

26-016 / PITTSBURG HS – CREATIVE ARTS BLDG. (CAB) ENTRY PLAZA MODERNIZATION PROJECT MANUAL

BID NUMBER: 26-016

**PITTSBURG HS – CREATIVE ARTS BLDG.
(CAB) ENTRY PLAZA MODERNIZATION
PROJECT**

PITTSBURG UNIFIED SCHOOL DISTRICT

JULY 27, 2026

TABLE OF CONTENTS**PROCUREMENT AND CONTRACTING REQUIREMENTS, GENERAL REQUIREMENTS****Procurement and Contracting Requirements**

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 01 01	Project Title Page
	00 01 10	Table of Contents
	00 01 15	List of Drawings and Tables
	00 01 20	List of Schedules

Solicitation

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 11 16	Notice to Bidders

Instructions for Procurement

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 21 13	Instructions to Bidders
	00 21 13.1	Bidder Information and Forms

Available Information

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 31 19	Existing Conditions

Procurement Forms and Supplements

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 41 13	Bid Form and Proposal
	00 43 13	Bid Bond
	00 43 36	Designated Subcontractors List
	00 45 01	Site Visit Certification
	00 45 19	Non-Collusion Declaration
	00 45 19.01	Iran Contracting Act Certification
	00 45 26	Workers' Compensation Certification
	00 45 46.01	Prevailing Wage and Related Labor Requirements Certification
	00 45 46.02	Disabled Veteran Business Enterprise Participation Certification
	00 45 46.03	Drug-Free Workplace Certification
	00 45 46.04	Tobacco-Free Environment Certification
	00 45 46.05	Hazardous Materials Certification
	00 45 46.06	Lead-Based Materials Certification
	00 45 46.08	Criminal Background Investigation/Fingerprinting Certification
	00 45 46.09	Buy American Certification
	00 45 49	Registered Subcontractors List
	00 45 90	Post Bid Interview

Contracting Forms and Supplements

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 51 00	Notice of Award
	00 52 13	Agreement Form – Stipulated Sum (Single-Prime Contract)
	00 55 00	Notice to Proceed

Project Forms

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 61 13.13	Performance Bond
	00 61 13.16	Payment Bond
	00 63 40	Allowance Expenditure Directive Form
	00 65 19.26	Agreement and Release of Any and All Claims
	00 65 36	Guarantee Form

Conditions of the Contract

<u>Division 0</u>	<u>Section</u>	<u>Title</u>
	00 72 13	General Conditions – Stipulated Sum (Single-Prime Contract)
	00 73 13	Special Conditions
	00 73 56	Hazardous Materials Procedures and Requirements

General Requirements

<u>Division 1</u>	<u>Section</u>	<u>Title</u>
	01 11 00	Summary of Work

Price and Payment Procedures

<u>Division 1</u>	<u>Section</u>	<u>Title</u>
	01 22 00	Alternatives and Unit Prices
	01 25 13	Product Options and Substitutions
	01 26 00	Changes in the Work
	01 29 00	Application for Payment and Conditional and Unconditional Waiver and Release Forms

Administrative Requirements

<u>Division 1</u>	<u>Section</u>	<u>Title</u>
	01 31 19	Project Meetings
	01 32 13	Scheduling of Work
	01 33 00	Submittals
	01 35 13.23	Site Standards

Quality Requirements

<u>Division 1</u>	<u>Section</u>	<u>Title</u>
	01 41 00	Regulatory Requirements
	01 42 13	Abbreviations and Acronyms
	01 42 16	Definitions
	01 42 19	References
	01 43 00	Materials and Equipment
	01 45 00	Quality Control

Temporary Facilities and Controls

<u>Division 1</u>	<u>Section</u>	<u>Title</u>
	01 50 00	Temporary Facilities and Controls
	01 50 13	Construction Waste Management and Disposal
	01 52 13	Field Offices

Product Requirements

<u>Division 1</u>	<u>Section</u>	<u>Title</u>
	01 64 00	Owner-Furnished Products
	01 66 00	Product Delivery, Storage and Handling

Execution and Closeout Requirements

<u>Division 1</u>	<u>Section</u>	<u>Title</u>
	01 71 23	Field Engineering
	01 73 29	Cutting and Patching
	01 76 00	Alteration Project Procedures
	01 77 00	Contract Closeout and Final Cleaning
	01 78 23	Operation and Maintenance Data
	01 78 36	Warranties
	01 78 39	Record Documents

TECHNICAL SPECIFICATIONS

Existing Conditions

<u>Division 2</u>	<u>Section</u>	<u>Title</u>
	02 31 13	Selective Site Demolition

Concrete

<u>Division 3</u>	<u>Section</u>	<u>Title</u>
	03 20 00	Concrete Reinforcing
	03 30 01	Site Concrete

Metals

<u>Division 5</u>	<u>Section</u>	<u>Title</u>
	05 52 00	Metal Railings

Thermal & Moisture Protection

<u>Division 5</u>	<u>Section</u>	<u>Title</u>
	07 90 00	Joint Sealers

Earthwork

<u>Division 31</u>	<u>Section</u>	<u>Title</u>
	31 10 00	Site Preparation and Plant Protection
	31 20 00	Earthwork
	31 24 00	Erosion & Sedimentation Controls

Exterior Improvements

<u>Division 32</u>	<u>Section</u>	<u>Title</u>
	32 11 23	Aggregate Base Courses
	32 12 16	Asphalt Paving & Surfacing
	32 13 16	Decorative Concrete Paving
	32 13 16.23	Stamped Concrete Paving
	32 17 24	Pavement Markings

END OF SECTION

LIST OF DRAWINGS AND TABLES

<u>Sheet Number</u>	<u>Description</u>
T1	PROJECT DATA & PROPOSED SITE PLAN
T2	GENERAL NOTES & ABBREVIATIONS
C0.01	TITLE SHEET
C0.02	SPECIFICATIONS
C2.01	GRADING & DRAINAGE PLAN
C3.01	DETAILS
A1.01	ENLARGED PLAZA PLANS
A1.02	SITE DETAILS
A1.03	SITE DETAILS
A1.04	ENLARGED PLAZA FINISH PLAN

END OF DOCUMENT

LIST OF SCHEDULES

- 05/13/26: A/E Team Proposals Due
- 05/14/26: A/E Team Design Contract Issued & Signed
- 05/19/26: Formal PO Issued to A/E Team
- 05/04/26: Start of Design Work & Contract Docs. Preparation
- 06/17/26: School Board presented Item on Approval to Advertise for Bid
- 07/24/26 & 07/31/26: Advertise for Bid
- 07/27/26: Contract Bidding Documents Available to Bidders
- 08/04/26: Pre-Bid Conference & Walkthrough @ 2:30 (PST) at Pittsburg High School
- 08/21/26: Final Due Date for Pre-Bid RFI's @ 5:00 PM (PST)
- **08/27/26: Bids Due @ 2:00 PM (PST) at District Site Support Services Center**
- 09/01/26: Bid Protest Period Ends @ 2:30 PM (PST)
- 09/02/26: Bid Results & Contract Award finalized information due @ 10:00 AM (PDT) for 09/09/26 School Board Meeting
- 09/09/26: School Board Approval & Contract Award
- 09/11/26: Notice of Award & Contract Issued
- 09/21/26: Notice to Proceed Issued (tentative pending Contract turnaround time)
- 09/21/26: On-Site Construction Work Start Date
- 11/20/26: On-Site Construction Completion Date
- 12/18/26: Contract Completion Date
- 01/13/27 or 01/27/27: School Board Approval to file Notice of Completion

END OF DOCUMENT

NOTICE TO BIDDERS

1. Notice is hereby given that the governing board ("Board") of the Pittsburg Unified School District ("District") will receive sealed bids for the following project, Bid No. **26-016**, Bid Package **Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** ("Project" or "Contract"):

Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project

2. The Project consists of:

Construction & modernization rebuild of the Creative Arts Bldg.'s Entry Plaza Lower Landing and Lower Level Steps using colored & stamped concrete in a brick paver design. The Lower Landing will also include a water/laser cut design of some sort, and the Lower Steps' handrails are to be replaced and increased in quantity.

3. To bid on this Project, the Bidder is required to possess one or more of the following State of California contractors' license(s):

A or B

The Bidder's license(s) must remain active and in good standing throughout the term of the Contract.

4. To bid on this Project, the Bidder is required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. The Bidder's registration must remain active throughout the term of the Contract.
5. Contract Documents will be available on or after **Monday, July 27, 2026** for review, and/or purchase, at ABC Imaging, 1381 Franquette Avenue, Concord, CA 94520. Phone 925-674-0900, Fax 925-674-0993. In addition, Contract Documents are available for bidders' review at the following builders' exchanges:

- A. Bay Area Builder's Exchange (510) 483-8880
- B. Construction Bid Board (800) 424-3996
- C. Dodge Data & Analytics (877) 958-5062
- D. Peninsula Builders Exchange (650) 591-4486
- E. Sacramento Builders Exchange (916) 442-8991
- F. Solano-Napa Builders Exchange (707) 255-2515
- G. Builders of Santa Clara (408) 727-4000
- H. San Francisco Builders Exchange (415) 282-8220
- I. Marin Builders Exchange (415) 462-1220
- J. Builders Exchange of Stockton (209) 478-1005

6. Contract Documents, in hard copy format, are available for purchase for One Hundred Fifty Dollars (\$150.00), or in electronic format for Fifty Dollars (\$50.00), each set at ABC Imaging. The fee is non-refundable. Payment is to be made directly to ABC Imaging. Contract Documents will also be available on or after **Monday, July 27, 2026** for review electronically on the PUSD Website under the Facilities Planning & Management Department tab.
7. Sealed bids will be received until **2:00 PM (PDT), Thursday, August 27, 2026**, at **District Site Support Services Center, 3200 Loveridge Road, Pittsburg, CA 94565**, at or after which time the bids will be opened and publicly read aloud. Any bid that is submitted after this time shall be nonresponsive and returned to the bidder. Any claim by a bidder of error in its bid must be made in compliance with section 5100 et seq. of the Public Contract Code.
8. Pursuant to Public Contract Code section 20111.6, only prequalified bidders will be eligible to submit a bid for contracts \$1 million or more using or planning to use state bond funds. Any bid submitted by a bidder who is not prequalified shall be non-responsive and returned unopened to the bidder. Moreover, any bid listing subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 or C-46 licenses, if used, who have not been prequalified, shall be deemed nonresponsive and will not be considered. A prequalification application can be obtained from Ms. Donna Fentanes at dfentanes@pittsburgusd.net.
9. All bids shall be on the form provided by the District. Each bid must conform and be responsive to all pertinent Contract Documents, including, but not limited to, the Instructions to Bidders.
10. A bid bond by an admitted surety insurer on the form provided by the District, cash, or a cashier's check or a certified check, drawn to the order of the Pittsburg Unified School District, in the amount of ten percent (10%) of the total bid price, shall accompany the Bid Form and Proposal, as a guarantee that the Bidder will, within seven (7) calendar days after the date of the Notice of Award, enter into a contract with the District for the performance of the services as stipulated in the bid.
11. A mandatory pre-bid conference and site visit will be held on **Wednesday, August 04, 2026, at 2:30 PM (PDT)** at **Pittsburg High School, 1750 Harbor Street, Pittsburg, CA 944565**. Failure to attend or tardiness will render bid ineligible.
12. The successful Bidder shall be required to furnish a 100% Performance Bond and a 100% Payment Bond if it is awarded the Contract for the Work.
13. The successful Bidder may substitute securities for any monies withheld by the District to ensure performance under the Contract, in accordance with the provisions of section 22300 of the Public Contract Code.

14. The Contractor and all Subcontractors under the Contractor shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to section 1770 et seq. of the California Labor Code. Prevailing wage rates are also available from the District or on the Internet at: <<http://www.dir.ca.gov>>.
15. This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and subject to the requirements of Title 8 of the California Code of Regulations. The Contractor and all Subcontractors under the Contractor shall furnish electronic certified payroll records directly to the Labor Commissioner weekly and within ten (10) days of any request by the District or the Labor Commissioner. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.
16. The District has entered into a Project Stabilization Agreement that is applicable to this Project only if the base bid amount is \$1 Million or more. For questions or assistance concerning the Project Stabilization Agreement, contact Mr. Sean Vandermeij @ 925-473-2438, or at 3200 Loveridge Road in Pittsburg, California 94565.
17. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on:
 - A. The base bid amount.
18. The Board reserves the right to reject any and all bids and/or waive any irregularity in any bid received. If the District awards the Contract, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

END OF DOCUMENT

INSTRUCTIONS TO BIDDERS

Bidders shall follow the instructions in this document, and shall submit all documents, forms, and information required for consideration of a bid.

Pittsburg Unified School District ("District") will evaluate information submitted by the apparent low Bidder and, if incomplete or unsatisfactory to District, Bidder's bid may be rejected at the sole discretion of District.

1. Bids are requested for a general construction contract, or work described in general, for the following project ("Project" or "Contract"):

**Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza
Modernization Project**

2. A Bidder and its subcontractors must possess the appropriate State of California contractor's license and must maintain the license throughout the duration of the project. Bidders must also be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. Bids submitted by a contractor who is not properly licensed or registered shall be deemed nonresponsive and will not be considered.
3. District will receive sealed bids from bidders as stipulated in the Notice to Bidders.
 - a. All bids must be sealed in an envelope, marked with the name and address of the Bidder, name of the Project, the Project Number and/or bid number, and time of bid opening.
 - b. Bids must be submitted to the PUSD SSSC @ 3200 Loveridge Road, Pittsburg, CA 94565 by date and time shown in the Notice to Bidders.
 - c. Bids must contain all documents as required herein.
4. Bidders are advised that on the date that bids are opened, telephones will not be available at the District Offices for use by bidders or their representatives.
5. Bids will be opened at or after the time indicated for receipt of bids.
6. Bidders must submit bids on the documents titled Bid Form and Proposal, and must submit all other required District forms. Bids not submitted on the District's required forms shall be deemed nonresponsive and shall not be considered. Additional sheets required to fully respond to requested information are permissible.
7. Bidders shall not modify the Bid Form and Proposal or qualify their bids. Bidders shall not submit to the District a re-formatted, re-typed, altered, modified, or otherwise recreated version of the Bid Form and Proposal or other District-provided document.

8. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.
9. Bidders must supply all information required by each Bid Document. Bids must be full and complete. District reserves the right in its sole discretion to reject any bid as nonresponsive as a result of any error or omission in the bid. Bidders must complete and submit all of the following documents with the Bid Form and Proposal:
 - a. Bid Bond on the District's form, or other security.
 - b. Designated Subcontractors List.
 - c. Site Visit Certification.
 - d. Non-Collusion Declaration.
10. Bidders must submit with their bids cash, a cashier's check or a certified check payable to District, or a bid bond by an admitted surety insurer of not less than ten percent (10%) of amount of Base Bid, plus all additive alternates ("Bid Bond"). If Bidder chooses to provide a Bid Bond as security, Bidder must use the required form of corporate surety provided by District. The Surety on Bidder's Bid Bond must be an insurer admitted in the State of California and authorized to issue surety bonds in the State of California. Bids submitted without necessary bid security will be deemed nonresponsive and will not be considered.
11. If Bidder to whom the Contract is awarded fails or neglects to enter into the Contract and submit required bonds, insurance certificates, and all other required documents, within **SEVEN (7)** calendar days after the date of the Notice of Award, District may deposit Bid Bond, cash, cashier's check, or certified check for collection, and proceeds thereof may be retained by District as liquidated damages for failure of Bidder to enter into Contract, in the sole discretion of District. It is agreed that calculation of damages District may suffer as a result of Bidder's failure to enter into the Contract would be extremely difficult and impractical to determine and that the amount of the Bidder's required bid security shall be the agreed and conclusively presumed amount of damages.
12. Bidders must submit with the bid the Designated Subcontractors List for those subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of total bid. Failure to submit this list when required by law shall result in bid being deemed nonresponsive and the bid will not be considered.

13. All of the listed subcontractors are required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
 - a. An inadvertent error in listing the California contractor license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
 - b. An inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
 - (1) The subcontractor is registered prior to the bid opening.
 - (2) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
 - (3) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
14. If a mandatory pre-bid conference and site visit ("Site Visit") is required as referenced in the Notice to Bidders, then Bidders must submit the Site Visit Certification with their Bid. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions arising at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.
15. Bidders shall submit the Non-Collusion Declaration with their bids. Bids submitted without the Non-Collusion Declaration shall be deemed nonresponsive and will not be considered.
16. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the Department of Industrial Relations, are available upon request at the District's principal office. Prevailing wage rates are also available on the internet at <http://www.dir.ca.gov>.
17. Submission of bid signifies careful examination of Contract Documents and complete understanding of the nature, extent, and location of Work to be performed. Bidders must complete the tasks listed below as a condition to bidding, and submission of a bid shall constitute the Bidder's express representation to District that Bidder has fully completed the following:

- a. Bidder has visited the Site, if required, and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and all local conditions and federal, state and local laws, and regulations that in any manner may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto;
- b. Bidder has conducted or obtained and has understood all examinations, investigations, explorations, tests, reports, and studies that pertain to the subsurface conditions, as-built conditions, underground facilities, and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance, or furnishing of Work, as Bidder considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time, and in accordance with the other terms and conditions of Contract Documents, including specifically the provisions of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by Bidder for such purposes;
- c. Bidder has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents;
- d. Bidder has given the District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the actual conditions, and the written resolution(s) thereof by the District is/are acceptable to Bidder;
- e. Bidder has made a complete disclosure in writing to the District of all facts bearing upon any possible interest, direct or indirect, that Bidder believes any representative of the District or other officer or employee of the District presently has or will have in this Contract or in the performance thereof or in any portion of the profits thereof;
- f. Bidder must, prior to bidding, perform the work, investigations, research, and analysis required by this document and that Bidder represented in its Bid Form and Proposal and the Agreement that it performed prior to bidding. Contractor under this Contract is charged with all information and knowledge that a reasonable bidder would ascertain from having performed this required work, investigation, research, and analysis. Bid prices must include entire cost of all work "incidental" to completion of the Work.
- g. Conditions Shown on the Contract Documents: Information as to underground conditions, as-built conditions, or other conditions or obstructions, indicated in the Contract Documents, e.g., on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. However, District only warrants, and Bidder may only rely, on the accuracy of limited types of information.

- (1) As to above-ground conditions or as-built conditions shown or indicated in the Contract Documents, there is no warranty, express or implied, or any representation express or implied, that such information is correctly shown or indicated. This information is verifiable by independent investigation and Bidder is required to make such verification as a condition to bidding. In submitting its Bid, Bidder shall rely on the results of its own independent investigation. In submitting its Bid, Bidder shall not rely on District-supplied information regarding above-ground conditions or as-built conditions.
 - (2) As to any subsurface condition shown or indicated in the Contract Documents, Bidder may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated. District is not responsible for the completeness of such information for bidding or construction; nor is District responsible in any way for any conclusions or opinions that the Bidder has drawn from such information; nor is the District responsible for subsurface conditions that are not specifically shown (for example, District is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown).
- h. Conditions Shown in Reports and Drawings Supplied for Informational Purposes: Reference is made to the document entitled Geotechnical Engineering and Geologic Hazards Study, dated 04/04/23, for identification of:
- (1) Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that have been utilized by Architect in preparing the Contract Documents; and
 - (2) Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that has been utilized by Architect in preparing the Contract Documents.
 - (3) These reports and drawings are **not** Contract Documents and, except for any "technical" data regarding subsurface conditions specifically identified in Geotechnical Data and Existing Conditions, and underground facilities data, Bidder may not in any manner rely on the information in these reports and drawings. Subject to the foregoing, Bidder must make its own independent investigation of all conditions affecting the Work and must not rely on information provided by District.

