —</div>Temp Fence: see TEMP FENCING/PHASING NOTES</div><div><div>— POT —</div>Accessible Path of Travel (POT)</div></div>
Parking Lot 1																												
Number of Stalls	Parking Stalls / Type																											
52	Total New Stalls in Parking Lot 1																											
3	Accessible Stalls Required – per CBC 11B, Table 11B–208.2																											
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Electric Vehicle Charging Stations																												
82	Lot Area A Total Stalls																											
+20	Added Stalls in Parking Lot 1																											
8	Required EV Stalls for Lot Area A, per CBC Table 5.106.5.3.1																											
2	Required EV Stalls for Parking Lot 1, per CBC Table 5.106.5.3.1																											
12	Total EVSE Stalls provided – see Lot Area A, Dwg 1/A1.1																											



NOTE: THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR NOTIFYING THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC). THAT SHALL BE THE RESPONSIBILITY OF THE DISTRICT'S ENVIRONMENTAL HEALTH AND SAFETY SPECIALIST ("ARSENIC COORDINATOR").

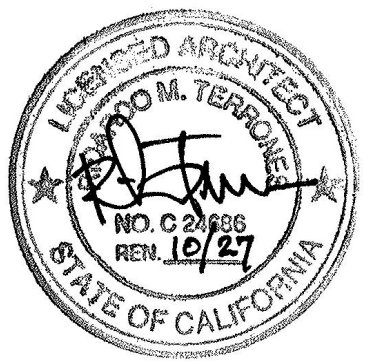
AC	ASPHALT CONCRETE
AD	AREA DRAIN
CB	CATCH BASIN
CO	CLEAN OUT
CONC.	CONCRETE
EX., EXIST.	EXISTING
TYP.	TYPICAL