18. Bids shall be based on products and systems specified in Contract Documents or listed by name in Addenda. Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Bidder may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified. The District is not responsible and/or liable in any way for a Contractor's damages and/or claims related, in any way, to that Contractor's basing its bid on any requested substitution that the District has not approved in advance and in writing. Contractors and materials suppliers who submit requests for substitutions prior to the award of the Contract must do so in writing and in compliance with Public Contract Code section 3400. All requests must comply with the following:
- a. District must receive any notice of request for substitution of a specified item a minimum of **TEN (10)** calendar days prior to bid opening. The Successful Bidder will not be allowed to substitute specified items unless properly noticed.
 - b. Within thirty five (35) days after the date of the Notice of Award, the Successful Bidder shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the Specifications. Insufficient information shall be grounds for rejection of substitution.
 - c. Approved substitutions, if any, shall be listed in Addenda. District reserves the right not to act upon submittals of substitutions until after bid opening.
 - d. Substitutions may be requested after Contract has been awarded only if indicated in and in accordance with requirements specified in the Special Conditions and the Specifications.
19. Bidders may examine any available "as-built" drawings of previous work by giving District reasonable advance notice. District will not be responsible for accuracy of "as-built" drawings. The document entitled Existing Conditions applies to all supplied "as-built" drawings.
20. All questions about the meaning or intent of the Contract Documents are to be directed via email to the Architect to Melissa MacKenzie at melissa@plumarchitects.com, with a copy to Roberta Wahl at roberta@plumarchitects.com, and with a copy to the District to E. Keith Holtslander at kholtlander@pittsburgusd.net. Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and emailed, faxed, mailed, or delivered to all parties recorded by the District as having received the Contract Documents or posted on the District's website at www.pittsburg.k12.ca.us. Questions received less than **SEVEN (7)** calendar days prior to the date for opening bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
21. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.

22. Each Bidder must acknowledge each Addendum in its Bid Form and Proposal by number or its Bid shall be considered non-responsive. Each Addendum shall be part of the Contract Documents. A complete listing of Addenda may be secured from the District.
23. This Contract may include alternates. Alternates are defined as alternate products, materials, equipment, systems, methods, or major elements of the construction that may, at the District's option and under terms established in the Contract and pursuant to section 20103.8 of the Public Contract Code, be selected for the Work.
24. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on the criteria as indicated in the Notice to Bidders. In the event two or more responsible bidders submit identical bids, the District shall select the Bidder to whom to award the Contract by lot.
25. Time for Completion: District may issue a Notice to Proceed within **NINETY (90)** days from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.
 - a. In the event that the District desires to postpone issuing the Notice to Proceed beyond this 90-day period, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed.
 - b. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed beyond a 90-day period. If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to the Contractor, the Contractor may terminate the Contract. Contractor's termination due to a postponement beyond this 90-day period shall be by written notice to District within **TEN (10)** calendar days after receipt by Contractor of District's notice of postponement.
 - c. It is further understood by the Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement and which the District had in writing authorized Contractor to perform prior to issuing a Notice to Proceed.
 - d. Should the Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.
26. The Bidder to whom Contract is awarded shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award. Failure to properly and timely submit these documents entitles District to reject the bid as nonresponsive.

- a. Agreement: To be executed by successful Bidder. Submit four (4) copies, each bearing an original signature.
 - b. Escrow of Bid Documentation: This must include all required documentation. See the document titled Escrow Bid Documentation for more information.
 - c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
 - d. Payment Bond (Contractor's Labor and Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
 - e. Insurance Certificates and Endorsements as required.
 - f. Iran Contracting Act Certification.
 - g. Workers' Compensation Certification.
 - h. Prevailing Wage and Related Labor Requirements Certification.
 - i. Disabled Veteran Business Enterprise Participation Certification.
 - j. Drug-Free Workplace Certification.
 - k. Tobacco-Free Environment Certification.
 - l. Hazardous Materials Certification.
 - m. Lead-Based Materials Certification.
 - n. Criminal Background Investigation/Fingerprinting Certification.
 - o. Buy American Certification.
 - p. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.
27. Any bid protest by any Bidder regarding any other bid must be submitted in writing to the District, before 5:00 p.m. of the **THIRD (3rd)** business day following bid opening.
- a. Only a Bidder who has actually submitted a bid, and who could be awarded the Contract if the bid protest is upheld, is eligible to submit a bid protest. Subcontractors are not eligible to submit bid protests. A Bidder may not rely on the bid protest submitted by another Bidder.
 - b. A bid protest must contain a complete statement of any and all bases for the protest and all supporting documentation. Materials submitted after the bid protest deadline will not be considered.

- c. The protest must refer to the specific portions of all documents that form the basis for the protest.
 - (1) Without limitation to any other basis for protest, an inadvertent error in listing the California contractor's license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
 - (2) Without limitation to any other basis for protest, an inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
 - (i) The subcontractor is registered prior to the bid opening.
 - (ii) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
 - (iii) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
 - d. The protest must include the name, address and telephone number of the person representing the protesting party.
 - e. The party filing the protest must concurrently transmit a copy of the protest and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - f. The procedure and time limits set forth in this paragraph are mandatory and are each bidder's sole and exclusive remedy in the event of bid protest. Failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.
28. District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, nonresponsive, unbalanced, or conditional bids, to re-bid, and to reject the bid of any bidder if District believes that it would not be in the best interest of the District to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by District. District also reserves the right to waive any inconsequential deviations or irregularities in any bid. For purposes of this paragraph, an "unbalanced bid" is one having nominal prices for some work items and/or enhanced prices for other work items.

29. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of figures or numerals.
30. It is the policy of the District that no qualified person shall be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract, based on race, color, gender, sexual orientation, political affiliation, age, ancestry, religion, marital status, national origin, medical condition or disability. The Successful Bidder and its subcontractors shall comply with applicable federal and state laws, including, but not limited to the California Fair Employment and Housing Act, beginning with Government Code section 12900, and Labor Code section 1735.
31. Prior to the award of Contract, District reserves the right to consider the responsibility of the Bidder. District may conduct investigations as District deems necessary to assist in the evaluation of any bid and to establish the responsibility, including, without limitation, qualifications and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to District's satisfaction within the prescribed time.

END OF DOCUMENT

DOCUMENT 00 21 13.1

BIDDER INFORMATION AND FORMS

- Current Prequalified Contractors' Listing
- Current Project Stabilization Agreement (PSA) with Local Trades Council

END OF DOCUMENT

Attachment "B"
PROGRAM STABILIZATION AGREEMENT
FOR PITTSBURG UNIFIED SCHOOL DISTRICT
CAPITAL IMPROVEMENT PROGRAM

INTRODUCTION/FINDINGS

The purpose of this Agreement is to promote efficiency of construction operations during the Pittsburg Unified School District's Capital Improvement Program ("the Program") and provide for peaceful settlement of labor disputes and grievances without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the Program.

WHEREAS, the successful completion of the Program is of the utmost importance to the Pittsburg Unified School District; and

WHEREAS, large numbers of workers of various skills will be required in the performance of the construction work, including those to be represented by the unions affiliated with the Contra Costa Building and Construction Trades Council

WHEREAS, it is recognized that on a Program of this magnitude with multiple contractors and bargaining units on the job site at the same time over an extended period of time, the potential for work disruption is substantial without an overriding commitment to maintain continuity of work; and

WHEREAS, the interests of the general public, the District, the Unions and Contractor/Employers would be best served if the construction work proceeded in an orderly manner without disruption because of strikes, sympathy strikes, work stoppages, picketing, lockouts, slowdowns or other interferences with work; and

WHEREAS, the Contractor/Employers and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on the Program by the Contractor/Employer(s) and the Union(s) to the end that a satisfactory, continuous and harmonious relationship will exist among the parties to this Agreement; and

WHEREAS, this Agreement is not intended to replace, interfere, abrogate, diminish or modify existing local or national collective bargaining agreements in effect during the duration of the Program, insofar as a legally binding agreement exists between the Contractor/Employer(s) and the affected Union(s) except to the extent that the provisions of this Agreement are inconsistent with said collective bargaining agreements, in which event, the provisions of this Agreement shall prevail; and

WHEREAS, the contracts for the construction of the Program will be awarded in accordance with the applicable provisions of the California State Public Contract Code; and

WHEREAS, the District has the absolute right to select the lowest responsible bidder for the award of construction contracts or the “Best Value” submission for Design-Build contracts on the Program; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards mutually satisfactory completion of the Program;

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES HERETO, AS FOLLOWS:

ARTICLE I

DEFINITIONS

- 1.1 “Agreement” means this Program Stabilization Agreement, plus Appendices A,

____, ____

1.2 “District” means the Pittsburgh Unified School District and the administrative staff under its Superintendent.

1.3 “Contractor/Employer(s)” means any individual, firm, partnership or corporation, or combination thereof, including joint ventures, which is an independent business enterprise and has entered into a contract with the District or any of its contractors or subcontractors of any tier, with respect to the construction of any part of the Program under contract terms and conditions approved by the District and which incorporate the Agreement.

1.4 “Construction Contract” means the public works or improvement contracts which have been signed by the District and which are necessary to complete the Program.

“Construction Contract” does not include a contract between the District and any firm or individual performing construction management, program management, project management, architectural services, engineering services, project inspection services, special inspection services or testing (consistent with Section 2.1), landscape architectural services, CEQA or other environmental evaluation services, or any other services that are not “hands on” construction work on the Program, as defined herein.

1.5 “Master Agreement” means the Master Collective Bargaining Agreement of each craft union signatory hereto, copies of which have been made available by the Council to the District and are on file with the Council and which are incorporated herein by reference and designated the “**Schedule A(s)**,” and are listed in Appendix _____.

1.6 “Program” means the Capital Improvement Program as funded by the Pittsburgh Unified School District Bond Program.

1.7 “Program Manager” or “Construction Manager” means the business entity(ies) designated by the District to oversee all phases of construction on the Program and is (are)

1.8 “Project” means the individual construction Project that has a total minimum value of one millions dollars (\$1,000,000) or more that is a part of the Program and designated to be covered by this Agreement in Exhibit A. The District may, at its discretion, designate other projects with a total value of less than one million dollars (\$1,000,000) to be covered by this Agreement if the District believes it is in the best interest of the District to do so. -Routine maintenance of District properties are not covered by the scope of this Agreement.

1.9 “Union” or “Unions” means the Contra Costa Building and Construction Trades Council, AFL-CIO (“Council”) and all affiliated unions (“Signatory Unions”).

ARTICLE II

SCOPE OF AGREEMENT

2.1 Parties: The Agreement shall apply and is limited to all Contractors/Employers, at whatever tier, performing Construction Contracts on the Project, including on-site testing and inspection where such work is traditionally covered by a collective bargaining agreement with a Union, and the District and the Contra Costa Building and Construction Trades Council, AFL-CIO (“Council”) and (“Signatory Unions”).

2.2 Project Description: This Agreement shall govern the award of all construction contracts identified by the District as part of the Program and that satisfy the requirements for a Project as defined herein. Exhibit A, attached to this Agreement and incorporated herein by reference, is a list of Construction Contracts to be covered by this Agreement. The District has the absolute right to combine, consolidate, add, or cancel Project(s) or portions of Project(s) identified as part of the Program. Should the District remove any Project listed in Exhibit A from the Program and thereafter authorize that construction work be commenced on the Project,

the Project shall be performed under the terms of this Agreement. Once a construction Project is completed, it is no longer covered by this Agreement. For the purposes of this Agreement, a construction Project shall be considered completed upon filing of a Notice of Completion.

2.3 Program Labor Disputes: All Program labor disputes involving the application or interpretation of the collective bargaining agreement to which a signatory Contractor/Employer and a signatory Union are parties shall be resolved pursuant to the resolution procedures of the collective bargaining agreement. All disputes relating to the interpretation or application of the Program Stabilization Agreement shall be subject to resolution pursuant to the grievance arbitration procedure set forth herein.

2.4 Work covered by this Project Stabilization Agreement within the craft jurisdiction of the Elevator Constructors will be performed under the terms of the National Agreement of the International Union of Elevator Constructors except that Articles IV (WORK STOPPAGES, STRIKES, SYMPATHY STRIKES AND LOCKOUTS), XII (GRIEVANCE ARBITRATION PROCEDURE), and XIII (JURISDICTIONAL DISPUTES) of the Project Stabilization Agreement shall prevail and be applied to such work.

2.5 Exclusions:

(1) The Agreement shall be limited to construction work on the Projects listed in Exhibit A and is not intended to, and shall not govern any construction work performed at the District at anytime prior to the effective date, or after the expiration or termination of the Agreement.

(2) The Agreement is not intended to, and shall not affect or govern the award of public works contracts by the District which are outside the approved scope of the Projects.

(3) The Agreement is not intended to, and shall not affect the operation or maintenance of the District.

(4) The Agreement shall not apply to a Contractor/Employer's executives, managerial employees, engineering employees, supervisors (except those covered by existing building and construction trades collective bargaining agreements), office and clerical employees.

(5) This Agreement shall not apply to employees of the District.

(6) This Agreement shall not apply to contracts awarded pursuant to any emergency public works project(s) or any project using federal funds.

ARTICLE III

EFFECT OF AGREEMENT

3.1 By executing this Agreement, the Unions and the District agree to be bound by each and all of the provisions of the Agreement.

3.2 By accepting the award of a construction contract for a Project, whether as contractor or subcontractor, the Contractor/Employer agrees to be bound by each and every provision of the Agreement and agrees that it will evidence its acceptance prior to the commencement of work by executing the Letter of Assent in the form attached hereto as Addendum A.

3.3 At the time that any Contractor/Employer enters into a subcontract with any subcontractor providing for the performance of a construction contract, the Contractor/Employer shall provide a copy of this Agreement to said subcontractor and shall require the subcontractor as a part of accepting an award of a construction subcontract to agree in writing to be bound by each and every provision of this Agreement prior to the commencement of work. If a

Contractor/Employer requires a subcontractor to agree in writing to comply with the terms of this Agreement as a condition of awarding work to the subcontractor, the Contractor/Employer shall not be liable in any way for the subcontractor's failure to pay the wages and benefits required by this Agreement except as required by the provisions of the California Labor Code.

3.4 This Agreement shall only be binding on the signatory parties hereto and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such party.

ARTICLE IV

WORK STOPPAGES, STRIKES, SYMPATHY STRIKES AND LOCKOUTS

4.1 The Unions, District and Contractor/Employers agree that for the duration of the Program:

(1) There shall be no strikes, sympathy strikes, work stoppages, picketing, handbilling or otherwise advising the public that a labor dispute exists, or slowdowns of any kind, for any reason, by the Unions or employees employed on a Project, at the job site of the Program or at any other facility of the District because of a dispute on a Project or with a Contractor/Employer on the Project. It shall not be considered a violation of this provision for a Union to withhold labor (but not to picket) from - any Contractor/Employer who fails to make its timely payment of Trust Fund contributions or fails to meet its weekly payroll. Although disputes arising between the Unions and Contractor(s)/Employer(s) on other projects are not governed by this Agreement, a Union may not take any action against Contractor(s)/Employer(s) on District property and/or on a District Project because of a dispute between the Unions and Contractor(s)/Employer(s) on other projects.

(2) As to employees employed on a Project, there shall be no lockout of any kind by a Contractor/Employer covered by the Agreement.

(3) If a Master Agreement between a Contractor/Employer and the Union expires before the Contractor/Employer completes the performance of a construction contract and the Union or Contractor/Employer gives notice of demands for a new or modified Master Agreement, the Union agrees that it will not strike the Contractor/Employer on said contract for work covered under this Agreement, and the Union and the Contractor/Employer agree that the expired collective bargaining agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Master Agreement is reached between the Union and Contractor Employer. If the new or modified Master Agreement reached between the Union and Contractor/Employer provides that any terms of compensation of the Master Agreement shall be retroactive, the Contractor/Employer agrees to comply with any retroactive terms of the new or modified Master Agreement which is applicable to employees employed on a project to the date those retroactive terms became effective and to make payment of those retroactive amounts within seven (7) days.

4.2 Any party to this Agreement may institute the following procedure, prior to any other action at law or equity, when a breach of this Article is alleged to have occurred:

(1) A party invoking this procedure shall notify Gerald McKay, as the permanent arbitrator, or, Thomas Angelo, as the alternate under this procedure. In the event that the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then a selection shall be made from the list of arbitrators in Article 12.2 Notice to the arbitrator shall be by the most expeditious means available, with notices by facsimile or telephone to the party alleged to be in violation and to the Contra Costa Building and Construction Trades council and involved local Union if a Union is alleged to be in violation.

(2) Upon receipt of said notice, the District will contact the designated

arbitrator named above or his alternate who will attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.

(3) The arbitrator shall notify the parties by facsimile or telephone of the place and time for the hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all parties. A failure of any party to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator. Gerald McKay's address, phone number and fax number, are:

PO Box 406

Burlingame, CA 94011-0405

Phone: (650) 588-6655

FAX: (650) 340-1511

Thomas Angelo's address, phone number and fax number are:

PO Box 1937

Mill Valley CA 94943

Phone: (415) 381-1701

Fax: (415) 380-9792

(4) The sole issue at the hearing shall be whether or not a violation of Article IV, Section 4.1 of the Agreement has occurred. The arbitrator shall have no authority to consider any matter of justification, explanation or mitigation of such violation or to award damages, which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without a written opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but

its issuance shall not delay compliance with or enforcement of the award. The arbitrator may order cessation of the violation of this Article and other appropriate relief and such award shall be served on all parties by hand or registered mail upon issuance.

(5) Such award may be enforced by any Court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 4.2(4) of this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order or enforcement. The Court's order or orders enforcing the arbitrator's award shall be served on all parties by hand or delivered by certified mail.

(6) Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance are waived by the parties.

(7) The fees and expenses of the arbitrator shall be divided equally between the parties.

(8) The parties to this Agreement agree that the labor organizations have not waived their legal rights to undertake otherwise lawful activity with regard to any dispute or disputes which they may have regarding non-Program construction work and operations; provided, however, that any such activities by the signatory Unions shall not disrupt or interfere in any way with any work done at any District site. Recognizing the above and, in order to carry out the principles of this Agreement, the parties agree:

A. Should a signatory Union have a dispute with regard to non-

covered work on or adjacent to any District site, the signatory union will notify the Contra Costa Building and Construction Trades Council and shall not undertake on or adjacent to the property, any public activity regarding the dispute. Representatives of the union and the Council shall meet with the representatives of the District to discuss and review the valid, legal manner and means by which the signatory union may undertake its activities with regard to this dispute (giving due consideration in such discussions and review to the traditional concerns for the ongoing operations of the Project) and to the importance of the continuity of the work covered by the Master Agreement, and develop a program which allows the signatory union to exercise its legal rights, but at the same time eliminates any possible disruptive effect on the ongoing Project construction work; and finally

(9) Should any signatory Union or the District (or its Program Manager/Project Contractors) become aware of a possible or actual labor dispute involving non-Project construction work or operations and involving non-signatory unions which may result in public activity on or about any District site by such non-signatory unions, the representative of each will jointly meet to discuss such activity and to work together, using their best efforts, to avoid having such activity adversely impact or otherwise delay or interfere with ongoing Project construction contracts.

(10) To the extent any provision in this Article IV conflicts with the dispute resolution provisions of Public Contract Code section 20104, et seq, this Article IV shall be null and void.

ARTICLE V

PRECONSTRUCTION CONFERENCE

5.1 A preconstruction conference shall be held prior to the commencement of each construction Project. Such conference shall be attended by a representative each from the participating Contractor/Employers and Union(s) and the Program Manager.

ARTICLE VI

NO DISCRIMINATION

6.1 The Contractor/Employers and Unions agree not to engage in any form of discrimination on the ground or because of, race, color, creed, national origin, ancestry, age, sex, sexual orientation, disability or Acquired Immune Deficiency Syndrome or AIDS Related Condition (AIDS/ARC), against any employee, or applicant for employment, on the Program.

ARTICLE VII

UNION SECURITY

7.1 The Contractor/Employers recognize the Union(s) as the sole bargaining representative of all craft employees working within the scope of this Agreement.

7.2 No employee covered by this Agreement is required to join any Union as a condition of being first employed on the Project.

7.3 All employees working on the Project shall be governed by the applicable Union Security clause of the applicable craft's "Schedule A" Agreement. Employees hired by the Contractor(s) shall, as a condition of employment, be responsible for the payment of the applicable monthly working dues and any associated fees uniformly required for union membership in the local union which is signatory to this Agreement. Further, there is nothing in this Agreement that would prevent non-union employees from joining the local union.

7.4 Authorized representatives of the Unions shall have access to the Projects whenever work covered by this Agreement is being, has been, or will be performed on the Projects, provided it is not disruptive to the work of the Projects or the operation of the District.

ARTICLE VIII

REFERRAL

8.1 Contractor/Employers performing construction work on the Project described in the Agreement shall, in filling craft job requirements be bound by and utilize the registration facilities and referral systems established or authorized by the signatory Unions when such procedures are not in violation of Federal law. The Contractor/Employer(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement.

8.2 The Contractor(s) shall have the unqualified right to select and hire directly all supervisors above the level of General Foreman it considers necessary and desirable, without such persons being referred by the Union(s).

8.3 In the event that referral facilities maintained by the Unions are unable to fill the requisition of a Contractor/Employer for employees within forty-eight (48) hour period (Saturday, Sundays and Holidays excluded) after such requisition is made by the Contractor/Employer, the Contractor/Employer shall be free to obtain work persons from any source.

8.4 Unions will exert their utmost efforts to recruit sufficient numbers of skilled craft persons to fulfill the requirements of the Contractor/Employers. The parties to this Agreement support the development of increased numbers of skilled construction workers from graduates of District high schools first, residents of Pittsburg second, and residents of the East

Bay Area third, to meet the needs of the Program and the requirements of the industry generally. Toward that end, the Unions agree to encourage the referral and utilization, to the extent permitted by law and the hiring hall procedures, of qualified graduates of District high schools, residents of Pittsburg, and East Bay Area residents as journeymen and apprentices on this Program and entrance into such apprenticeship and training programs as may be operated by the signatory Unions.

8.5 Recognizing the special needs of this Project and the acute shortage of skilled craftspeople, the Unions shall consider a Contractor's request to transfer key employees to work on this Project in a manner consistent with the Union's referral procedures.

ARTICLE IX

BENEFITS

9.1 All Contractor/Employers agree to pay contributions to the established vacation, pension and other form of deferred compensation plan, apprenticeship, and health benefit funds for each hour worked on the project in the amounts designated in the Master Agreement of the applicable craft.

9.2 The Contractor/Employers shall not be required to pay contributions to any other trust funds that are not contained in the published prevailing wage determination to satisfy their obligation under this Article except those Contractor/Employers who are signatory to the Master Agreements with the respective trades shall continue to pay all trust fund contributions as outlined in such Master Agreements.

9.3 By signing this Agreement, the Contractor/Employers adopt and agree to be bound by the written terms of the legally established Trust Agreements as described in Section 9.1 above specifying the detailed basis on which payments are to be made into, and benefits

paid out of, such Trust Funds.

9.4 Wages, Hours, Terms and Conditions of Employment: The wages, hours and other terms and conditions of employment on a Project shall be governed by the Master Agreement of the respective crafts, copies of which shall be on file with the District, to the extent such Master Agreement is not inconsistent with this Agreement. Where a subject is covered by the Master Agreement and not covered by this Agreement, the Master Agreement will prevail. When a subject is covered by both the Master Agreement and this Agreement, to the extent there is any inconsistency, this Agreement will prevail

ARTICLE X

NOT USED.

ARTICLE XI

COMPLIANCE

11.1 It shall be the responsibility of the Contractor/Employers and Unions to investigate and monitor compliance with the provisions of the Agreement contained in Article IX. Nothing in this agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Employers on the Project. The District shall monitor and enforce compliance with the prevailing wage requirements of the State and Contractor/Employers' compliance with this Agreement if the District operates a labor compliance program (LCP) on the Project and if that LCP requires the District to monitor and enforce this compliance.

ARTICLE XII

GRIEVANCE ARBITRATION PROCEDURE

12.1 The parties understand and agree that in the event any dispute arises out of the meaning, interpretation or application of the provisions of this Agreement, the same shall be settled by means of the procedures set out herein. No grievance shall be recognized unless the grieving party (Local Union or District Council on its own behalf, or on behalf of an employee whom it represents, or a contractor on its own behalf) provides notice in writing to the signatory party with whom it has a dispute within five (5) days after becoming aware of the dispute but in no event more than thirty (30) days after it reasonably should have become aware of the event giving rise to the dispute. The time limits in Section 12.1 may be extended by mutual written agreement of the parties.

12.2 Grievances shall be settled according to the following procedures:

Step 1: Within five (5) business days after the receipt of the written notice of the grievance, the Business Representative of the involved Local Union or District Council, or his/her designee, or the representative of the employee, and the representative of the involved Contractor/Employer shall confer and attempt to resolve the grievance.

Step 2: In the event that the representatives are unable to resolve the dispute within the five (5) business days after its referral to Step 1, either involved party may submit it within three (3) business days to the Grievance Committee, which shall meet within five (5) business days after such referral (or such longer time as is mutually agreed upon by all representatives on the Grievance Committee), to confer in an attempt to resolve the grievance. The

Grievance Committee shall be comprised of

- two (2) representatives of the District;
- one (1) representative of the Program Manager;
and
- three (3) representative of the Contra Costa
Building & Construction Trades Council.

If the dispute is not resolved within such time (five (5) business days after its referral or such longer time as mutually agreed upon) it may be referred within five (5) business days by either party to Step 3.

Step 3: Within five (5) business days after referral of a dispute to Step 3, the representatives shall choose a mutually agreed upon arbitrator for final and binding arbitration. The parties agree that if the permanent arbitrator or his alternate is not available, an arbitrator shall be selected by the alternate striking method from the list of five (5) below:

1. Barbara Chavany
2. Thomas Angelo
3. William Riker
4. Barry Winograd
5. Chuck Askin

The decision of the Arbitrator shall be binding on all parties. The Arbitrator shall have no authority to change, amend, add to or detract from any of the provisions of the Agreement.

The expense of the Arbitrator shall be borne equally by both parties.

The Arbitrator shall arrange for a hearing on the earliest available date from the date of his/her selection. A decision shall be given to the parties within five (5) calendar days after completion of the hearing unless such time is extended by mutual agreement. A written opinion may be requested by a party from the presiding Arbitrator.

The time limits specified in any step of the Grievance Procedure set forth in Section 12.2 may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without an agreed upon extension of time, shall be deemed a waiver of such grievance without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

In order to encourage the resolution of disputes and grievances at Steps 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent setting.

ARTICLE XIII

JURISDICTIONAL DISPUTES

13.1 There will be no strikes, no work stoppages, no picketing, sympathy strikes, slow downs or other interferences with the work because of jurisdictional disputes between signatory Unions.

13.2 All Contractors and Subcontractors shall stipulate to and have the responsibility for making work assignments in accordance with the current rules, regulations and procedures of the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry by the Building & Construction Trades Department, AFL-CIO, or any successor plan.

In the event of a jurisdictional dispute between any signatory Unions, it is agreed that the

following procedures shall be taken in an attempt to resolve the matter:

- Step 1: The appropriate Union Representatives of the involved Crafts shall meet with the affected Contractor/Employer in an attempt to resolve the dispute within twenty-four (24) hours.
- Step 2: If no settlement is reached, the appropriate International Union Representatives from each affected Craft will meet with the affected Contractor/Employer within five (5) calendar days.
- Step 3: If no settlement is reached within five (5) calendar days, such dispute shall be referred to and settled by the current procedure established by the building and Construction Trades Department of the American Federation of Labor – Congress of the Industrial Organization. In any event, the parties hereto agree that there will be no slowdown or stoppage of work, no picketing or other interferences and each agrees that the decisions of the authorities stipulated herein shall be final and binding upon them.

13.3 If any union or Contractor/Employer fails to immediately and fully comply with a final decision rendered in any jurisdictional dispute, the District, the Contractor/Employer or the Union shall have the immediate right to seek full legal redress for such conduct including, but not limited to, injunctive relief and/or damages.

13.4 If there is a strike, sympathy strike, work stoppage, slowdown, picketing or otherwise advising the public that a labor dispute exists or interference with the progress of the Program by reason of a jurisdictional dispute, the District and/or the Contractor/Employer affected by said Union conduct, shall have the right to seek full legal redress in the Courts of

California, including injunctive relief and damages, after complying with the emergency arbitration provisions of Article IV.

ARTICLE XIV

APPRENTICES

14.1 Recognizing the need to maintain continuing support of programs designed to develop adequate numbers of competent workers in the construction industry, the Contractor/Employer(s) shall employ apprentices of a State approved Apprenticeship Program in the respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured.

14.2 The apprentice ratios will be in compliance with the applicable provisions of the California Labor Code and Prevailing Wage Rate Determination.

14.3 There shall be no restrictions on the utilization of apprentices in performing the work of their craft provided they are properly supervised.

ARTICLE XV

HELMETS TO HARDHATS

15.1 The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. When appropriate, the Employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs a

identified by the parties.

15.1 The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for the Project. To the extent permitted by law, the Unions will give credit to such veterans for bonafide, provable past experience.

ARTICLE XVI

MANAGEMENT RIGHTS

16.1 The Contractor/Employer(s) shall retain full and exclusive authority for the management of their operations, including the right to direct their work force in their sole discretion. No rules, customs or practices shall be permitted or observed which limit or restrict production, or limit or restrict the working efforts of employees except that lawful manning provisions in the Master Agreement shall be recognized.

16.2 There shall be no limitation or restriction upon the choice of materials or upon the full use and installation of equipment, machinery, package units, factory pre-cast prefabricated or preassembled materials, tools or other labor saving devices. Lawful fabrication provisions of the appropriate national or local collective bargaining agreement(s) shall be applicable.

ARTICLE XVII

SAVINGS CLAUSE

17.1 The parties agree that in the event any article, provision, clause, sentence or word of the Agreement is determined to be illegal or void as being in contravention of any applicable law, by a court of competent jurisdiction, the remainder of the Agreement shall remain in full force and effect. The parties further agree that if any article, provision, clause, sentence or word

of the Agreement is determined to be illegal or void, by a court of competent jurisdiction, the parties shall substitute, by mutual agreement, in its place and stead, an article, provision, clause, sentence or work which will meet the objections to its validity and which will be in accordance with the intent and purpose of the article, provision, clause, sentence or work in question.

17.2 The parties also agree that in the event that a decision of a court of competent jurisdiction materially alters the terms of the Agreement such that the intent of the parties is defeated, then the entire Agreement shall be null and void.

17.3 If a court of competent jurisdiction determines the all or part of the Agreement is invalid and/or enjoins the District from complying with all or part of its provisions and the District accordingly determines that the Agreement will not be required as part of an award to a Contractor/Employer, the unions will no longer be bound by the provisions of Article IV.

ARTICLE XVIII

18.1 This agreement shall become effective on the day the District awards the first contract covered by the scope of this Agreement, provided that all Union signatories have first executed this Agreement, all applicable Master Agreement(s) are on file with the District, and shall continue in full force and effect until the Projects are complete.

18.2 The District or the Council may terminate this Agreement upon seven (7) days written notice to the other party for any project(s) that the District has not yet awarded to contractor(s) to construct.

Pittsburg Unified School District

BY: Mark Banta

DATE: 4/26/06

Contra Costa Building & Construction Trades Council AFL-CIO (Council)

BY: _____

Greg Feere

C.E.O.

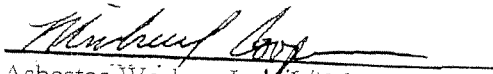
DATE: _____

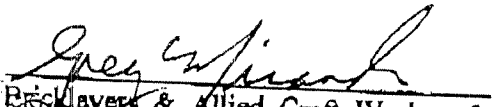
11-29-05

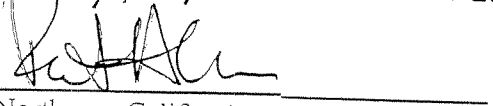
PROGRAM STABILIZATION AGREEMENT
Pittsburg Unified School District
Capital Improvement Program

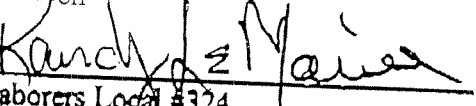
SIGNATURES

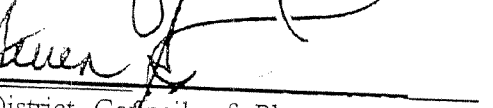
Signatory Unions:

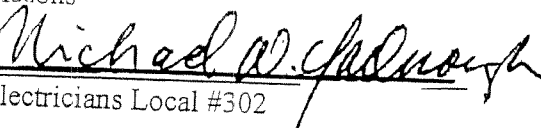

Asbestos Workers Local #16

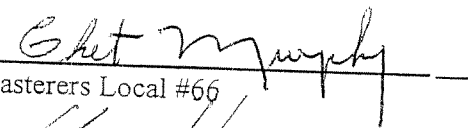

Bricklayers & Allied Craft Workers Local

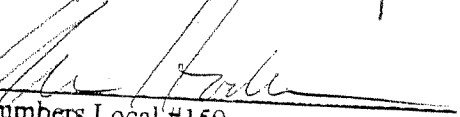

Northern California Carpenters Regional Council

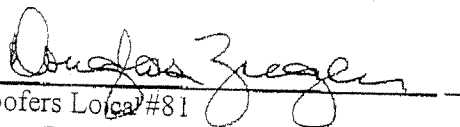

Laborers Local #324

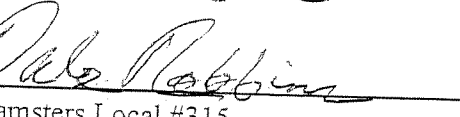

District Council of Plasterers & Cement Masons

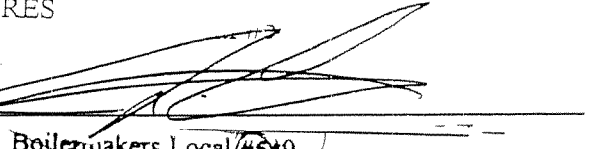

Electricians Local #302

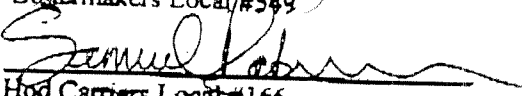

Plasterers Local #66

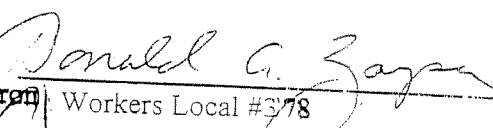

Plumbers Local #159


Roofers Local #81

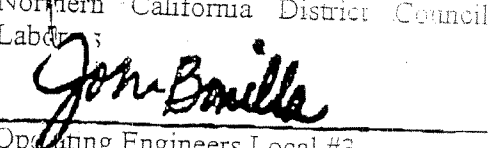

Teamsters Local #315

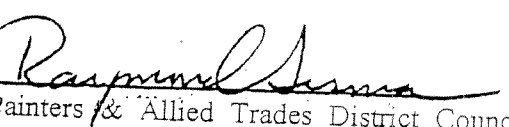

Boilermakers Local #549


Hod Carriers Local #166

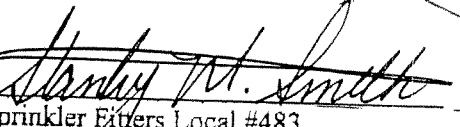

Iron Workers Local #378

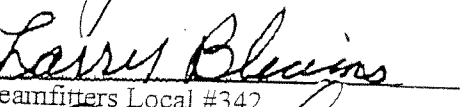

Northern California District Council of Laborers

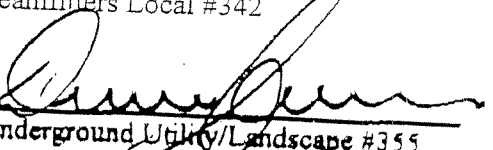

Operating Engineers Local #3

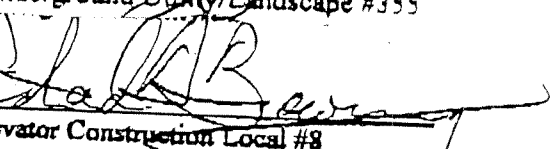

Painters & Allied Trades District Council #16


Sheet Metal Workers Local #104


Sprinkler Fitters Local #483


Steamfitters Local #342


Underground Utility/Landscape #355


Elevator Construction Local #8

PITTSBURG UNIFIED SCHOOL DISTRICT
CONSTRUCTION STABILIZATION PROGRAM

EXHIBIT A

Description

Addendum A: Agreed To Letter of Assent

[Date]

[Addressee]

[Address]

[City and State]

Re: (NAME OF PROJECT),

Project Stabilization Agreement -- Letter of Assent

Dear Mr./Ms.

The undersigned party confirms that it agrees to be a party to and bound by the
(NAME OF PROJECT), Project Stabilization Agreement, together with all appendixes and any
and all amendments and supplements now existing.

By executing this Letter of Assent, the undersigned party subscribes to, adopts and agrees to be
bound by the written terms of the legally established trust agreements specifying the detailed
basis upon which contributions are to be made into, and benefits made out of, such trust funds
and ratifies and accepts the trustees appointed by the parties to such trust funds.

Such obligation to be a party to and bound by this Agreement shall extend to all work covered by said Agreement undertaken by the undersigned party on the (NAME OF PROJECT). The undersigned party shall require all of its subcontractors, of whatever tier, to become similarly bound for all their work within the scope of this Agreement by signing an identical Letter of Assent.

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

CONTRACTOR/SUBCONTRACTOR: _____

California State License Number: _____

Name and Signature of Authorized Person: _____
(Print Name)

(Title)

(Signature)

(Telephone Number)

(Facsimile Number)

EXISTING CONDITIONS

1. Summary

This document describes existing conditions at or near the Project, and use of information available regarding existing conditions. This document is **not** part of the Contract Documents. See General Conditions for definition(s) of terms used herein.

2. Reports and Information on Existing Conditions

- a. Documents providing a general description of the Site and conditions of the Work may have been collected by the Pittsburgh Unified School District ("District"), its consultants, contractors, and tenants. These documents may, but are not required to, include previous contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding underground facilities.
- b. Information regarding existing conditions may be inspected at the District offices or the Construction Manager's offices, if any, and copies may be obtained at cost of reproduction and handling upon Bidder's agreement to pay for such copies. These reports, documents, and other information are **not** part of the Contract Documents. These reports, documents, and other information do **not** excuse Contractor from fulfilling Contractor's obligation to independently investigate any or all existing conditions or from using reasonable prudent measures to avoid damaging existing improvements.
- c. Information regarding existing conditions may also be included in the Project Manual, but shall **not** be considered part of the Contract Documents.
- d. Prior to commencing this Work, Contractor and the District's representative shall survey the Site to document the condition of the Site. Contractor will record the survey in digital videotape format and provide an electronic copy to the District within fourteen (14) days of the survey.
- e. Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.
- f. The reports and other data or information regarding existing conditions and underground facilities at or contiguous to the Project are the following:
 - (1) Original Construction Drawings.

3. Use of Information

- a. Information regarding existing conditions was obtained only for use of District and its consultants, contractors, and tenants for planning and design and is **not** part of the Contract Documents.
- b. District does not warrant, and makes no representation regarding, the accuracy or thoroughness of any information regarding existing conditions. Bidder represents and agrees that in submitting a bid it is not relying on any information regarding existing conditions supplied by District.
- c. Under no circumstances shall District be deemed to warrant or represent existing above-ground conditions, as-built conditions, or other actual conditions, verifiable by independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform as a condition to bidding and Bidder should not and shall not rely on this information or any other information supplied by District regarding existing conditions.
- d. Any information shown or indicated in the reports and other data supplied herein with respect to existing underground facilities at or contiguous to the Project may be based upon information and data furnished to District by the District's employees and/or consultants or builders of such underground facilities or others. District does not assume responsibility for the completeness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information.
- e. District shall be responsible only for the general accuracy of information regarding underground facilities, and only for those underground facilities that are owned by District, and only where Bidder has conducted the independent investigation required of it pursuant to the Instructions to Bidders, and discrepancies are not apparent.

4. Investigations/Site Examinations

- a. Before submitting a bid, each Bidder is responsible for conducting or obtaining any additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the Site or otherwise, that may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or that Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of Contract Documents.
- b. On request, District will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as each Bidder deems necessary for submission of a bid. Bidders must fill all holes and clean up and restore the Site to its former condition upon completion of its explorations, investigations, tests, and studies.