SECTION 311000 - SITE CLEARING

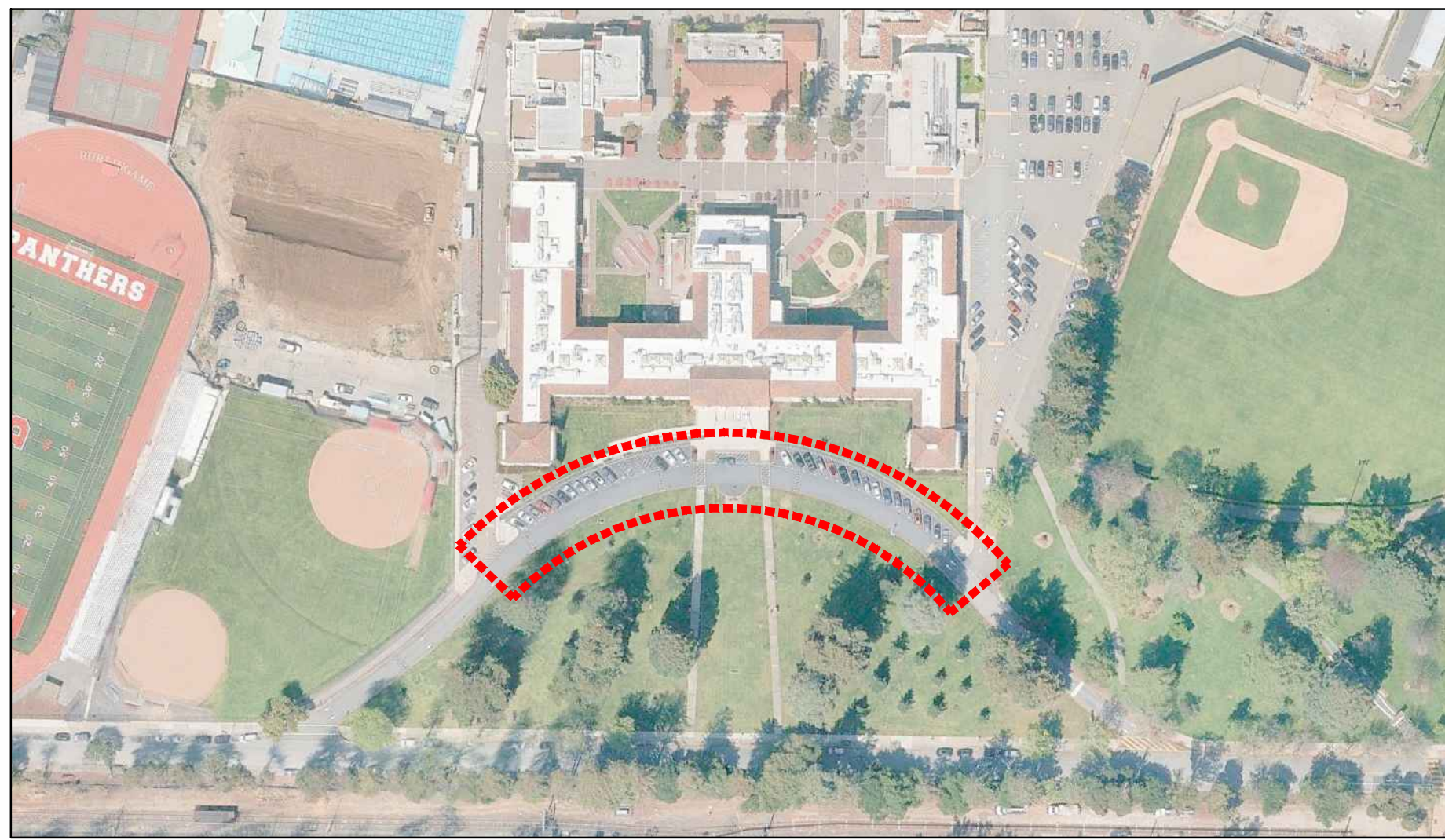


C1.0

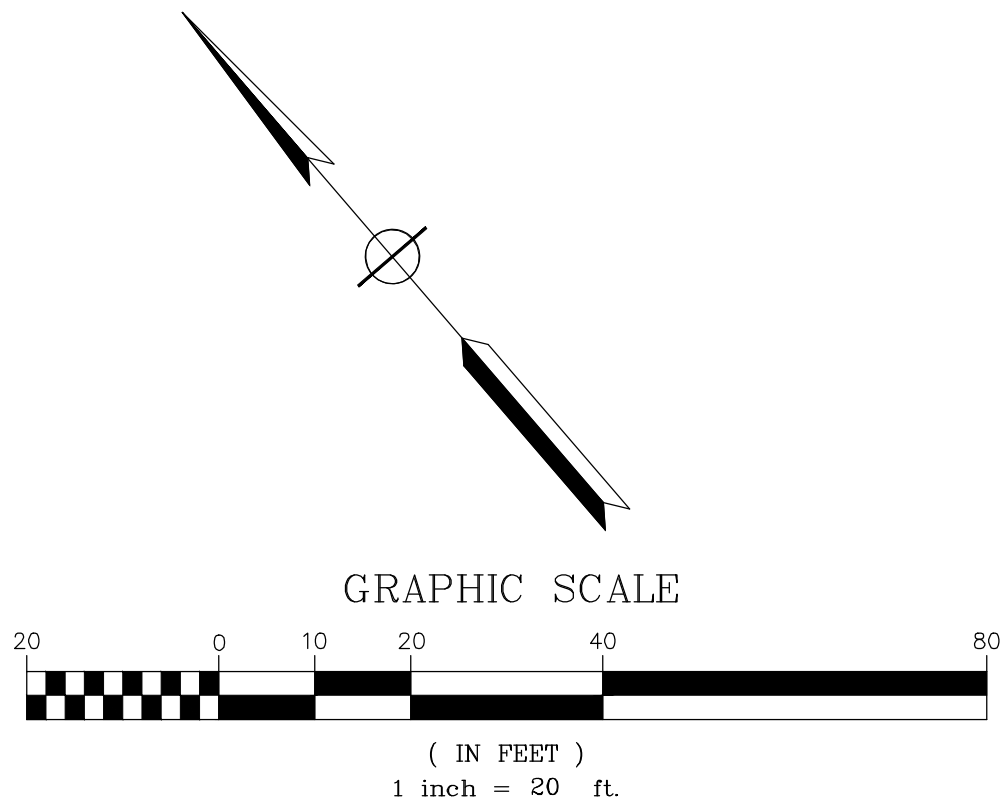
DTA
Dreiling Terrones Architecture Inc.