Such investigations and Site examinations may be performed during any and all Site visits indicated in the Notice to Bidders and only under the provisions of the Contract Documents, including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such work, and District's prior approval.

END OF DOCUMENT



ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

August 15, 2007

003-09226-02 004

Mark Bonnett
Assistant Superintendent, Business Services
Pittsburg Unified School District
2000 Railroad Ave.
Pittsburg, California 94565

Subject: Geologic Hazards Evaluation Report, Proposed Pittsburg High School,
250 School St., Pittsburg, California

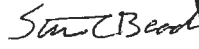
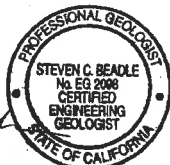
Dear Mr. Mark Bonnett:

LFR Inc. (LFR) is pleased to present the attached Geologic Hazards Evaluation Report for the proposed School Site to be located at 250 School St. in Pittsburg, California.

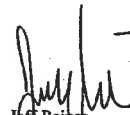
LFR appreciates this opportunity to provide consulting services to the Pittsburg Unified School District, and looks forward to being of further assistance as the project proceeds.

If you have any questions concerning this report, please contact either of the undersigned at any time. Steve Beadle can be reached at (805) 349-7180, and Jeff Raines can be reached at (510) 596-9580.

Sincerely,

Steve Beadle, PhD
PG (6129), CHG (503), CEG (2098), PE (C69951)
Senior Associate Engineering Geologist




Jeff Raines,
PE (C51120), GE (2762)
Principal Geotechnical Engineer

Attachment

4190 Douglas Boulevard, Suite 200
Granite Bay, California 95746-5964
Offices Nationwide

916.786.0320 m
916.786.0366 f
www.lfr.com

CONTENTS

1.0 INTRODUCTION	1
2.0 LOCATION AND SITE DESCRIPTION	1
3.0 PURPOSE AND SCOPE OF SERVICES	1
4.0 SITE CONDITIONS	2
4.1 Geology and Soils	2
4.1.1 General	2
4.1.2 Site Geology	3
4.1.3 Site Soils	4
4.2 Hydrology and Hydrogeology	4
4.3 Faulting and Seismicity	5
4.3.1 Active Faults	5
4.3.2 Other Faults	6
4.4 Ground Rupture Potential	7
4.5 Liquefaction Potential	7
4.6 Landslide Potential	7
4.7 Flood Inundation Potential	7
4.7.1 Flood Zonation	7
4.7.2 Dam Inundation	8
4.8 Pipeline Risk Analysis	8
4.9 Land Subsidence	8
4.10 Naturally Occurring Asbestos	9
4.12 Other Hazards	9
5.0 CONCLUSIONS	10
6.0 REFERENCES	11

TABLES

- 1 Known Active Earthquake Faults within 30 Miles of the Campus
- 2 Applicable Portions of Modified Mercalli Intensity Scale
- 3 Historical Earthquakes in Campus Vicinity Magnitude > 6

FIGURES

- 1 Site Vicinity Map
- 2 Site Plan
- 3 Regional Topography
- 4 Geologic Map
- 5 Regional Fault Map

APPENDICES

- A Soil Properties
- B FRISKSP Seismic Hazard Output
- C Pipeline Certification

1.0 INTRODUCTION

This report presents the results of the geologic hazards evaluation conducted by LFR Inc. (LFR) for a proposed school site to be located at 250 School Street in Pittsburg, California ("the Campus"; Figure 1). Figure 2 presents the proposed layout of the new school buildings to be constructed on the Campus.

This report includes our opinions concerning potential geologic hazards that may have an impact on site development and that could potentially impede the performance of the proposed project. This report was prepared in general accordance with California Educational Code Section 17212.5. Conclusions presented in this report are based in part on the published data discussed in this report, and on our experience with the types of geologic hazards applicable to sites located in Northern California. These conclusions should not be extrapolated to other areas outside the Campus without our prior review.

2.0 LOCATION AND SITE DESCRIPTION

The Campus (Figures 1 and 2) is located in Contra Costa County in the City of Pittsburg. It occupies approximately 43 acres on both the northern and southern sides of School Street.

The center of the Campus is located at latitude of approximately 38.01924° North, and a longitude of approximately 121.88288° West. According to published topographic maps (Figure 3), it lies at an elevation of approximately 50 feet above mean sea level (msl), and is essentially flat. The local topography slopes to the north toward San Francisco Bay at a rate of approximately 80 feet per mile.

The Campus was inspected by Mr. Jeffery Raines, PE (51120), GE (2762), on June 15, 2007. No obvious evidence of potential geological hazards was evident at the Campus on that date.

3.0 PURPOSE AND SCOPE OF SERVICES

The purpose of this evaluation was to identify major geological and seismic hazards that could potentially preclude the proposed school siting or make the proposed construction economically unfeasible. LFR performed the following scope of services for this geologic hazard evaluation:

- conducted a review of geologic hazards data
- conducted a site inspection

- conducted a Stage 1 pipeline analysis to identify significant pipelines within 1,500 feet of the Campus
- prepared a report of pertinent findings with respect to seismic, geologic, and preliminary geotechnical engineering issues, including:
 - pertinent site maps showing the approximate project location
 - local geologic setting, faulting, and seismicity
 - site liquefaction potential, ground rupture potential, and other geologic and seismic hazards
 - flood inundation potential

4.0 SITE CONDITIONS

4.1 Geology and Soils

4.1.1 General

The topography of the Bay Area consists of north- to northwest-trending mountain ranges and intervening valleys that are characteristic of the Coast Range geomorphic province. The Coast Ranges consist of the Mendocino Range to the north of San Francisco Bay, the Santa Cruz Mountains west of the Bay, and the Diablo Range to the east of the Bay. The San Andreas Fault Zone lies to the west, and represents a major boundary that separates Franciscan Complex rocks on the North American Plate from Salinian basement rocks of the Pacific Plate.

The geology of the San Francisco Bay Area is made up primarily of three different geologic provinces: the Salinian block, the Franciscan complex, and the Great Valley sequence. The Salinian block is located west of the San Andreas Fault and is composed primarily of granitic plutonic rocks.

The Mesozoic Franciscan complex is bounded on the eastern side by the Hayward fault and on the western side by the San Andreas Fault. The Franciscan rocks represent pieces of former oceanic crust that have been accreted to North America by subduction and collision. These rocks are primarily deep marine sandstone and shale. However, chert and limestone are also found within the assemblage. The rocks of the Franciscan complex are prone to landslides.

To the east of the Hayward fault is the Great Valley sequence. This is composed primarily of Cretaceous and Tertiary marine sedimentary rocks in the Bay Area. These rocks are also prone to landsliding.

The Coast Ranges represent northwest-southeast trending structural blocks comprised of a variety of basement lithologies that are juxtaposed by major geologic structures. The Coast Ranges-Sierran Block boundary zone lies to the east of the Campus. To the

west, the major boundary is the San Andreas Fault Zone, which separates Franciscan Complex rocks of the North American plate from the Salinian basement rocks on the Pacific plate. The Coast Ranges ophiolites within the Franciscan Complex have been deformed by a series of thrust faults, most of which appear to be inactive.

The Diablo Range extends from the Sacramento River Delta, south along the western side of the San Joaquin Valley. Rocks of the Mesozoic Great Valley are thrust upon Franciscan basement along the San Joaquin Valley margin, and are covered locally by younger sediments of Paleocene to Pleistocene age.

Faults of the San Andreas system separate the Diablo Range from the remainder of the Coast Ranges. Mount Diablo is separated from the western East Bay hills by the Calaveras fault and from the southern extension of the Diablo Range by the Livermore Valley, an east-west-trending Cenozoic basin. The Diablo Range is bounded to the east by the Coast Range-Sierran Block boundary zone, which typically is represented by a series of blind and partially concealed thrust faults (Wong et al. 1988; Unruh and Moores 1992). The eastern side of Mount Diablo is bounded by the San Joaquin fault (Sowers et al. 1992).

The Diablo Range comprises a series of large asymmetrical anticlines, with intervening synclines. The anticlines are composed of Franciscan Complex rocks, while the synclines contain younger rocks. The folds are frequently cut by east- and west-verging thrust faults. These thrust faults are displaced or truncated by strike-slip movement on the northwest-striking, right-lateral faults of the San Andreas Fault system.

4.1.2 Site Geology

The City of Pittsburg is located on a narrow east-west trending coastal plain, between a range of unnamed hills to the south and Suisun Bay to the north. The hills to the south are comprised of consolidated Tertiary sedimentary rocks, primarily of marine origin. The Campus is located on alluvial sediments derived from the adjacent hills.

Figure 4 presents a surface geological map for the Campus (Helley and Graymer 1997). The Campus soils are mapped as Alluvial Fans and Fluvial Deposits (Qpaf) of Pleistocene age. They are described as brown dense gravelly and clayey sand or clayey gravel that fines upward to sandy clay. The deposits display various sorting and are located along most stream channels in Contra Costa County.

Helley and Graymer (1997) mapped the areas directly to the east of the Campus, on the opposite side of Harbor Street, as Holocene alluvial fan and fluvial deposits ("Qhaf" in Figure 4). However, more recent mapping by Witter et al. (2006) has reclassified all of the surficial deposits in the immediate site area as Latest Pleistocene.

4.1.3 Site Soils

The Natural Resource Conservation Service has mapped the Campus soils in the areas proposed for new construction as "Antioch Loam, 0 to 2 percent slopes" and "Capay Clay, 2 to 9 percent slopes" (NRCS 2006; Appendix A). Both of these soil types are typically associated with alluvial sediments (NRCS 1997, 2006).

These are fine-grained soils (up to 95% finer than a number 200 sieve) with liquid limits and plasticity indices representative of low plasticity clays (CL in the Unified Soil Classification System). This is consistent with the Atterberg Limit data collected by LFR (2007) of liquid limits of 42 and 46 and plasticity indices of 28 and 30 from two near surface soil samples.

The site soils have varying corrosion characteristics (NRCS 2006; Appendix A). Antioch Loam and Capay Clay are considered to pose a "high" corrosion risk to uncoated steel, and "low" to "moderate" corrosion risk to concrete. One surficial soil sample collected by LFR (2007) had a sulfate concentration of 0.41%. Per Table 19-A-4 of the California Building Code, sulfate concentrations greater than 0.2% require the use of Type V cement with a maximum water to cement ratio of 0.45.

Based on the subsurface investigation conducted by LFR (2007), the subsurface soils, to 50 feet below the ground surface (bgs) consist almost entirely of fine-grained soils (silts and clays). The upper 20 feet of the subsurface consists predominantly of stiff clays with some strata of stiff silts to silty sands. Based on a correlation between CPT values and Standard Penetration Test (SPT) blow counts, the blow counts in the upper 10 feet bgs of the Campus vary between 10 and greater than 100 with most blow counts greater than 20. Terzaghi & Peck (1967, p. 347) classify such soils as very stiff with undrained shear strengths of between 2,000 and 4,000 psf.

Expansion Index tests on Campus soils were conducted as part of the Campus geotechnical design study; the results indicated that the Campus soils are moderately expansive. The expansion indices (EIs) for two Campus soil samples were 75 and 85 (LFR 2007). Per the California Building Code, an EI between 50 and 90 indicates the soil has medium expansion potential.

4.2 Hydrology and Hydrogeology

The Campus is located approximately 1 mile south of New York Slough, which drains into Suisun Bay (Figure 3). The local surface-water drainage is generally to the north.

The Campus is located within the watershed of Kirker Creek; this creek drains the northern side of the unnamed hills to the south of the Campus, and discharges to New York Slough. The nearest named drainage is Kirker Creek, which lies approximately 0.5 mile to the southwest.

The Campus is located within the Pittsburg Plain Groundwater Basin, as recognized by the California Department of Water Resources (CDWR 2006). Groundwater in this sub-basin occurs primarily in Pleistocene to Recent age alluvium deposits. The Campus is located in northern Contra Costa County along the southern shore of Suisun Bay. The basin is about 40 miles northeast of San Francisco. It is bounded on the north by Suisun Bay, on the east by the Tracy basin, and on the west by Clayton basin.

The aquifer system within the Pittsburg Plain Groundwater Basin consists of highly lenticular beds of gray and brown sand, sand and gravel, and blue and yellow clay. There are limited data regarding the occurrence and movement of groundwater in the basin (CDWR 2006a).

At the time of the CPT work (LFR 2007), groundwater was encountered at 44.5 feet bgs (approximately 10 feet mean sea level [msl]) in CPT Probe 1 and at 41.4 feet bgs in CPT Probe 6 (approximately 10 feet msl). The actual depth to the groundwater table may be different than was noted during the drilling.

The United States Geological Survey (USGS 2007) historically monitored well 001N001E17K001M, which is or was located on the High School Campus (coordinates 38° 1' 07"; 121° 53' 02"). The reported depths to groundwater in this well were approximately 50 to 55 feet bgs between 1970 and 1982. This well is reportedly 190 feet deep, so these results may not be indicative of water-table conditions.

4.3 Faulting and Seismicity

4.3.1 Active Faults

Regionally active faults within 50 miles of the Campus that are capable of producing significant ground shaking at the Campus are listed in Table 1 and shown on Figure 5. Activity was determined by slip rates, as per the California Geological Survey (CGS; Petersen et al. 1996).

All of the identified faults are at least 6.5 miles from the Campus. The identified faults are generally located to the northeast, southwest, and south of the Campus (Figure 5).

Table 1 includes an estimate of the peak ground acceleration (at the mean plus one standard deviation level) and the Modified Mercalli Intensity likely to be felt at the Campus due to earthquakes on the individual faults. The Modified Mercalli Intensity (MMI) scale is described in Table 2. The calculated MMI should be considered to be a rough order of magnitude estimate; it is presented here because it is easier to interpret than peak ground accelerations.

MMI was evaluated using EQFAULT software (Blake 2000a). EQFAULT uses the inverse of the Murphy and O'Brian (1978) acceleration - intensity equation to calculate the MMI:

$$I_{ms} = [\log_{10}(980.7 * a_{Hk}) - 0.29] / 0.24$$

a_{Hk} = horizontal acceleration (g)

The expected ground accelerations at the Campus was evaluated with FRISKSP software (Blake 2000b), using the Sadigh et al. (1997) attenuation relationship for deep soils and the calculated distances between the Campus and the regional faults. FRISKSP estimated the Upper Bound Earthquake (UBE) acceleration at the Campus at approximately 0.51 g. The UBE has a 949-year return period (equivalent to a 10% chance of exceedance in 100 years). FRISKSP estimated the Design Basis Earthquake (DBE) acceleration for the Campus at approximately 0.43 g. The DBE has a 475-year return period (equivalent to a 10% chance of exceedance in 50 years).

Using the Boore et al. (1997) attenuation relationship for stiff (NEHRP Type D) soil, the UBE was calculated to be 0.64 g and the DBE was calculated to be 0.53 g.

Using the Abrahamson and Silva (1997) attenuation relationship for soil, the UBE was calculated to be 0.54 and the DBE was calculated to be 0.45 g.

The CGS on-line probabilistic seismic hazard assessment (PSHA) website estimated the peak ground acceleration for the Campus at 0.45 g for alluvium (CGS 2006). The 0.45 g result generated by FRISKSP for the DBE using the Abrahamson and Silva (1997) attenuation relationship appears to be reasonably consistent with the 0.45 g result generated by the CGS probabilistic hazard model. Hence, LFR recommends using 0.54 g as the UBE and 0.45 g for the DBE for the Pittsburg High School.

4.3.2 Other Faults

Historically, it has been theorized that an active thrust fault, the "Pittsburg Fault," could exist beneath the downtown Pittsburg area. This possible fault was mapped by the City of Pittsburg (2004, fig. 10-2, table 10-1). Its southern terminus was thought to lie near the intersection of Harbor and East 14th Streets, adjacent to the northeastern corner of the Campus.

However, current evidence suggests that the "Pittsburg Fault" is non-existent. Neither the California Geological Survey (2007) nor the U.S. Geological Survey (2006) has included the "Pittsburg Fault" in their current catalogs of active faults. Furthermore, the City of Pittsburg (2007, p. 4) recently reported that:

"Exploratory trenching done in conjunction with the City of Pittsburg, California Division of Mines and Geology, and United States Geological Survey did not result in the discovery of any definitive evidence to support the presence of this theorized fault line."

In light of this evidence, the City of Pittsburg (2007, p. 10) resolved to remove all references to the "Pittsburg Fault" from the General Plan.

4.4 Ground Rupture Potential

The Campus is not located within an Alquist-Priolo Earthquake Fault Zone. There are no known active faults, and therefore no Alquist-Priolo Zones, within 8.0 miles of the Campus (Table 1). The nearest Alquist-Priolo Zone is located in the City of Concord, approximately 8.8 miles west of the Campus (California Division of Mines and Geology [DMG] 2000a).

Based on these points, there does not appear to be a significant risk of surface rupture during the expected service life of the proposed school buildings.

4.5 Liquefaction Potential

Given that the groundwater is present more than 40 feet bgs and that the subsurface soils consist almost entirely of stiff clays and silts, liquefaction settlements for the Campus are estimated to be negligible.

The "liquefaction susceptibility" in the Campus area has been mapped as "low" by the U.S. Geological Survey (Witter et al. 2006). This mapping effort supercedes the preliminary maps published earlier by Knudsen et al. (2000).

The California Geological Survey also maps areas of potential liquefaction risk, as part of the Seismic Hazards Zonation Program. However, this program has not addressed the Campus area.

4.6 Landslide Potential

The Campus area is essentially flat (Figure 3). Given the lack of relief, no significant landslide risk exists.

The City of Pittsburg (2004, fig. 10-1) mapped local slope hazard areas. No areas of steep or unstable slopes were mapped in the Campus vicinity.

The California Geological Survey maps areas of potential landslide risk, as part of the Seismic Hazards Zonation Program. However, this program has not addressed the Campus area.

4.7 Flood Inundation Potential

4.7.1 Flood Zonation

The local Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FEMA 2001) indicates that the Campus is not located within a 100-year flood zone. The Campus has been mapped in "Zone X" which represents "Areas determined

to be outside the 500-Year floodplain". The nearest 100-year flood zones are associated with Kirker Creek, and are located approximately 0.4 mile to the southeast.

4.7.2 Dam Inundation

There are no significant dams or reservoirs in the Kirker Creek watershed, which includes the Campus. Neither the Association of Bay Area Governments (ABAG 2003) nor the City of Pittsburg (2004) has recognized any dam inundation zones within the City of Pittsburg.

The nearest dams are the Contra Loma dam (approximately 4.2 miles southeast of the Campus) and the Antioch Dam (approximately 4.8 miles southeast of the Campus). The closest parts of the inundation zones associated with these dams are located approximately 3 miles east of the Campus (ABAG 2003).

4.8 Pipeline Risk Analysis

A Stage 1 Pipeline Risk Screening Analysis was conducted for the Site. The results are summarized in the Pipeline Certification Questionnaire (Appendix C), and are outlined in more detail below.

There are seven water pipelines with diameters 12 inches or greater within 1500 feet of the school. Five of the water pipelines could be screened out in a Phase 1 Pipeline Risk Assessment as they were too far away from the school and did not have a big enough diameter to pose a significant hazard to the school population.

There are eight hazardous materials pipelines within 1500 feet of the school. None of these pipelines could be screened out in a Phase 1 Pipeline Risk Assessment.

No active aboveground water tanks or fuel storage tanks were observed within 1,500 feet of the Site.

4.9 Land Subsidence

Subsidence is a significant issue in parts of Contra Costa County, but it is primarily associated with the oxidation of peaty alluvium in the Sacramento Delta area. This issue affects islands within the Delta, or coastal marsh areas adjacent to the Delta (Contra Costa County 2005).

Subsidence was not recognized as a significant planning issue by the City of Pittsburg (2004). The Campus is located approximately 1 mile from the coast, and does not appear to be underlain by peaty soils (Section 4.1.3).

4.10 Naturally Occurring Asbestos

Graymer et al. (1994) mapped zones of serpentinite and diabase on the northern side of Mount Diablo, approximately 7.5 miles south of the Campus. The serpentinite zone was subsequently identified as an area "more likely to obtain naturally occurring asbestos" by CDMG (2000b).