**UNDERWOOD &
ROSENBLUM, INC.**
civil engineers and surveyors
1630 Oakland Road Ste. A114 San Jose, Ca. 95131
Tel. No. (408) 453 1222
www.under.com



SITE MAP NTS



GRADING & PAVING LEGEND

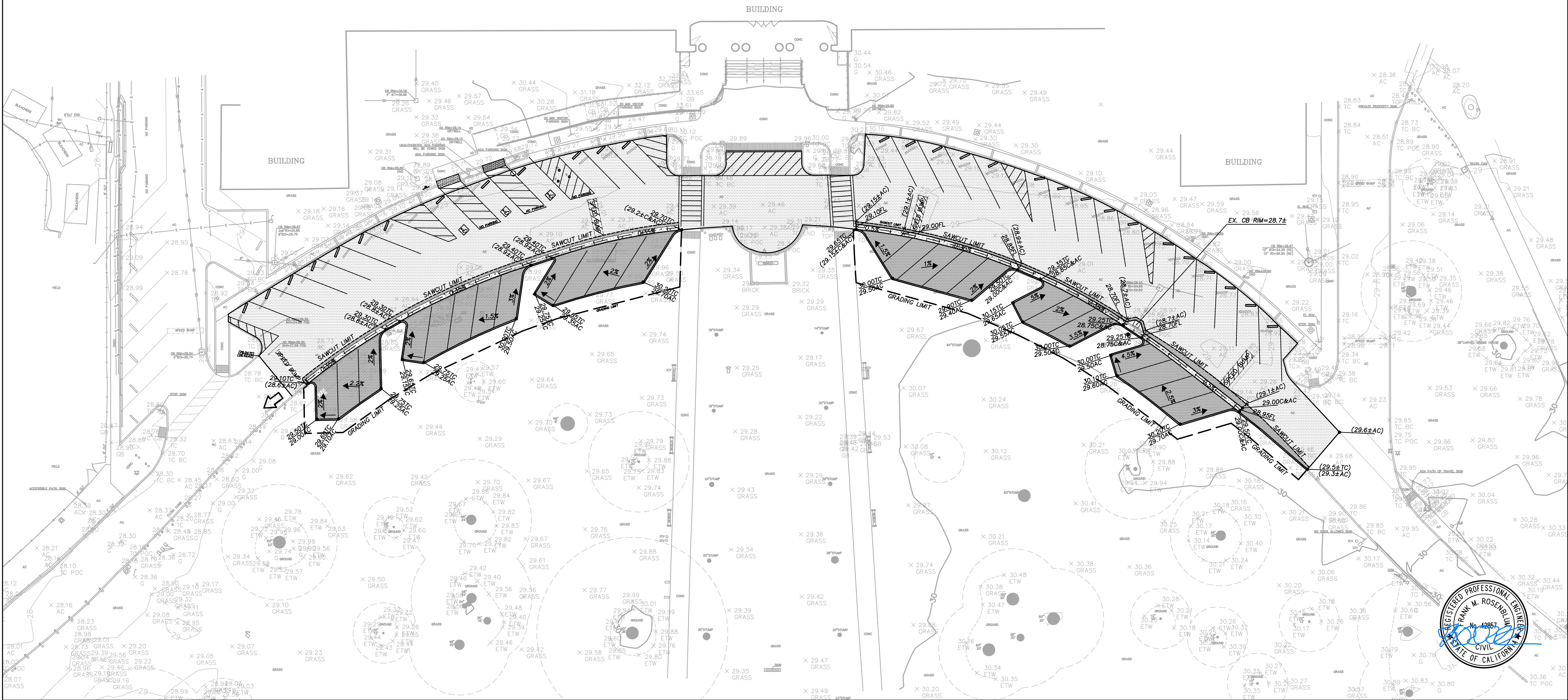
	NEW CONCRETE (6" REINFORCED PCC ON 6" CLASS 2 AB ON 8" RECOMPACTED SUBGRADE (90%))
	NEW AC PAVEMENT - TRAFFIC (3" AC ON 9" CLASS 2 AB ON 6" RECOMPACTED SUBGRADE (95%))
	SLURRY COAT NEW AND EXISTING AC PAVEMENT PRIOR TO STRIPE
	LIMIT OF GRADING
	SAW CUT LINE
	DRAINAGE FLOW LINE
	GRADE BREAK LINE
	FINISH GRADE CONTOUR
	ASPHALT CONCRETE
	AREA DRAIN
	PORTLAND CEMENT CONCRETE
	CATCH BASIN
	CLEAN OUT TO GRADE
	EXISTING
	FF
	FL
	G
	GB
	TC
	TW
	TYPICAL

GENERAL NOTES

1. THE CONTRACTOR SHALL LAY OUT THE WORK, SETTING GRADESTAKES, ESTABLISHING LINES, BASE LINES, ELEVATIONS AND OTHER REFERENCE MARKERS AND INFORMATION NECESSARY TO COMPLETE THE WORK AND SHALL BE RESPONSIBLE FOR THE ACCURACY THEREOF.
2. ANY INCONSISTENCIES IN EXISTING OR PROPOSED ELEVATIONS SHALL BE BROUGHT TO THE NOTICE OF THE OWNER'S REPRESENTATIVE FOR RESOLUTION PRIOR TO CONSTRUCTION OR AS SOON AS DISCOVERED.
3. IN THE EVENT THAT ANY UNKNOWN UNDERGROUND TANKS OR STRUCTURES OR UTILITY LINES ARE DISCOVERED ON THE SITE, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE TO DETERMINE THE DISPOSITION OF THE STRUCTURE.
4. CONTRACTOR SHALL IMPORT REQUIRED MATERIALS OR EXPORT EXCESS AS REQUIRED TO ESTABLISH PLAN GRADES. EXCESS MATERIAL IF ANY SHALL BE DISPOSED OFF-SITE IN A LEGAL MANNER AT CONTRACTOR'S EXPENSE.
5. EXISTING WATER, STORM AND SANITARY INVERTS SHALL BE EXPOSED AND VERIFIED PRIOR TO ANY NEW CONSTRUCTION.

THE FOLLOWING SECTIONS OF THE STANDARD SITE WORK SPECIFICATIONS FOR THE CONSTRUCTION OF THIS PROJECT ARE APPLICABLE TO THE WORK SHOWN ON THIS DRAWING:

- SECTION 311000 - SITE CLEARING
- SECTION 312000 - EARTHMOVING
- SECTION 321216 - ASPHALT PAVING
- SECTION 321312 - CONCRETE PAVING



New Parking at
Burlingame High

School
1 Mangini Way
Burlingame, CA 94010

DSA Submittal: 2/19/26
Issued for Bidding: 3/12/26

SITE GRADING & PAVING PLAN

DTA
Drilling Terrones Architecture Inc.