However, the Campus would not likely be significantly affected by any naturally occurring asbestos in the Mount Diablo area. The northern side of Mount Diablo is located within the watershed of Mount Diablo Creek. This watershed runs northwest through the Concord area, and ultimately drains to Suisun Bay near Point Edith, approximately 10 miles west of the Campus.

The Campus is separated from the Mount Diablo Creek watershed by a range of unnamed hills located to the south of the City of Pittsburg. The Campus is located within the Kirker Creek watershed, which drains the northern side of these hills. Graymer et al. (1994) did not map serpentinite, other ultramafic rocks, or mafic rocks within the Kirker Creek watershed.

In summary, serpentinite zones have been mapped approximately 7.5 miles south of the Campus. However, any naturally occurring asbestos within these zones would not affect the Campus, because they are located within a watershed that drains in a different direction. The Campus is located within a separate watershed that is not known to contain serpentinite, other ultramafic rocks, or mafic rocks.

4.12 Other Hazards

Certain other potential geologic hazards, including tsunamis, seiches, naturally occurring radon, and oil and gas fields, do not appear to pose significant risks at the Campus, for the reasons discussed briefly below.

- **Tsunamis and Seiches.** Historic Bay Area tsunami data (Contra Costa County, 2005, p. 30) indicate a systematic diminishment of wave height from the Golden Gate to about half that height on the shoreline near Richmond, and to nil at the head of the Carquinez Strait. Thus, the tsunami damage potential at this location does not pose an appreciable risk. Seiches do not pose an appreciable risk given the absence of nearby surface water bodies.
- **Naturally Occurring Radon.** Contra Costa County is considered to have a "moderate potential" for elevated indoor radon concentrations by the U.S. Environmental Protection Agency (USEPA 2006). Most counties in California share this classification.

Elevated radon concentrations may be associated with Miocene marine sedimentary rocks; such rocks which occur widely in parts of Contra Costa County (CGS 2003, fig. 2), including the hills that border the City of Pittsburg to the south. However, such rocks are not exposed in the Campus area (Figure 4).

The California Department of Health Services (DHS; 2007) maintains a database of radon measurements in California, based on zip code. Only three elevated radon results (greater than or equal to 4.0 picoCuries per liter) have been reported in 22 measurements from the 94565 (Pittsburg) zip code, which includes the Campus.

- **Oil and Gas Fields.** The Campus is not located within an oil or gas field, as recognized by the California Department of Oil, Gas, and Geothermal Resources (DOGGR 2005). Several wells have been drilled in the Pittsburg area, but all were dry holes, and they have been plugged and abandoned. The nearest dry hole was approximately 1.2 miles north-northeast of the Campus.

The closest historical field was the abandoned Mulligan Hill Gas Field, located approximately 4.5 miles southwest of the Campus. The closest active field is the Los Medanos Gas Field, located approximately 5 miles west of the Campus (DOGGR 2005).

5.0 CONCLUSIONS

The conclusions reached by LFR are based on the published data reviewed for this geologic hazards evaluation. Our findings are summarized below.

- The Campus is not located within or near an Alquist Priolo Special Studies Earthquake Fault Zone. Surface rupture should not reasonably be expected during the life of the proposed school buildings.
- The Campus is not located within the 100-year flood zone. The nearest such zone lies approximately 0.4 mile southeast of the Campus.
- Liquefaction is not considered to be likely for the Campus. As liquefaction is unlikely, lateral spread is also unlikely to affect the Campus.
- Ultramafic rocks have been mapped approximately 7.5 miles south of the Campus. However, these rocks are located in a different watershed, which drains away from the Campus.
- There are two water pipelines and eight hazardous materials pipelines within 1500 feet of the Campus which should be assessed in a Stage 2/3 Pipeline Risk Assessment to quantify the hazard they pose to the school population.

Based on the above findings, it is LFR's opinion that the Campus is suitable for the proposed school development.

6.0 REFERENCES

- ABAG. 2003. Bay Area Dam Failure Inundation Maps from ABAG;
<http://www.abag.ca.gov/bayarea/eqmaps/damfailure/dfpickc.html>.
- Abrahamson, N. A., and Silva, W., 1997. Empirical response spectral attenuation relations for shallow crustal earthquakes, *Seismol. Res. Lett.* 68, 94-127.
- Blake, Thomas F. 2000a. EQFAULT: A Computer Program for the Estimation of Peak Horizontal Acceleration from 3-D Fault Sources. Thomas F. Blake Computer Services & Software. April.
- , 2000b. FRISKSP: A Computer Program for the Probabilistic Estimation of Peak Acceleration and Uniform Hazard Spectra Using 3-D Faults as Earthquake Sources. Thomas F. Blake Computer Services & Software. April.
- , 2000c. EQSEARCH for Windows Version 3.00b. Thomas F. Blake Computer Services & Software.
- Boore, D.M., W.B. Joyner, and T.E. Fumal. 1997. Equations for Estimating Horizontal Response Spectra and Peak Acceleration from Western North American Earthquakes: A Summary of Recent Work. *Seismological Research Letters*. Vol. 68, No. 1, pp. 128-153.
- Bryant, W. A. (compiler). 2005. Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, Version 2.0. California Geological Survey.
http://www.consrv.ca.gov/CGS/information/publications/QuaternaryFaults_v2er2.
- California Department of Health Services (DHS). 2007. California Indoor Radon Measurements Sorted by Zip Code. July 9.
<http://www.dhs.ca.gov/radon/PDFs/California%20Radon%20Data%20base.pdf>
- California Department of Oil, Gas, and Geothermal Resources (DOGGR). 2005. California Digital Map Data. CD-2. January 6.
- California Department of Toxic Substances Control (DTSC). 2004. Interim Guidance, Naturally-Occurring Asbestos (NOA) at School Sites. September 24.
http://www.dtsc.ca.gov/Schools/upload/SMBRP_POL_Guidance_Schools_NOA.pdf
- California Department of Water Resources (CDWR). 2006. Pittsburg Plain Groundwater Basin, Groundwater Basin Number 2-4. California's Groundwater, Bulletin 118. January 20.
http://www.dplw2.water.ca.gov/publications/groundwater/bulletin118/basins/pdfs_desc/2-4.pdf
- California Division of Mines and Geology. 2000a. Digital Images of Official Maps of Alquist-Priolo Earthquake Fault Zones of California, Central Coastal Region. CD 2000-004.
- , 2000b. A General Location Guide For Ultramafic Rocks In California - Areas More Likely To Contain Naturally Occurring Asbestos. California Division of Mines and Geology, Open-File Report 2000-19. August.
ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf
- California Geological Survey (CGS). 2002. California Geomorphic Provinces. Note 36.
http://www.consrv.ca.gov/cgs/information/publications/cgs_notes/note_36/note_36.pdf
- , 2003. Geologic Controls on the Distribution of Radon in California. Report prepared for the California Department of Health Services. December.
http://www.consrv.ca.gov/cgs/minerals/hazardous_minerals/radon/Geo_Controls_Dist_Radon.pdf
- , 2006. Seismic Shaking Hazards in California Based on the USGS/CGS Probabilistic Seismic Hazards Assessment (PSHA) Model, 2002 (revised April 2003). May 1.
<http://www.consrv.ca.gov/CGS/rghm/pshamap/pshamain.html>
- , 2007. Interactive Fault Parameter Map of California.
http://www.consrv.ca.gov/CGS/rghm/psha/fault_parameters/htm/index.htm
- Cao, T., W. A. Bryant, B. Rowshandel, D. Branum, and C.J. Wills. 2003. The Revised 2002 California Probabilistic Seismic Hazard Maps, June 2003. California Geological Survey.
http://www.consrv.ca.gov/cgs/rghm/psha/fault_parameters/pdf/2002_CA_Hazard_Maps.pdf
- City of Pittsburg. 2004. City of Pittsburg General Plan. Pittsburg 2020: A Vision for the 21st Century. Part 10: Health and Safety.
http://www.ci.pittsburg.ca.us/NR/rdonlyres/EEB69FA8-C411-4AB3-8E9F-973E090A6DE4/0/10_HealthSafety.pdf

-----, 2007. Resolution Amending the Land Use, Downtown, Open Space & Youth & Recreation, Health & Safety, and Housing Elements of the General Plan in Conjunction with Phase II of the Comprehensive Zoning Code Update. City Council Resolution No. 07-10779. May 21.

Contra Costa County. 2005. Contra Costa County General Plan 2005-2020, Safety Element. January 2005.

Federal Emergency Management Agency (FEMA). 2001. National Flood Insurance Program. Flood Insurance Rate Map, City of Pittsburg, California. Community-Panel Number 060033 0004 E. September 7.

Graymer, R. W., D.L. Jones, and E.E. Brabb. 1994. Preliminary Geologic Map Emphasizing Bedrock Formations in Contra Costa County, California; A Digital Database. U.S. Geological Survey, Open-File Report 94-622. <http://pubs.er.usgs.gov/usgspubs/ofr/ofr94622>

Helley, E.J. and R.W. Graymer. 1997. Quaternary Geology of Contra Costa County, and Surrounding Parts of Alameda, Marin, Sonoma, Solano, Sacramento, and San Joaquin Counties, California: A Digital Database. U.S. Geological Survey, Open File Report 97-98. <http://pubs.er.usgs.gov/usgspubs/ofr/ofr9798>

Knudsen, K.L., J.M. Sowers, R.C. Witter, C.M. Wentworth, E.J. Helley, R.S. Nicolson, H.M. Wright, and K.H. Brown. 2000. Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California: A Digital Database. U.S. Geological Survey, Open-File Report 2000-444. <http://pubs.er.usgs.gov/usgspubs/ofr/ofr00444>

LFR Inc. 2007. Geotechnical Design Report, Pittsburg High School.

Murphy, J.R. and L.J. O'Brian. 1978. Analysis of Worldwide Strong Motion Data Sample to Develop an Improved Correlation Between Peak Acceleration, Seismic Intensity, and other Physical Parameters, US Nuclear Regulatory Commission, NUREG-0402.

National Resources Conservation Service (NRCS). 1997. Official Series Description: Antioch Series. March. <http://www2.ftw.nrcs.usda.gov/osd/dat/A/ANTIOCH.html>

-----, 2006. Official Series Description: Capay Series. May. <http://www2.ftw.nrcs.usda.gov/osd/dat/C/CAPAY.html>

-----, 2007. Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Petersen, M.D., W.A. Bryant, C.H. Cramer, T. Cao, and M. Reichle. 1996. Probabilistic Seismic Hazard Assessment for the State of California. California Division of Mines and Geology, Open-File Report 96-08; U.S. Geological Survey, Open-File Report 96-706.

Sadigh, K., Chang, C. Y., Egan, J. A., Makdisi, F., and Youngs, R. R., 1997. Attenuation relationships for shallow crustal earthquakes based on California strong motion data, Seismol. Res. Lett. 68, 180-189.

Sowers, J.M., Noller, J.S., and J.R. Unruh. 1992. Quaternary deformation and blind-thrust faulting on the east flank of the Diablo Range near Tracy, California. In: Proceedings of the Second Conference on Earthquake Hazards in the Eastern San Francisco Bay Area. Borchardt, G., Hirschfeld, S. E., Lienkaemper, J. J., McClellan, P., Williams, P. L. and I.G. Wong (eds.). California Department of Conservation, Division of Mines and Geology. p. 377-383.

Terzaghi, K. and R. Peck. 1967. Soil Mechanics in Engineering Practice. John Wiley and Sons. New York, New York.

United States Environmental Protection Agency (USEPA). 2007. EPA Map of Radon Zones, California. March 19. <http://www.epa.gov/radon/zonemap/california.htm>

United States Geological Survey. 1953. Honker Bay 7.5-Minute Series Topographic Map. Photorevised 1980.

-----, 2006. Quaternary Fault and Fold Database of the United States. <http://earthquake.usgs.gov/regional/qfaults/>

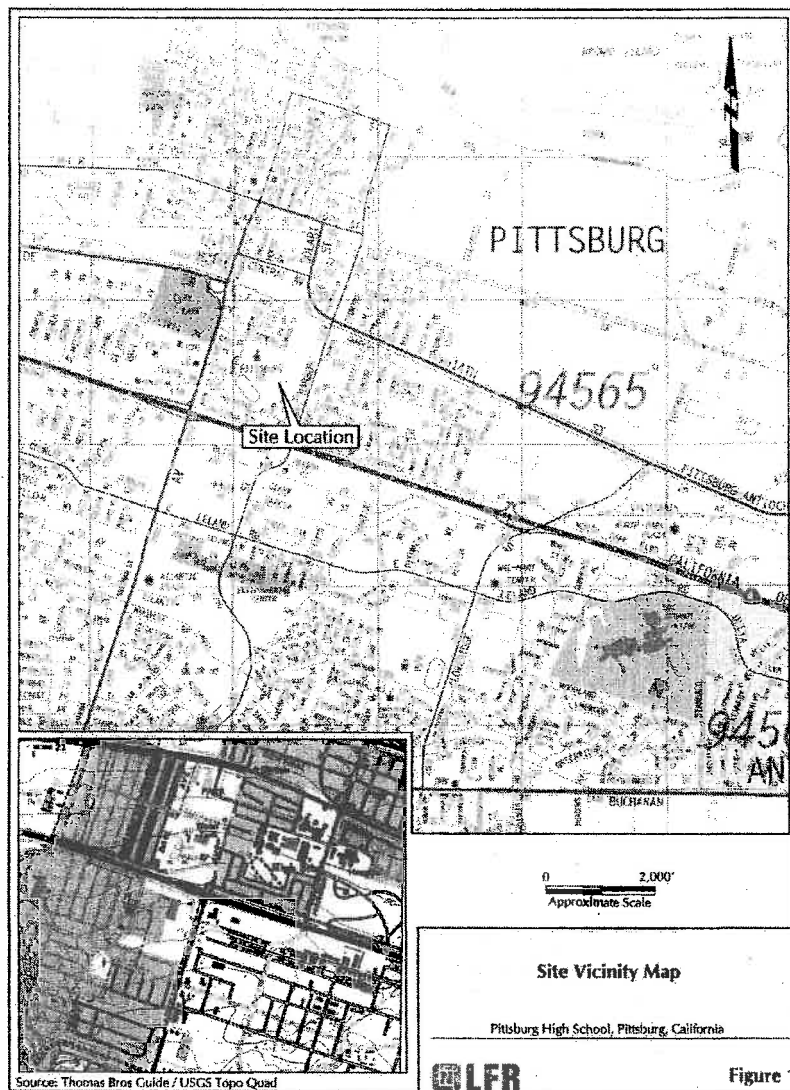
-----, 2007. Ground-water levels for the Nation. USGS 380107121530201 002N001E17K001M. http://nwis.waterdata.usgs.gov/nwis/gwlevels/?site_no=380107121530201&mp

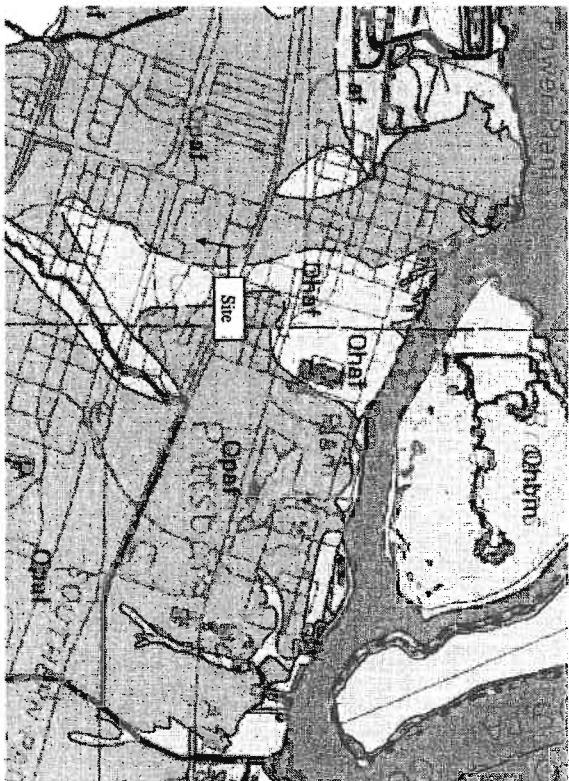
Unruh and Moores. 1992. Quaternary blind thrusting in the southwestern Sacramento Valley, California. Tectonics. 11: 192-2033.

Williamson, A.K., D.E. Prudic, and L.A. Swain. Ground-Water Flow in the Central Valley, California. U.S. Geological Survey, Professional Paper, 1401-D. <http://pubs.er.usgs.gov/usgspubs/pp/pp1401D>

Witter, R.C., K.L. Knudsen, J.M. Sowers, C.M. Wentworth, R.D. Koehler, C.E. Randolph, S.K. Brooks, and K.D. Gaus. 2006. Maps of quaternary deposits and liquefaction susceptibility in the central San Francisco Bay region, California. U.S. Geological Survey, Open-File Report, 2006-1037. <http://pubs.er.usgs.gov/usgspubs/ofr/ofr20061037>

Wong, I. G., Ely, R. W., and Kollmann, A.C. 1988. Contemporary seismicity and tectonics of the Northern and Central Coast Ranges-Sierran Block Boundary zone, California. *Journal of Geophysical Research*. 93:7,813-7,833.





Alluvial Fans and Fluvial Deposits (Pleistocene)—Brown dense gravelly and clayey sand or clayey gravel that fines upward to sandy clay. These deposits display various sorting and are located along most stream channels in the county. All Opal deposits can be related to modern stream courses. They are distinguished from younger alluvial fans and fluvial deposits by higher topographic position, greater degree of dissection, and stronger soil profile development. They are less permeable than Holocene deposits and locally contain fresh water mollusks and extinct late Pleistocene vertebrate fossils. They are overlain by Holocene deposits on lower parts of the alluvial plain, and incised by channels that are partly filled with Holocene alluvium on higher parts of the alluvial plain. Maximum thickness is unknown but at least 50 m.