Architecture
Infrastructure
Environments

UNDERWOOD &
ROSENBLUM, INC.
civil engineers and surveyors

1630 Oakland Road Ste. A114 San Jose, CA 95131
Tel. No. (408) 453-0222
PROJECT NO. J25025 PLOT DATE: 03-05-2026

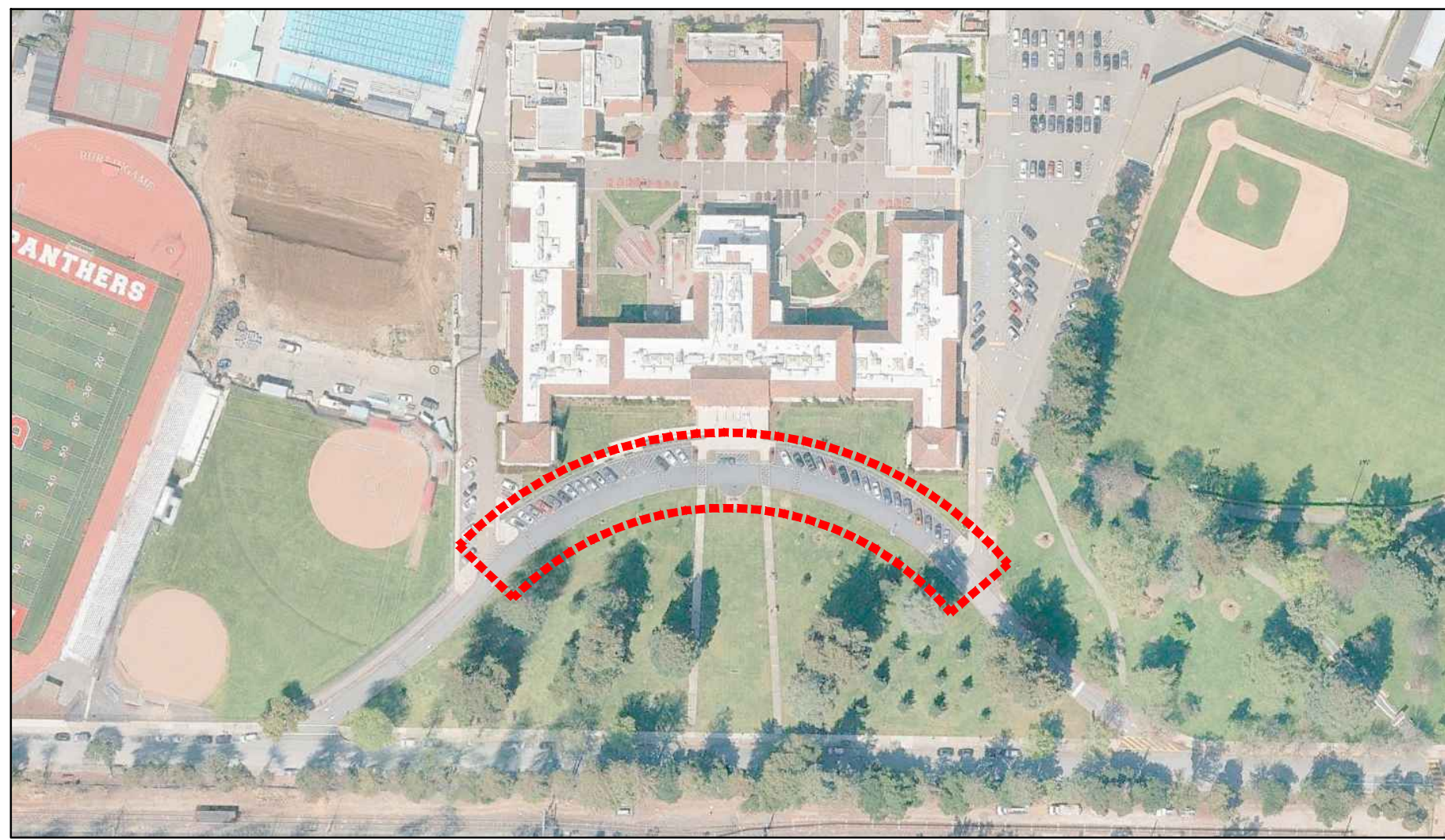
1103 Juarez Avenue
Burlingame, California
94010