Geological Map

Pittsburg High School, Pittsburg, California

DLFR

Figure 4

Helley and Grayner 1997

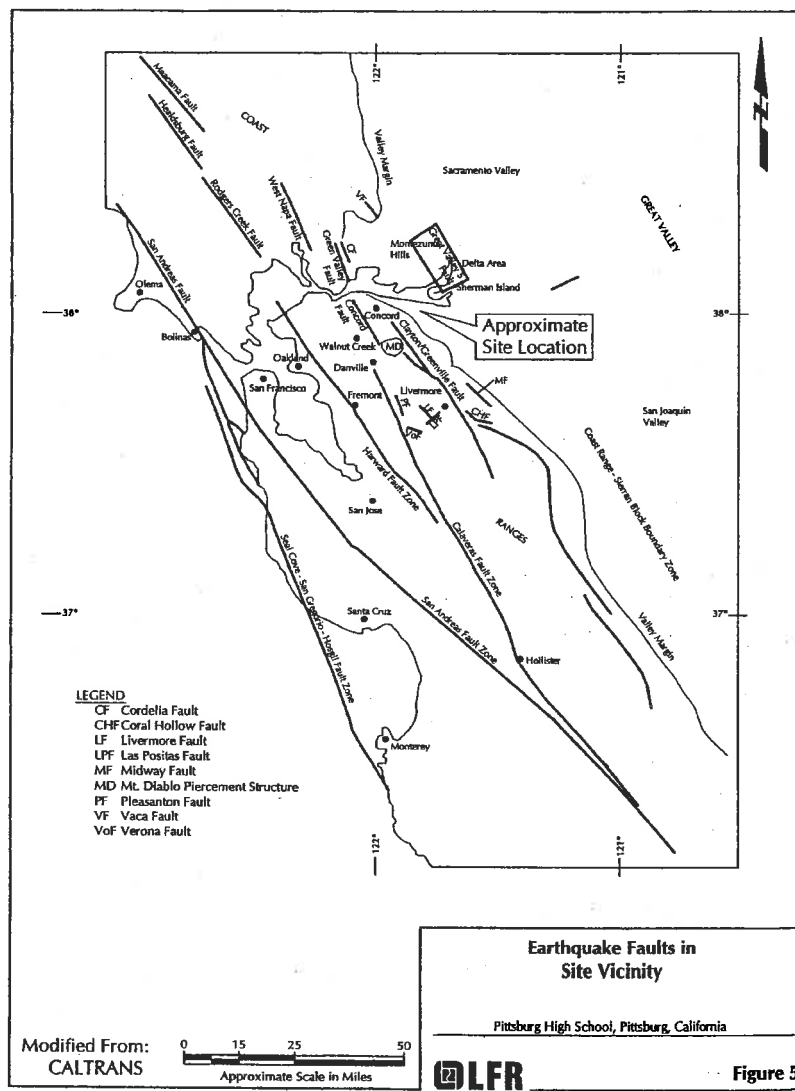


Figure 5

Table 1
Known Active Earthquake Faults within 30 Miles of the Campus
Pittsburg High School
Pittsburg, California

Approximate Fault Name	Approx. Distance mi. (km)	Maximum Earthquake Mag. (Mw)	Peak Ground Accel. (g)	Peak Site Intensity Modified Mercalli
GREAT VALLEY 5	6.5 (10.4)	6.5	0.55	X
CONCORD/GV (FLOATING)	8.8 (14.2)	6.2	0.292	IX
CONCORD/GV (CON)	8.8 (14.2)	6.3	0.301	IX
CONCORD/GV (CON+GVS+GVN)	8.8 (14.2)	6.7	0.365	IX
CONCORD/GV (CON+GVS)	8.8 (14.2)	6.6	0.352	IX
GREENVILLE (GN)	9.7 (15.6)	6.7	0.336	IX
CONCORD/GV (GVS+GVN)	10.6 (17.1)	6.5	0.293	IX
CONCORD/GV (GVS)	10.6 (17.1)	6.2	0.256	IX
MOUNT DIABLO (MTD)	11.9 (19.1)	6.7	0.365	IX
CALAVERAS (CS+CC+CN)	15.5 (25.0)	6.9	0.248	IX
CALAVERAS (CC+CN)	15.5 (25.0)	6.2	0.177	VIII
CALAVERAS (FLOATING)	15.5 (25.0)	6.2	0.174	VIII
CALAVERAS (CN)	15.5 (25.0)	6.8	0.235	IX
GREAT VALLEY 4	19.1 (30.8)	6.6	0.227	IX
CONCORD/GV (GVN)	21.9 (35.2)	6	0.105	VII
WEST NAPA	22.1 (35.6)	6.5	0.143	VIII
HAYWARD (FLOATING)	22.3 (35.9)	6.9	0.172	VIII
HAYWARD (HN+RC)	22.3 (35.9)	7.1	0.193	VIII
HAYWARD (HN)	22.3 (35.9)	6.5	0.141	VIII
HAYWARD (HS+HN)	22.3 (35.9)	6.9	0.173	VIII
HAYWARD (HS+HN+RC)	22.3 (35.9)	7.3	0.21	VIII
HAYWARD (HS)	22.3 (35.9)	6.7	0.155	VIII
GREENVILLE (GS)	25.9 (41.7)	6.6	0.126	VIII
GREENVILLE (GS+GN)	25.9 (41.7)	6.9	0.15	VIII
GREENVILLE (FLOATING)	25.9 (41.7)	6.2	0.097	VII
GREAT VALLEY 7	28.0 (45.1)	6.7	0.155	VIII
HAYWARD (RC)	30.4 (48.9)	7	0.129	VIII

Table 2
Applicable Portions of Modified Mercalli Intensity Scale
Pittsburg High School
Pittsburg, California

Intensity	Shaking	Summary	Description
VII	Strong	Nonstructural Damage	Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and architectural ornaments). Some cracks in masonry C. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.
VIII	Very Strong	Moderate Damage	Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.
IX	Violent	Heavy Damage	General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations.) Frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluvial areas sand and mud ejected, earthquake fountains, sand craters.
X	Very Violent	Extreme Damage	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.

Masonry A: Good workmanship, mortar, and design; reinforced, especially laterally, and bound together by using steel, concrete, etc.; designed to resist lateral forces.

Masonry B: Good workmanship and mortar; reinforced, but not designed in detail to resist lateral forces.

Masonry C: Ordinary workmanship and mortar; no extreme weaknesses like failing to tie in at corners, but neither reinforced nor designed against horizontal forces.

Masonry D: Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.

Table 3
Peak Ground Accelerations
Pittsburg High School
Pittsburg, California

Attenuation Relationship	0.1 Hz	0.2 Hz	0.5 Hz
Boore et al. (1997)	.53	.64	.81
Abrahamson & Silva (1997)	.45	.54	.68
Sadigh et al. (1997)	.43	.51	.63
Average	.47	.56	.71
CGS Web Site	0.45		

Table 4
Historical Earthquakes in Campus Vicinity Magnitude > 6
Pittsburg High School
Pittsburg, California

Latitude	Longitude	Date	Magnitude	PGA (g)	MM	Distance (miles/km)
36.9	121.6	04/24/1890	6	0.016	IV	78.8 (126.8)
38	121.9	05/19/1889	6	0.359	IX	1.6 (2.6)
37.5	121.9	11/26/1858	6.1	0.043	VI	35.8 (57.7)
38.5	121.9	04/21/1892	6.2	0.051	VI	33.2 (53.5)
37	121.5	06/20/1897	6.2	0.022	IV	73.4 (118.1)
37.32	121.698	4/24/1984	6.2	0.034	V	49.3 (79.3)
38.2	122.4	03/31/1898	6.2	0.055	VI	30.7 (49.5)
37.8	122.5	06/21/1808	6.3	0.051	VI	36.9 (59.3)
37.3	121.9	10/08/1865	6.3	0.038	V	49.6 (79.9)
38.4	122	04/19/1892	6.4	0.076	VII	27.1 (43.6)
37.25	121.75	7/1/1911	6.6	0.044	VI	53.6 (86.2)
37.7	122.1	10/21/1868	6.8	0.097	VII	25.0 (40.2)
37.6	122.2	06/10/1836	6.8	0.104	VII	23.0 (36.9)
37.6	122.4	06/01/1838	7	0.069	VI	40.4 (65.0)
37.036	121.883	10/18/1989	7	0.044	VI	67.9 (109.2)
36.83	121.57	10/18/1800	7	0.036	V	83.9 (134.9)
37.7	122.5	4/18/1906	8.25	0.125	VII	40.2 (64.7)

Notes: Source: Blake 2000c

Latitude and Longitude are the locations of the assumed epicenters

MM – Mercalli Magnitude (please see Table 2)

Acceleration is the mean expected acceleration using the Abrahamson & Silva (1997) attenuation relationship.

APPENDIX A

Soil Properties

MAP LEGEND

Soil Map Units

Circle
Detailed Contouring
Distance States
Intermittent Highways
Rivers
Rails
Water
Hydrography
Oceans
AT&T Equipment, land bank
Equipment, land bank
Intermittent
Larva
Slope
Borrow Pit
Clay Spot
Depression, dried
Eroded Soil
Gravel Pit
Gravelly Spot
Gravelly
Lava Flow
Landfill
Marsh or Swamp
Miscellaneous Water
Rock Outcrop
Saline Area
Sandy Area
Spot or Slip
Gravel
Sandy Spot
Spot Area
Gravel Spot
Permanent Water

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 10
Soil Survey Area: Contra Costa County, California
Spatial Version of Data: 1
Soil Map Compilation Scale: 1:24000

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor drifting of map unit boundaries may be evident.

Map comprised of aerial images photographed on these dates:
6/12/1993; 6/16/1993; 7/11/1993

Web Soil Survey 1.1
Natural Resources Conservation Service

12296

Map Unit Legend Summary

Contra Costa County, California

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ADA	ANTIOCH 1/4M, 0 TO 2 PERCENT SLOPES	92.7	23.4
CAV	CAPAY CLAY, 0 TO 2 PERCENT SLOPES	4.1	1.0
CAC	CAPAY CLAY, 2 TO 9 PERCENT SLOPES	142.8	35.9
RBA	RINCON CLAY LOAM, 0 TO 2 PERCENT SLOPES	0.3	0.1
RBC	RINCON CLAY LOAM, 2 TO 9 PERCENT SLOPES	156.2	39.5

Engineering Properties

Contra Costa County, California

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--					Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200			
ADA:													
ANTIOCH	0-17	Loam	ML	A-4, A-6	0	0	100	100	85-95	60-75	30-40	5-16	
	17-36	Clay	CL	A-7	0	0	100	100	90-100	80-90	40-50	25-30	
	36-60	Stratified loam to clay loam	CL, ML	A-4, A-6	0	0	100	100	85-95	60-80	25-36	5-16	
CAV:													
CAPAY	0-36	Clay	CL	A-7	0	0	100	100	90-100	85-95	40-50	25-30	
	36-61	Clay, Clay loam, Silty clay loam	CL	A-7	0	0	100	100	90-100	70-95	30-50	10-30	
	51-72	Clay, Silty clay loam, Sandy loam	CL	A-7	0	0	100	100	90-100	70-95	20-50	10-30	
CAC:													
Capay	0-36	Clay	CL	A-7	0	0	100	100	90-100	85-95	40-50	25-30	
	36-61	Clay, Clay loam, Silty clay loam	CL	A-7	0	0	100	100	90-100	70-95	30-50	10-30	
	51-72	Clay, Clay loam, Silty clay loam	CL	A-7	0	0	100	100	90-100	70-96	30-50	10-30	
RBA:													
RINCON	0-12	Clay loam	CL	A-6	0	0	100	95-100	90-100	80-90	30-40	10-20	
	12-28	Clay, Clay loam	CH, CL	A-6, A-7	0	0	100	95-100	90-100	75-90	40-50	20-35	
	29-60	Clay loam, Loam, Silty clay loam	CL, SC	A-6	0	0	90-100	85-100	80-90	35-70	25-40	10-20	

Engineering Properties

Contra Costa County, California

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--					Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200			
RBC:	In				Pct	Pct					Pct		
RIMCON	0-12 12-29 29-60	Clay loam Clay, Clay loam, Sandy clay Clay loam, Loam, Silty clay loam	CL CH CL	A-6 A-6 A-7	0 0 0	0 0 0	100 100 90-100	95-100 95-100 90-100	80-90 75-90 80-90	60-90 40-60 35-70	30-40 40-60 25-40	10-20 20-35 10-20	

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

"Depth" to the upper and lower boundaries of each layer is indicated.

"Texture" is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 29 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

"Classification" of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is divided into one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (fill and clay). All the other eleven soils in group A-7 are fine grained. Eight organic soils are classified in group A-3 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

"Rock fragment" larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

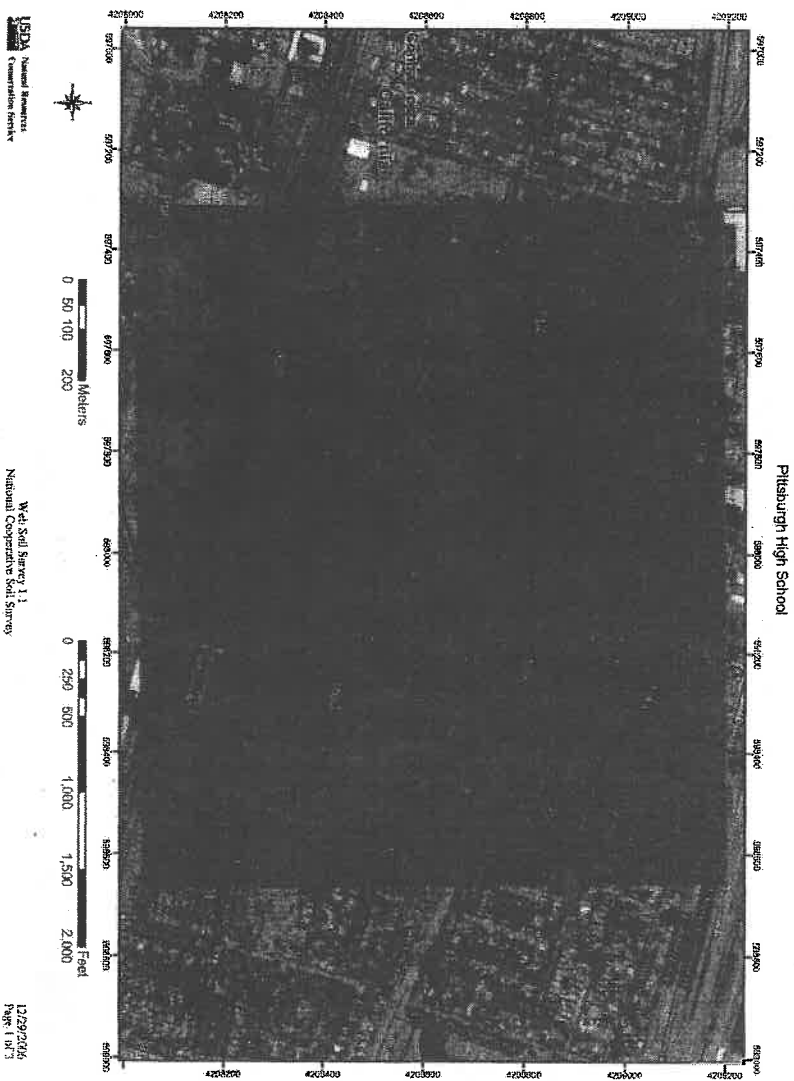
"Percentage (of soil particles) passing designated sieves" is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Sieves), have openings of 4.75, 2.00, 0.425, and 0.075 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

"Liquid limit" and "plasticity index" (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing, 24th edition. American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes, ASTM Standard D2487-00.

CORROSION OF STEEL RATING FOR CONTRA COSTA COUNTY, CALIFORNIA



CORROSION OF STEEL RATING FOR CONTRA COSTA COUNTY, CALIFORNIA

Pittsburgh High School

MAP LEGEND

- Corrosion of Steel
(Dominant Condition, Agr.)**
- High
 - Medium
 - Low
 - Not rated or not available
- Soil Map Units**
- Cities
 - Detailed Counties
 - Detailed States
 - Interstate Highways
 - Roads
 - Rails
 - Water
 - Hydrography
 - Oceans

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey/nrcs.usda.gov>
Coordinate System: UTM Zone 10
Soil Survey Area: Contra Costa County, California
Spatial Version of Data: 1
Soil Map Compilation Scale: 1:24,000

Map comprised of aerial images photographed on these dates:
6/12/1993; 6/16/1993; 7/11/1993

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables - Corrosion of Steel

Summary by Map Unit - Contra Costa County, California

Soil Survey Area Map Unit Symbol	Map Unit Name	Rating	Total Acres in AOI	Percent of AOI
AdA	ANTIOCH LOAM, 0 TO 2 PERCENT SLOPES	High	92.7	23.4
CaA	CAPAY CLAY, 0 TO 2 PERCENT SLOPES	High	4.1	1.0
CaC	CAPAY CLAY, 2 TO 9 PERCENT SLOPES	High	142.0	35.9
RhA	RINCON CLAY LOAM, 0 TO 2 PERCENT SLOPES	High	0.3	0.1
RbC	RINCON CLAY LOAM, 2 TO 9 PERCENT SLOPES	High	156.2	39.3

Description - Corrosion of Steel

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "Low," "Moderate," or "High."

Parameter Summary - Corrosion of Steel

Aggregation Method: Dominant Condition

Component Percent Cutoff:

Tie-break Rule: Higher

APPENDIX B

FRISKSP Seismic Hazard Output


```

*****
*
*      FRISKPF - IBM-PC VERSION
*
*
*   Modified from "FRISK" (McGuire 1978)
*   To Perform Probabilistic Earthquake
*   Hazard Analyses Using Multiple Forms
*   of Ground-Motion-Attenuation Relations
*
*
*   Modifications by: Thomas F. Blake
*   - 1998-2000 -
*
*      VERSION 4.00
*      (Visual Fortran)
*
*****

```

TITLE: Pittsburg High School

IPR_FILE

0

IPLOT

0

SITE CONDITION

0.00

BASEMENT DEPTH (km)

5.00

MHA FACTOR RHA DIST (km)

1.000 0.000

NFLT NSITE NPROB NATT LCD

51 1 2 6 1

ATT C1 C2 C3 C4 C5 C6 C7 C8 C9 C10

C11 C12 C13 C14

1 -2.1700 1.0000 1.7000 0.0000 0.0000 0.0000 0.0000 1.5200 0.1600 0.0000

0.0000 0.0000 0.0000 0.0000

ATT C15 C16 C17 C18 C19 C20 C21 C22 C23 PER

DSMIN SIGA IRELAF ICHK

1 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

0.0000 1.0000 25 0

ATT C1 C2 C3 C4 C5 C6 C7 C8 C9 C10

C11 C12 C13 C14

2 -1.9200 1.0000 1.7000 0.0000 0.0000 0.0000 0.0000 1.5200 0.1600 0.0000

0.0000 0.0000 0.0000 0.0000

ATT C15 C16 C17 C18 C19 C20 C21 C22 C23 PER

DSMIN SIGA IRELAF ICHK

2 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

0.0000 1.0000 25 0

ATT C1 C2 C3 C4 C5 C6 C7 C8 C9 C10

C11 C12 C13 C14

```

3 -2.1700 1.0000 1.7000 0.0000 0.0000 0.0000 0.0000 1.5200 0.1600 0.0000
0.0000 0.0000 0.0000 0.0000
ATT C15 C16 C17 C18 C19 C20 C21 C22 C23 PER
DSMIN SIGA IRELAF ICHK
3 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 1.0000 25 0
ATT C1 C2 C3 C4 C5 C6 C7 C8 C9 C10
C11 C12 C13 C14
4 -1.9200 1.0000 1.7000 0.0000 0.0000 0.0000 0.0000 1.5200 0.1600 0.0000
0.0000 0.0000 0.0000 0.0000
ATT C15 C16 C17 C18 C19 C20 C21 C22 C23 PER
DSMIN SIGA IRELAF ICHK
4 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 1.0000 25 0
ATT C1 C2 C3 C4 C5 C6 C7 C8 C9 C10
C11 C12 C13 C14
5 -1.9200 1.0000 1.7000 0.0000 0.0000 0.0000 0.0000 1.5200 0.1600 0.0000
0.0000 0.0000 0.0000 0.0000
ATT C15 C16 C17 C18 C19 C20 C21 C22 C23 PER
DSMIN SIGA IRELAF ICHK
5 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 1.0000 25 0
ATT C1 C2 C3 C4 C5 C6 C7 C8 C9 C10
C11 C12 C13 C14
6 -1.9200 1.0000 1.7000 0.0000 0.0000 0.0000 0.0000 1.5200 0.1600 0.0000
0.0000 0.0000 0.0000 0.0000
ATT C15 C16 C17 C18 C19 C20 C21 C22 C23 PER
DSMIN SIGA IRELAF ICHK
6 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
0.0000 1.0000 25 0

```

PROBLEM DATA:

SADIGH ET AL. (1997) DEEP SOIL 1 AMPLITUDES:

```

15 0.100 0.200 0.300 0.400 0.500 0.600 0.700 0.800 0.900 1.000
1.100 1.200 1.300 1.400 1.500

```

MAGNITUDE WEIGHTING FACTORS: MWF: 0 MWF MAGNITUDE: 0.00

SADIGH ET AL. (1997) DEEP SOIL 2 AMPLITUDES:

```

15 0.100 0.200 0.300 0.400 0.500 0.600 0.700 0.800 0.900 1.000
1.100 1.200 1.300 1.400 1.500

```

MAGNITUDE WEIGHTING FACTORS: MWF: 0 MWF MAGNITUDE: 0.00

RISKS SPECIFIED:

```

5 0.013900 0.010000 0.005000 0.002105 0.001050

```

SITE COORDINATES:

```

1 -121.8828 38.0189

```

FAULT INFORMATION:

FAULT 1

FAULT NAME: GREAT VALLEY 5

NFP NRL ATTENUATION CODES:

```

2 10 2 4

```

```

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 1.5000 1.842 1.400 2.000 1.000

```

MAX AMMAX PMAX

```

1 6.50 1.00

```

dmchar ampchar dmpchar

```

0.50 6.00 1.00

```

Slip Rate (1.5000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.281E+13

LOG10(Mo(m)) = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE

```

1 6.5000 1.0000 0.00825 0.00394 0.00431