650 696 1200

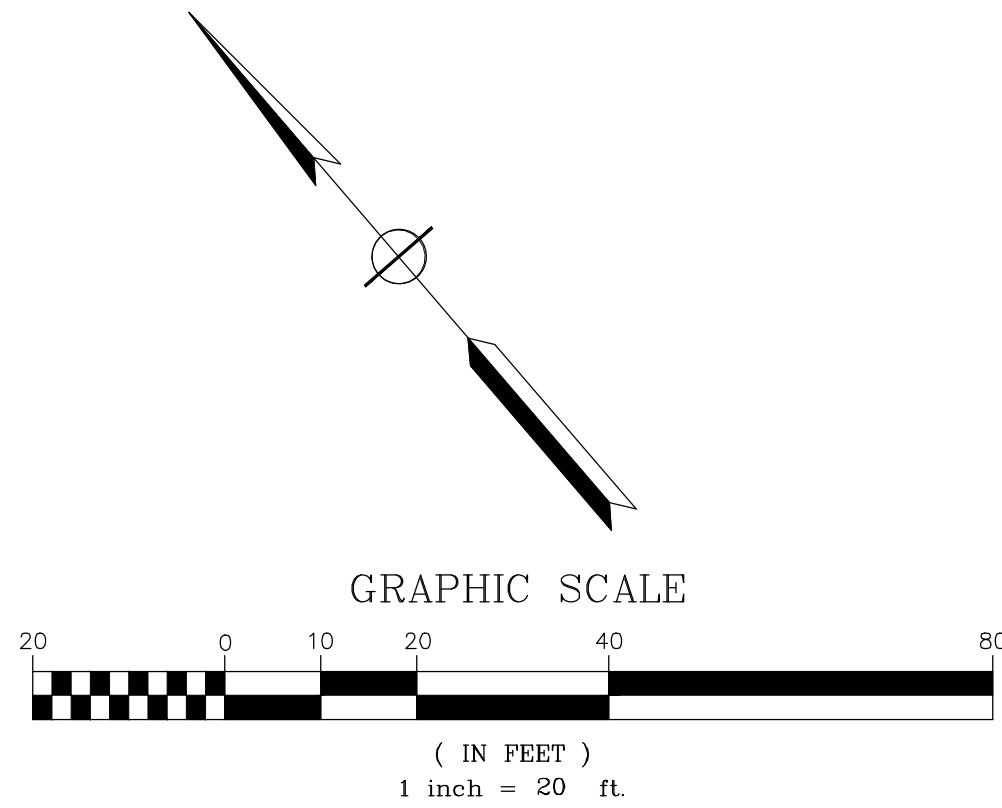
314 Center Street #220
Healdsburg, California
95448

707 431 1305





SITE MAP NTS



GENERAL NOTES

1. THE CONTRACTOR SHALL LAY OUT THE WORK, SETTING GRADE STAKES, ESTABLISHING LINES, BASE LINES, ELEVATIONS AND OTHER REFERENCE MARKERS. THE CONTRACTOR SHALL VERIFY THE ACCURACY TO COMPLETE THE WORK THEREOF.
2. ALL PAVEMENT STRIPING IS 4" WHITE PAINT UNLESS OTHERWISE NOTED.
3. ALL STRIPING FOR FIRE AGENCY CONTROL TO COMPLY WITH NFPA 24.

THE FOLLOWING SECTIONS OF THE STANDARD SITE WORK SPECIFICATIONS FOR THE CONSTRUCTION OF THIS PROJECT ARE APPLICABLE TO THE WORK SHOWN ON THIS DRAWING:

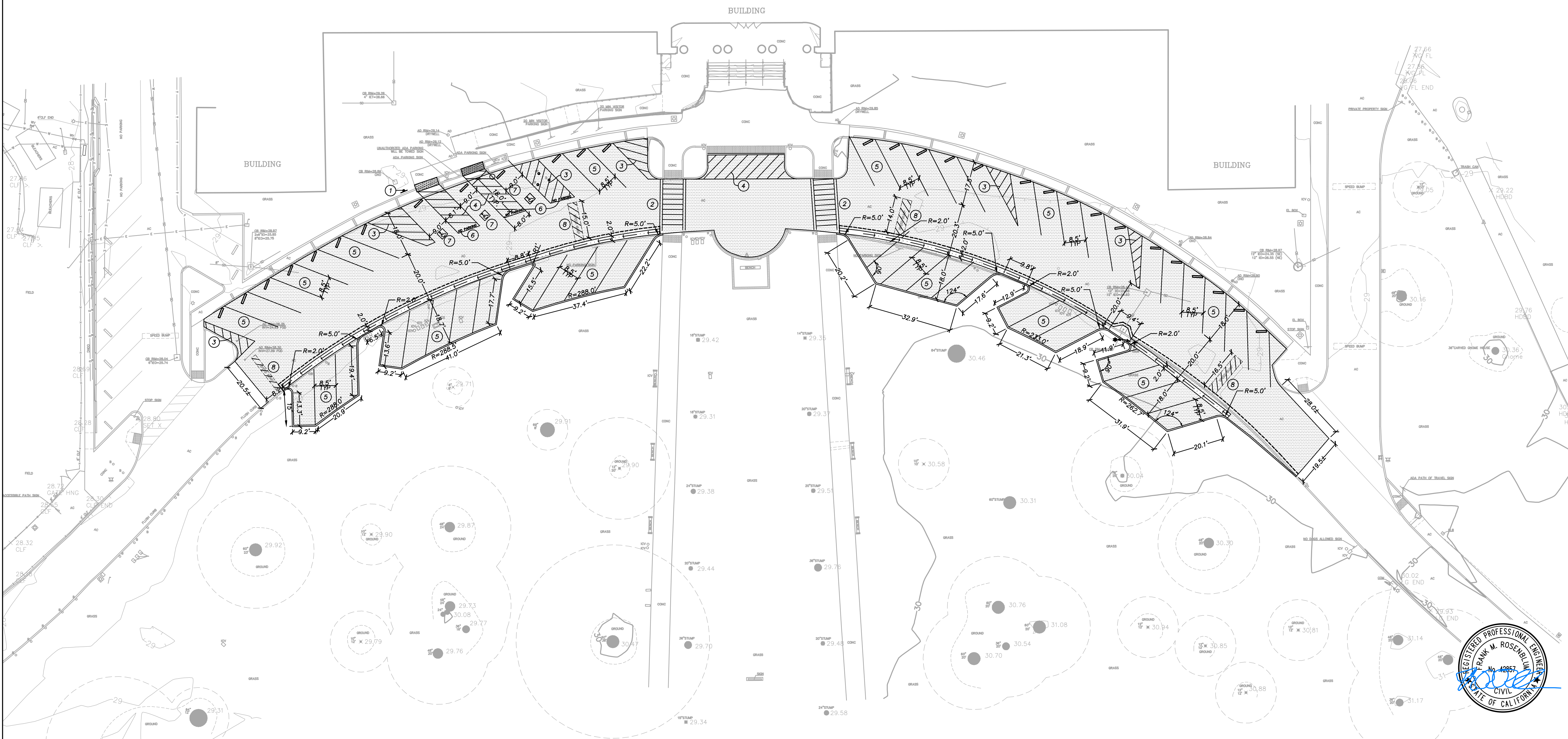
SECTION 321723 - PAVEMENT MARKINGS

LEGEND

SLURRY COAT NEW AND EXISTING AC PAVEMENT PRIOR TO STRIPE

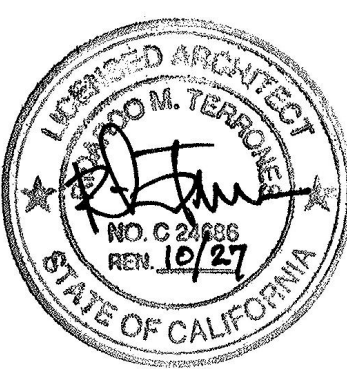
KEY NOTES

- 1 ACCESSIBLE PARKING SIGN.
- 2 CROSSWALK: PAINT 12" WHITE STRIPING @ 3' O.C.; SEE PLAN FOR WIDTH.
- 3 PAINT 4" WHITE STRIPING @ 3' O.C.
- 4 PAINT 4" BLUE STRIPING @ 3' O.C.
- 5 PAINT 4" WHITE STRIPE
- 6 PAINT "NO PARKING" USING 12" HIGH STENCIL. COLOR TO MATCH ACCOMPANYING STRIPING.
- 7 ACCESSIBILITY SYMBOL.
- 8 PAINT 4" WHITE STRIPING @ 2' O.C. (EX. SPEED BUMP)



DTA Dreiling Terrones Architecture Inc.

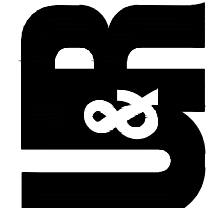
Architecture
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1630 Oakland Road Ste. A114 San Jose, CA 95131
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SITE SIGNAGE, STRIPING &
DIMENSION PLAN