```

IND_RL

```

2

```

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

```

1 -121.8987 38.3033

```

```

2 -121.7483 38.0809

```

NDP

```

3

```

ORIGINAL FAULT CROSS SECTION

```

1 0.0000 6.9900

```

```

2 0.0000 7.0000

```

```

3 9.7000 9.6000

```

Computed Total Fault Area = 0.28E+03

FAULT 2

FAULT NAME: CONCORD/GV (CON)

NFP NRL ATTENUATION CODES:

```

2 10 1 3

```

```

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 4.0000 1.842 0.900 2.000 0.244

```

MAX AMMAX PMAX

```

1 6.25 1.00

```

dmchar ampchar dmpchar

```

0.50 5.75 1.00

```

Slip Rate (4.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.272E+13

LOG10(Mo(m)) = (1.50)m + (16.05)

IMAX	AMMAX	PMAX	ARATE = EX-RATE + CH-RATE		
1	6.2500	1.0000	0.03995	0.01355	0.02640

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.9896 37.9003

2 -122.0766 38.0389

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 0.0000 16.0000

Computed Total Fault Area = 0.28E+03

FAULT 3

FAULT NAME: CONCORD/GV (CON+GVS)

NFP NRL ATTENUATION CODES:

3 10 1 3

AMMIN	AMSTEP	IRATE	RATE	BETA	ECTR	ECDP	COEF
5.000	0.1000	1	4.5000	1.842	2.200	2.000	0.122

5.000 0.1000 1 4.5000 1.842 2.200 2.000 0.122

NMAX AMMAX PMAX

1 6.58 1.00

dnchar ampechar dmpchar

0.50 6.08 1.00

Slip Rate (4.5000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.622E+13

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX	AMMAX	PMAX	ARATE = EX-RATE + CH-RATE		
1	6.5800	1.0000	0.04533	0.02360	0.02173

1 6.5800 1.0000 0.04533 0.02360 0.02173

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.9896 37.9003

2 -122.0766 38.0389

3 -122.1459 38.2587

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 0.0000 15.0000

Computed Total Fault Area = 0.64E+03

FAULT 4

FAULT NAME: CONCORD/GV (FLOATING)

NFP NRL ATTENUATION CODES:

4 10 1 3

AMMIN	AMSTEP	IRATE	RATE	BETA	ECTR	ECDP	COEF
6.100	0.1000	1	4.7000	1.842	3.600	2.000	0.265

6.100 0.1000 1 4.7000 1.842 3.600 2.000 0.265

NMAX AMMAX PMAX

1 6.20 1.00

dnchar ampechar dmpchar

0.50 5.70 1.00

Slip Rate (4.7000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.818E+13

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX	AMMAX	PMAX	ARATE = EX-RATE + CH-RATE		
1	6.2000	1.0000	0.10094	-0.00995	0.11089

1 6.2000 1.0000 0.10094 -0.00995 0.11089

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.9896 37.9003

2 -122.0766 38.0389

3 -122.1459 38.2587

4 -122.1769 38.3825

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 0.0000 15.0000

Computed Total Fault Area = 0.85E+03

FAULT 5

FAULT NAME: CONCORD/GV (CON+GVS+GVN)

NFP NRL ATTENUATION CODES:

4 10 1 3

AMMIN	AMSTEP	IRATE	RATE	BETA	ECTR	ECDP	COEF
5.000	0.1000	1	4.7000	1.842	3.600	2.000	0.370

5.000 0.1000 1 4.7000 1.842 3.600 2.000 0.370

NMAX AMMAX PMAX

1 6.71 1.00

dnchar ampechar dmpchar

0.50 6.21 1.00

Slip Rate (4.7000 mm/yr) Converted to Activity Rate:

```

Input Shear Modulus = dyne/cm**2
0.330E+12
Input Fault Area = cm**2
0.818E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.7100 1.0000 0.04622 0.02717 0.01905

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.9896 37.9003
2 -122.0766 38.0389
3 -122.1459 38.2587
4 -122.1789 38.3825
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 15.0000
Computed Total Fault Area = 0.85E+03
-----
FAULT 6
FAULT NAME: GREENVILLE (GN)
NFP NRL ATTENUATION CODES:
4 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECOP COEF
5.000 0.1000 1 2.0000 1.842 1.400 2.000 0.350
NMAX AMMAX PMAX
1 6.66 1.00
dschar sepchar dspechar
0.50 6.15 1.00
Slip Rate ( 2.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus = dyne/cm**2
0.330E+12
Input Fault Area = cm**2
0.405E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.6600 1.0000 0.01090 0.00613 0.00477

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.8328 37.6839

```

```

2 -121.7630 37.7930
3 -121.6997 37.7219
4 -121.6647 37.6858
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 15.0000
Computed Total Fault Area = 0.40E+03
-----
FAULT 7
FAULT NAME: CONCORD/GV (GVS)
NFP NRL ATTENUATION CODES:
2 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECOP COEF
5.000 0.1000 1 5.0000 1.842 1.300 2.000 0.122
NMAX AMMAX PMAX
1 6.24 1.00
dschar sepchar dspechar
0.50 5.74 1.00
Slip Rate ( 5.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus = dyne/cm**2
0.330E+12
Input Fault Area = cm**2
0.350E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.2400 1.0000 0.06597 0.02200 0.04396

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.0766 38.0389
2 -122.1459 38.2587
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 14.0000
Computed Total Fault Area = 0.35E+03
-----
FAULT 8
FAULT NAME: CONCORD/GV (GVS+GVN)
NFP NRL ATTENUATION CODES:
3 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECOP COEF

```

5.000 0.1000 1 5.0000 1.842 2.700 2.000 0.122

NDAX AMAX PMAX

1 6.48 1.00

dschar ampchar dmpchar

0.50 5.98 1.00

Slip Rate (5.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.546E+13

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.4800 1.0000 0.05611 0.02618 0.02994

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.0766 38.0389

2 -122.1459 38.2587

3 -122.1789 38.3825

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 0.0000 14.0000

Computed Total Fault Area = 0.55E+03

FAULT 9

FAULT NAME: MOUNT DIABLO (MTD)

NFP NRL ATTENUATION CODES:

2 10 5 6

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

5.000 0.1000 1 2.0000 1.842 1.300 2.000 1.000

NDAX AMAX PMAX

1 6.65 1.00

dschar ampchar dmpchar

0.50 6.15 1.00

Slip Rate (2.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.350E+13

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.6500 1.0000 0.00964 0.00537 0.00427

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.0388 37.8771

2 -121.8229 37.7301

NDP

3

ORIGINAL FAULT CROSS SECTION

1 0.0000 7.9900

2 0.0000 8.0000

3 -10.2400 16.0000

Computed Total Fault Area = 0.33E+03

FAULT 10

FAULT NAME: CALAVERAS (FLOATING)

NFP NRL ATTENUATION CODES:

15 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

6.100 0.1000 1 11.0000 1.842 6.300 2.000 0.080

NDAX AMAX PMAX

1 6.20 1.00

dschar ampchar dmpchar

0.50 5.70 1.00

Slip Rate (11.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.144E+14

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.2000 1.0000 0.41588 -0.04099 0.45688

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.0094 37.8173

2 -121.9379 37.7149

3 -121.9327 37.6939

4 -121.8620 37.5675

5 -121.8511 37.5385

6 -121.8349 37.5101

7 -121.8235 37.4888

8 -121.8071 37.4450

9 -121.7618 37.3996

10 -121.7149 37.3430

11 -121.6483 37.2481
 12 -121.5801 37.1523
 13 -121.5424 37.0958
 14 -121.4678 36.9898
 15 -121.3956 36.8257

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
 2 0.0000 12.0000

Computed Total Fault Area = 0.15E+04

FAULT 11

FAULT NAME: CALAVERAS (CC+CN)

NFP NRI ATTENUATION CODES:

14 10 1 3

AMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
 5.000 0.1000 1 11.0000 1.842 5.300 2.000 0.025

IMAX AMMAX PMAX

1 6.23 1.00

dschar ampchar dmpchar

0.50 5.73 1.00

Slip Rate (11.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.123E+14

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.2300 1.0000 0.52361 0.17177 0.35184

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.0094 37.8173
 2 -121.9379 37.7149
 3 -121.9327 37.6939
 4 -121.8620 37.5675
 5 -121.8511 37.5385
 6 -121.8249 37.5101
 7 -121.8235 37.4888
 8 -121.8071 37.4450
 9 -121.7618 37.3996
 10 -121.7149 37.3430
 11 -121.6483 37.2481
 12 -121.5801 37.1523

13 -121.5424 37.0958

14 -121.4678 36.9898

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
 2 0.0000 12.0000

Computed Total Fault Area = 0.12E+04

FAULT 12

FAULT NAME: CALAVERAS (CS+CC+CN)

NFP NRI ATTENUATION CODES:

15 10 1 3

AMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
 5.000 0.1000 1 11.0000 1.842 6.300 2.000 0.025

IMAX AMMAX PMAX

1 6.93 1.00

dschar ampchar dmpchar

0.50 6.43 1.00

Slip Rate (11.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.144E+14

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.9300 1.0000 0.11840 0.08169 0.03671

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.0094 37.8173
 2 -121.9379 37.7149
 3 -121.9327 37.6939
 4 -121.8620 37.5675
 5 -121.8511 37.5385
 6 -121.8349 37.5101
 7 -121.8235 37.4888
 8 -121.8071 37.4450
 9 -121.7618 37.3996
 10 -121.7149 37.3430
 11 -121.6483 37.2481
 12 -121.5801 37.1523
 13 -121.5424 37.0958
 14 -121.4678 36.9898
 15 -121.3956 36.8257

```

NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.15E+04

-----
FAULT 13
FAULT NAME: CALAVERAS (CW)
NFP NRL ATTENUATION CODES:
8 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 6.0000 1.842 2.300 2.000 0.870
NMAX AMMAX PMAX
1 6.78 1.00
dmchar ampchar dmpchar
0.50 6.28 1.00
Slip Rate ( 6.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.585E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
NMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.7800 1.0000 0.03614 0.02249 0.01366

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.0094 37.8173
2 -121.9379 37.7149
3 -121.9327 37.6939
4 -121.8620 37.5675
5 -121.8511 37.5385
6 -121.8349 37.5101
7 -121.8235 37.4888
8 -121.8071 37.4450
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 13.0000
Computed Total Fault Area = 0.59E+03

-----
FAULT 14
FAULT NAME: GREAT VALLEY 4

```

```

NFP NRL ATTENUATION CODES:
2 10 2 4
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 1.5000 1.842 2.100 2.000 1.000
NMAX AMMAX PMAX
1 6.60 1.00
dmchar ampchar dmpchar
0.50 6.10 1.00
Slip Rate ( 1.5000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.422E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
NMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.6000 1.0000 0.00978 0.00520 0.00459

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.0511 38.6520
2 -121.8929 38.2958
NDP
3
ORIGINAL FAULT CROSS SECTION
1 0.0000 6.9900
2 0.0000 7.0000
3 9.7000 9.6000
Computed Total Fault Area = 0.42E+03

-----
FAULT 15
FAULT NAME: CONCORD/GV (GVN)
NFP NRL ATTENUATION CODES:
2 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 5.0000 1.842 1.400 2.000 0.244
NMAX AMMAX PMAX
1 6.02 1.00
dmchar ampchar dmpchar
0.50 5.52 1.00
Slip Rate ( 5.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.196E+13
LOG10[Mo(m)] = (1.50)m + (16.05)

```

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.0200 1.0000 0.06710 0.01455 0.05263

IND_RL

2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.1459 38.2587
2 -122.1789 38.3825

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 14.0000

Computed Total Fault Area = 0.20E+03

FAULT 16

FAULT NAME: WEST NAPA

NFP NRL ATTENUATION CODES:

3 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 1.0000 1.842 1.500 2.000 1.000

MMAX AMMAX PMAX

1 6.50 1.00

dmchar ampmchar dmpchar

0.50 6.00 1.00

Slip Rate (1.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.300E+13

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.5000 1.0000 0.00588 0.00203 0.00307

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.2445 38.1644
2 -122.2890 38.2340
3 -122.3686 38.4116

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 10.0000

Computed Total Fault Area = 0.30E+03

FAULT 17

FAULT NAME: BAYWARD (RS+HN+RC)

NFP NRL ATTENUATION CODES:

7 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 9.0000 1.842 7.600 2.000 0.055

MMAX AMMAX PMAX

1 7.26 1.00

dmchar ampmchar dmpchar

0.50 6.76 1.00

Slip Rate (9.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.180E+14

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 7.2600 1.0000 0.06202 0.05081 0.01201

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.8490 37.4540
2 -122.0824 37.6760
3 -122.1284 37.7299
4 -122.2128 37.8273
5 -122.4342 38.0875
6 -122.6136 38.3315
7 -122.7883 38.5752

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 12.0000

Computed Total Fault Area = 0.18E+04

FAULT 18

FAULT NAME: HATWARD (HN)

NFP NRL ATTENUATION CODES:

2 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 9.0000 1.842 1.800 2.000 0.477

MMAX AMMAX PMAX

1 6.49 1.00

```

dmchar asmpchar dmpchar
0.50 5.99 1.00
Slip Rate ( 9.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.420E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.4900 1.0000 0.07584 0.03579 0.04004

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.2128 37.8273
2 -122.4342 38.0875
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.42E+03
-----
FAULT 19
FAULT NAME: HAYWARD (FLOATING)
NFF NRL ATTENUATION CODES:
7 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
6.800 0.1000 1 9.0000 1.842 7.600 2.000 0.053
NMAX AMMAX PMAX
1 6.50 1.00
dmchar asmpchar dmpchar
0.50 6.40 1.00
Slip Rate ( 9.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.180E+14
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.9000 1.0000 0.03791 -0.00374 0.04164

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES

```

```

1 -121.8490 37.4540
2 -122.0824 37.6760
3 -122.1284 37.7299
4 -122.2128 37.8273
5 -122.4342 38.0875
6 -122.6136 38.3315
7 -122.7883 38.5752
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.18E+04
-----
FAULT 20
FAULT NAME: HAYWARD (NN+RC)
NFF NRL ATTENUATION CODES:
4 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 9.0000 1.842 4.900 2.000 0.093
NMAX AMMAX PMAX
1 7.11 1.00
dmchar asmpchar dmpchar
0.50 6.61 1.00
Slip Rate ( 9.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.116E+14
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 7.1100 1.0000 0.05416 0.04116 0.01299

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.2128 37.8273
2 -122.4342 38.0875
3 -122.6136 38.3315
4 -122.7883 38.5752
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.12E+04

```

```

FAULT 21
FAULT NAME: HAYWARD (HS+HM)
NFP NRL ATTENUATION CODES:
5 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 9.0000 1.842 4.500 2.000 0.323
NMAX ANMAX PMAX
1 6.91 1.00
dchcar aspchar dmpchar
0.50 6.41 1.00
Slip Rate ( 9.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.106E+14
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX ANMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.9100 1.0000 0.07436 0.05866 0.02369

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.8490 37.4540
2 -122.0824 37.6760
3 -122.1284 37.7299
4 -122.2128 37.8273
5 -122.4342 38.0875
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.10E+04

FAULT 22
FAULT NAME: HAYWARD (HS)
NFP NRL ATTENUATION CODES:
4 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 9.0000 1.842 2.700 2.000 0.369
NMAX ANMAX PMAX
1 6.67 1.00
dchcar aspchar dmpchar
0.50 6.17 1.00
Slip Rate ( 9.0000 mm/yr) Converted to Activity Rate:

```

```

Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.636E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX ANMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.6700 1.0000 0.07532 0.04275 0.03256

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.8490 37.4540
2 -122.0824 37.6760
3 -122.1284 37.7299
4 -122.2128 37.8273
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.63E+03

FAULT 23
FAULT NAME: GREENVILLE (GS+GN)
NFP NRL ATTENUATION CODES:
5 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 2.0000 1.842 2.600 2.000 0.350
NMAX ANMAX PMAX
1 6.94 1.00
dchcar aspchar dmpchar
0.50 6.44 1.00
Slip Rate ( 2.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.765E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX ANMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.9400 1.0000 0.01120 0.00778 0.00343

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.6647 37.6858

```

2 -121.6438 37.6439
3 -121.5808 37.5754
4 -121.5539 37.5256
5 -121.5408 37.4994

NDF

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 15.0000

Computed Total Fault Area = 0.35E+03

FAULT 24

FAULT NAME: GREENVILLE (FLOATING)

NFF NRL ATTENUATION CODES:

5 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP CORF

6.100 0.1000 1 2.0000 1.842 2.600 2.000 0.300

NMAX AMMAX PMAX

1 6.20 1.00

dmchar ampxchar dmpchar

0.50 5.70 1.00

Slip Rate (2.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.765E+13

LOG10(M0(m)) = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.2000 1.0000 0.04017 -0.00396 0.04413

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.6647 37.6858

2 -121.6438 37.6439

3 -121.5808 37.5754

4 -121.5539 37.5256

5 -121.5408 37.4994

NDF

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 0.0000 15.0000

Computed Total Fault Area = 0.35E+03

FAULT 25

FAULT NAME: GREENVILLE (GS)

NFF NRL ATTENUATION CODES:

5 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP CORF

5.000 0.1000 1 2.0000 1.842 1.200 2.000 0.350

NMAX AMMAX PMAX

1 6.60 1.00

dmchar ampxchar dmpchar

0.50 6.10 1.00

Slip Rate (2.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.360E+13

LOG10(M0(m)) = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.6000 1.0000 0.01113 0.00591 0.00522

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.6647 37.6858

2 -121.6438 37.6439

3 -121.5808 37.5754

4 -121.5539 37.5256

5 -121.5408 37.4994

NDF

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 0.0000 15.0000

Computed Total Fault Area = 0.35E+03

FAULT 26

FAULT NAME: GREAT VALLEY 7

NFF NRL ATTENUATION CODES:

2 10 2 4

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP CORF

5.000 0.1000 1 1.5000 1.842 2.300 2.000 1.000

NMAX AMMAX PMAX

1 6.70 1.00

dmchar ampxchar dmpchar

0.50 6.20 1.00

Slip Rate (1.5000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

```

0.330E+12
Input Fault Area - cm**2
0.452E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.7000 1.0000 0.00834 0.00486 0.00348

TND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.5241 37.7344
2 -121.1614 37.4544
NDP
3
ORIGINAL FAULT CROSS SECTION
1 0.0000 6.9900
2 0.0000 7.0000
3 9.7000 9.6000
Computed Total Fault Area = 0.45E+03
-----
FAULT 27
FAULT NAME: HAYWARD (RC)
NFP NRL ATTENUATION CODES:
3 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP CORF
5.000 0.1000 1 9.0000 1.842 3.100 2.000 0.799
NMAX AMMAX PMAX
1 7.00 1.00
dechar ampxchar dmpchar
0.50 6.50 1.00
Slip Rate ( 9.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.744E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 7.0000 1.0000 0.04332 0.03114 0.01219

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.4342 38.0875
2 -122.6136 38.3315
3 -122.7883 38.5752

```

```

NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.75E+03
-----
FAULT 28
FAULT NAME: HUNTING CREEK - BERRYESSA
NFP NRL ATTENUATION CODES:
2 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP CORF
5.000 0.1000 1 6.0000 1.842 3.000 2.000 1.000
NMAX AMMAX PMAX
1 7.10 1.00
dechar ampxchar dmpchar
0.50 6.60 1.00
Slip Rate ( 6.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.720E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 7.1000 1.0000 0.02286 0.01729 0.00557

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.1970 38.4530
2 -122.5041 38.9334
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.72E+03
-----
FAULT 29
FAULT NAME: CALAVERAS (CS+CC FLOATING)
NFP NRL ATTENUATION CODES:
8 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP CORF
6.100 0.1000 1 15.0000 1.842 4.000 2.000 0.505
NMAX AMMAX PMAX
1 6.20 1.00

```

```

dmchar ampchar dmpchar
0.50 5.70 1.00
Slip Rate ( 15.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.858E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE
1 6.2000 1.0000 0.33791 -0.03331 0.37121

```

```

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.8071 37.4450
2 -121.7618 37.3996
3 -121.7149 37.3430
4 -121.6483 37.2481
5 -121.5801 37.1523
6 -121.5424 37.0958
7 -121.4678 36.9898
8 -121.3956 36.8257
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 11.0000
Computed Total Fault Area = 0.86E+03

```

```

FAULT 30
FAULT NAME: CALAVERAS (CS+CC)
NFP NRL ATTENUATION CODES:
8 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 15.0000 1.842 4.000 2.000 0.045
NMAX AMMAX PMAX
1 6.36 1.00
dmchar ampchar dmpchar
0.50 5.86 1.00
Slip Rate ( 15.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.858E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE

```

```

1 6.3600 1.0000 0.35606 0.14245 0.23361

```

```

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.8071 37.4450
2 -121.7618 37.3996
3 -121.7149 37.3430
4 -121.6483 37.2481
5 -121.5801 37.1523
6 -121.5424 37.0958
7 -121.4678 36.9898
8 -121.3956 36.8257
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 11.0000
Computed Total Fault Area = 0.86E+03

```

```

FAULT 31
FAULT NAME: CALAVERAS (CC)
NFP NRL ATTENUATION CODES:
7 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 15.0000 1.842 3.000 2.000 0.320
NMAX AMMAX PMAX
1 6.23 1.00
dmchar ampchar dmpchar
0.50 5.73 1.00
Slip Rate ( 15.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.649E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE
1 6.2300 1.0000 0.37674 0.12359 0.25315

```

```

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.8071 37.4450
2 -121.7618 37.3996
3 -121.7149 37.3430

```

4 -121.6483 37.2481
5 -121.5801 37.1523
6 -121.5424 37.0958
7 -121.4678 36.9898

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 11.0000

Computed Total Fault Area = 0.65E+03

FAULT 32

FAULT NAME: SAN ANDREAS (SAP+SAN)

NFP NRL ATTENUATION CODES:

11 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 21.0000 1.842 13.800 2.000 0.000

NMAX AMMAX EMAX

1 7.65 1.00

dschsr ampchar dmpchar

0.50 7.15 1.00

Slip Rate (21.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.338E+14

LOG10[M0(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE

1 7.6500 1.0000 0.13489 0.12121 0.01368

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.0036 37.1762

2 -122.1400 37.2970

3 -122.2100 37.3670

4 -122.2830 37.4380

5 -122.5741 37.7856

6 -122.7225 37.9617

7 -122.9170 38.1810

8 -123.0419 38.3290

9 -123.1144 38.4080

10 -123.7894 39.1014

11 -123.8407 39.1706

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 12.0000

Computed Total Fault Area = 0.33E+04

FAULT 33

FAULT NAME: SAN ANDREAS (SAS+SAP+SAN+SAD)

NFP NRL ATTENUATION CODES:

20 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 20.0000 1.842 23.700 2.000 0.523

NMAX AMMAX EMAX

1 7.90 1.00

dschsr ampchar dmpchar

0.50 7.40 1.00

Slip Rate (20.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.581E+14

LOG10[M0(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE

1 7.9000 1.0000 0.14301 0.13357 0.00945

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.4816 36.8059

2 -121.5645 36.8701

3 -121.6520 36.9260

4 -121.7330 36.9890

5 -121.8120 37.0530

6 -121.9070 37.1040

7 -122.0036 37.1762

8 -122.1400 37.2970

9 -122.2830 37.4380

10 -122.5741 37.7856

11 -122.7225 37.9617

12 -122.9170 38.1810

13 -123.1144 38.4080

14 -123.7894 39.1014

15 -123.8407 39.1706

16 -123.9224 39.3965

17 -124.0067 39.9135

18 -124.0635 40.0506

19 -124.1381 40.0965

```

20  -124.4032  40.2440
NDP
2
ORIGINAL FAULT CROSS SECTION
1      0.0000  0.0000
2      0.0000 13.0000
Computed Total Fault Area = 0.61E+04

```

```

-----
FAULT 34
FAULT NAME:  SAN ANDREAS (SAP)
NFP  NRL  ATTENUATION CODES:
5   10   1  3
AMMIN  AMSTEP  IRATE  RATE  BETA  ECTR  ECDP  COEF
5.000  0.1000  1 17.0000 1.842  4.300  2.000  0.099
NMAX  AMMAX  PMAX
1      7.15  1.00
dmcbar ampcbar dmpcbar
0.50   6.65   1.00
Slip Rate ( 17.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area      - cm**2
0.110E+14
LOG10(Mo(m))          = (1.50)m + (16.05)
IMAX  AMMAX  PMAX  ARATE = EK-RATE + CH-RATE
1  7.1500  1.0000  0.08966  0.06939  0.02027

```

```

IND_RL
2
RUPTURE AREA VS. MAGNITUDE  A_RA  B_RA  SIG_RA  -3.490  0.910  0.240
FAULT SEGMENT COORDINATES
1  -122.0036  37.1762
2  -122.1400  37.2970
3  -122.2100  37.3670
4  -122.2830  37.4380
5  -122.5741  37.7856
NDP
2
ORIGINAL FAULT CROSS SECTION
1      0.0000  0.0000
2      0.0000 13.0000
Computed Total Fault Area = 0.11E+04

```

```

-----
FAULT 35
FAULT NAME:  SAN ANDREAS (FLOATING)
NFP  NRL  ATTENUATION CODES:
20  10   1  3

```

```

AMMIN  AMSTEP  IRATE  RATE  BETA  ECTR  ECDP  COEF
6.800  0.1000  1  0.0600 1.842 23.700  2.000  0.166
NMAX  AMMAX  PMAX
1      6.90  1.00
dmcbar ampcbar dmpcbar
0.50   6.40   1.00
Slip Rate ( 0.0600 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area      - cm**2
0.581E+14
LOG10(Mo(m))          = (1.50)m + (16.05)
IMAX  AMMAX  PMAX  ARATE = EK-RATE + CH-RATE
1  6.9000  1.0000  0.00082 -0.00008  0.00090

```

```

IND_RL
2
RUPTURE AREA VS. MAGNITUDE  A_RA  B_RA  SIG_RA  -3.490  0.910  0.240
FAULT SEGMENT COORDINATES
1  -121.4816  36.8059
2  -121.5645  36.8701
3  -121.6520  36.9260
4  -121.7330  36.9890
5  -121.8120  37.0530
6  -121.9070  37.1040
7  -122.0036  37.1762
8  -122.1400  37.2970
9  -122.2830  37.4380
10 -122.5741  37.7856
11 -122.7225  37.9617
12 -122.9170  38.1810
13 -123.1144  38.4080
14 -123.7894  39.1014
15 -123.8407  39.1706
16 -123.9224  39.3965
17 -124.0067  39.9135
18 -124.0635  40.0506
19 -124.1381  40.0965
20 -124.4032  40.2440
NDP
2
ORIGINAL FAULT CROSS SECTION
1      0.0000  0.0000
2      0.0000 13.0000
Computed Total Fault Area = 0.61E+04

```

```

-----
FAULT 36

```

```

FAULT NAME: SAN ANDREAS (SAS+SAP)
WFP NRL ATTENUATION CODES:
11 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 17.0000 1.842 7.400 2.000 0.179
RMAX AMMAX PMAX
1 7.42 1.00
dmchar ampchar cmpchar
0.50 6.92 1.00
Slip Rate ( 17.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.203E+14
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 7.4200 1.0000 0.09923 0.08450 0.01472

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -121.4816 36.8059
2 -121.5645 36.8701
3 -121.6520 36.9260
4 -121.7330 36.9890
5 -121.8120 37.0530
6 -121.9070 37.1040
7 -122.0036 37.1762
8 -122.1400 37.2970
9 -122.2100 37.3670
10 -122.2830 37.4380
11 -122.5741 37.7856
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 14.0000
Computed Total Fault Area = 0.20E+04
-----
FAULT 37
FAULT NAME: SAN ANDREAS (SAP+SAN+SAG)
WFP NRL ATTENUATION CODES:
19 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 22.0000 1.842 20.600 2.000 0.025
RMAX AMMAX PMAX

```

```

1 7.83 1.00
dmchar ampchar cmpchar
0.50 7.33 1.00
Slip Rate ( 22.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.488E+14
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 7.8300 1.0000 0.14903 0.13791 0.01111

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.0036 37.1762
2 -122.1400 37.2970
3 -122.2100 37.3670
4 -122.2830 37.4380
5 -122.5741 37.7856
6 -122.7225 37.9617
7 -122.9170 38.1810
8 -123.0419 38.3290
9 -123.1144 38.4080
10 -123.7894 39.1014
11 -123.8407 39.1706
12 -123.8726 39.2589
13 -123.9224 39.3965
14 -123.9953 39.6730
15 -124.0067 39.9135
16 -124.0490 40.0259
17 -124.0635 40.0506
18 -124.1381 40.0965
19 -124.4032 40.2440
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 0.0000 12.0000
Computed Total Fault Area = 0.49E+04
-----
FAULT 38
FAULT NAME: SAN ANDREAS (SAS+SAP+SAN)
WFP NRL ATTENUATION CODES:
17 10 1 3
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

```

5.000 0.1000 1 20.0000 1.842 16.900 2.000 0.009
 NMAX AMMAX PMAX
 1 7.76 1.00
 dmchar ampxchar dmpchar
 0.50 7.26 1.00
 Slip Rate (20.0000 mm/yr) Converted to Activity Rate:
 Input Shear Modulus - dyne/cm**2
 0.330E+12
 Input Fault Area - cm**2
 0.431E+14
 LOG10[Mo(m)] = (1.50)m + (16.05)
 IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE
 1 7.7600 1.0000 0.13508 0.12372 0.01136

IND_RL
 2

RUPTURE AREA VS. MAGNITUDE A_RA H_RA SIG_RA -3.490 0.910 0.240
 FAULT SEGMENT COORDINATES
 1 -121.4816 36.8059
 2 -121.5645 36.8701
 3 -121.6520 36.9260
 4 -121.7330 36.9890
 5 -121.8120 37.0530
 6 -121.9070 37.1040
 7 -122.0036 37.1762
 8 -122.1400 37.2970
 9 -122.2100 37.3670
 10 -122.2830 37.4380
 11 -122.5741 37.7856
 12 -122.7225 37.9617
 13 -122.9170 38.1810
 14 -123.0419 38.3290
 15 -123.1144 38.4080
 16 -123.7894 39.1014
 17 -123.8407 39.1706

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
 2 0.0000 13.0000

Computed Total Fault Area = 0.44E+04

FAULT 39

FAULT NAME: SAN ANDREAS (SAN)

NFP NRL ATTENUATION CODES:

7 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

5.000 0.1000 1 24.0000 1.842 9.500 2.000 0.027
 NMAX AMMAX PMAX
 1 7.45 1.00
 dmchar ampxchar dmpchar
 0.50 6.95 1.00
 Slip Rate (24.0000 mm/yr) Converted to Activity Rate:
 Input Shear Modulus - dyne/cm**2
 0.330E+12
 Input Fault Area - cm**2
 0.228E+14
 LOG10[Mo(m)] = (1.50)m + (16.05)
 IMAX AMMAX PMAX ARATE = EX-RATE + CR-RATE
 1 7.4500 1.0000 0.14892 0.12787 0.02105

IND_RL
 2

RUPTURE AREA VS. MAGNITUDE A_RA H_RA SIG_RA -3.490 0.910 0.240
 FAULT SEGMENT COORDINATES
 1 -122.5741 37.7856
 2 -122.7225 37.9617
 3 -122.9170 38.1810
 4 -123.0419 38.3290
 5 -123.1144 38.4080
 6 -123.7894 39.1014
 7 -123.8407 39.1706

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
 2 0.0000 12.0000

Computed Total Fault Area = 0.23E+04

FAULT 40

FAULT NAME: SAN ANDREAS (SAN+SAD)

NFP NRL ATTENUATION CODES:

15 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

5.000 0.1000 1 24.0000 1.842 16.300 2.000 0.251

NMAX AMMAX PMAX

1 7.70 1.00

dmchar ampxchar dmpchar

0.50 7.20 1.00

Slip Rate (24.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.378E+14

LOG10[Mo(m)] = (1.50)m + (16.05)
 IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
 1 7.7000 1.0000 0.15788 0.14316 0.01471

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.5741 37.7856
 2 -122.7225 37.9617
 3 -122.9170 38.1810
 4 -123.0419 38.3290
 5 -123.1144 38.4080
 6 -123.7894 39.1014
 7 -123.8407 39.1706
 8 -123.8726 39.2589
 9 -123.9224 39.3965
 10 -123.9953 39.6730
 11 -124.0067 39.9135
 12 -124.0490 40.0259
 13 -124.0635 40.0506
 14 -124.1391 40.0965
 15 -124.4032 40.2440

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
 2 0.0000 11.5000

Computed Total Fault Area = 0.38E+04

FAULT 41

FAULT NAME: SAN GREGORIO (FLOATING)

NFP NRL ATTENUATION CODES:

11 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

6.800 0.1000 1 6.0000 1.842 8.800 2.000 0.300

NMAX AMMAX PMAX

1 6.90 1.00

dmchar ampchar dmpchar

0.50 6.40 1.00

Slip Rate (6.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.222E+14

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.9000 1.0000 0.03117 -0.00307 0.03424

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.8593 36.3131
 2 -121.9000 36.3590
 3 -121.9351 36.4194
 4 -121.9538 36.4669
 5 -121.9803 36.5172
 6 -122.0212 36.5561
 7 -122.0945 36.6696
 8 -122.1295 36.7496
 9 -122.1555 36.8528
 10 -122.3936 37.2806
 11 -122.6166 37.7692

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
 2 0.0000 13.0000

Computed Total Fault Area = 0.23E+04

FAULT 42

FAULT NAME: SAN GREGORIO (SGN)

NFP NRL ATTENUATION CODES:

3 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

5.000 0.1000 1 7.0000 1.842 5.500 2.000 0.350

NMAX AMMAX PMAX

1 7.23 1.00

dmchar ampchar dmpchar

0.50 6.73 1.00

Slip Rate (7.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.143E+14

LOG10[Mo(m)] = (1.50)m + (16.05)

IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 7.2300 1.0000 0.04111 0.03288 0.00823

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.6166 37.7682
2 -122.3936 37.2906
3 -122.1555 36.8528

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 13.0000

Computed Total Fault Area = 0.14E+04

FAULT 43

FAULT NAME: SAN GREGORIO (SGS+SGW)

NFP NRL ATTENUATION CODES:

11 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

5.000 0.1000 1 6.0000 1.842 0.800 2.000 0.350

NMAX AMMAX PMAX

1 7.44 1.00

dmchar ampchar dmpchar

0.50 6.94 1.00

Slip Rate (6.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.222E+14

LOG10[Mo(m)] = (1.50)m + (16.05)

INAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 7.4400 1.0000 0.03692 0.03162 0.00530

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.8593 36.3131

2 -121.9000 36.3590

3 -121.9351 36.4194

4 -121.9538 36.4669

5 -121.9803 36.5172

6 -122.0212 36.5561

7 -122.0945 36.6696

8 -122.1295 36.7496

9 -122.1555 36.8528

10 -122.3936 37.2906

11 -122.6166 37.7682

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 0.0000 13.0000

Computed Total Fault Area = 0.23E+04

FAULT 44

FAULT NAME: MONTE VISTA - SHANNON

NFP NRL ATTENUATION CODES:

5 10 2 4

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

5.000 0.1000 1 0.4000 1.842 2.300 2.000 1.000

NMAX AMMAX PMAX

1 6.70 1.00

dmchar ampchar dmpchar

0.50 6.20 1.00

Slip Rate (0.4000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.468E+13

LOG10[Mo(m)] = (1.50)m + (16.05)

INAX AMMAX PMAX ARATE = EX-RATE + CH-RATE

1 6.7000 1.0000 0.00230 0.00134 0.00096

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -122.2500 37.4375

2 -122.0650 37.3050

3 -122.0000 37.2650

4 -121.9275 37.2275

5 -121.8375 37.2100

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000

2 5.2000 9.0000

Computed Total Fault Area = 0.48E+03

FAULT 45

FAULT NAME: GREAT VALLEY 3

NFP NRL ATTENUATION CODES:

2 10 2 4

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF

5.000 0.1000 1 1.5000 1.842 2.800 2.000 1.000

NMAX AMMAX PMAX

1 6.90 1.00

```

dmchar ampchar dmpchar
0.50 6.40 1.00
Slip Rate ( 1.5000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.553E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.9000 1.0000 0.00660 0.00447 0.00213

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -122.2777 39.1169
2 -122.0031 38.6732
NDP
3
ORIGINAL FAULT CROSS SECTION
1 0.0000 6.9900
2 0.0000 7.0000
3 9.7000 9.6000
Computed Total Fault Area = 0.55E+03
-----
FAULT 46
FAULT NAME: POINT REYES
NFP NRL ATTENUATION CODES:
3 10 2 4
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 0.3000 1.842 2.400 2.000 1.000
NMAX AMMAX PMAX
1 7.00 1.00
dmchar ampchar dmpchar
0.50 6.50 1.00
Slip Rate ( 0.3000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.552E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 7.0000 1.0000 0.00107 0.00077 0.00030

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

```

```

FAULT SEGMENT COORDINATES
1 -122.8337 37.9433
2 -123.0664 37.9908
3 -123.2410 38.1843
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 7.5500 9.0000
Computed Total Fault Area = 0.53E+03
-----
FAULT 47
FAULT NAME: FOOTHILLS FAULT SYSTEM 1
NFP NRL ATTENUATION CODES:
5 10 2 4
AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 0.0500 1.842 19.000 2.000 0.400
NMAX AMMAX PMAX
1 6.50 1.00
dmchar ampchar dmpchar
0.50 6.00 1.00
Slip Rate ( 0.0500 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.456E+14
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX AMMAX PMAX ARATE = EX-RATE + CH-RATE
1 6.5000 1.0000 0.00447 0.00213 0.00233

IND_RL
2
RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240
FAULT SEGMENT COORDINATES
1 -120.0500 37.2750
2 -120.7800 39.0800
3 -121.0850 38.6200
4 -121.1300 38.8400
5 -122.1600 40.2400
NDP
2
ORIGINAL FAULT CROSS SECTION
1 0.0000 0.0000
2 3.2200 12.0000
Computed Total Fault Area = 0.47E+04
-----
FAULT 48

```

```

FAULT NAME: GREAT VALLEY 8
NFF  NRL  ATTENUATION CODES:
  2   10   2  4
AMMIN  AMSTEP  IRATE  RATE  BETA  ECTR  ECDP  COEF
5.000  0.1000  1  1.5000  1.842  2.100  2.000  1.000
NMAX  AMMAX  PMAX
1  6.60  1.00
dmchar  ampchar  dmpchar
0.50  6.10  1.00
Slip Rate ( 1.5000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.412E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX  AMMAX  PMAX  ARATE = EX-RATE + CH-RATE
1  6.6000  1.0000  0.00955  0.00507  0.00448

IND_RL
  2
RUPTURE AREA VS. MAGNITUDE  A_RA  B_RA  SIG_RA  -3.490  0.910  0.240
FAULT SEGMENT COORDINATES
1  -121.1580  37.4340
2  -120.9894  37.0923
NDP
  3
ORIGINAL FAULT CROSS SECTION
1  0.0000  6.9900
2  0.0000  7.0000
3  9.7000  9.6000
Computed Total Fault Area = 0.41E+03
-----
FAULT 49
FAULT NAME: MAACAMA - GERBERVILLE
NFF  NRL  ATTENUATION CODES:
  4   10   1  3
AMMIN  AMSTEP  IRATE  RATE  BETA  ECTR  ECDP  COEF
5.000  0.1000  1  9.0000  1.842  9.100  2.000  1.000
NMAX  AMMAX  PMAX
1  7.50  1.00
dmchar  ampchar  dmpchar
0.50  7.00  1.00
Slip Rate ( 9.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.218E+14

```

```

LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX  AMMAX  PMAX  ARATE = EX-RATE + CH-RATE
1  7.5000  1.0000  0.04875  0.04240  0.00635

IND_RL
  2
RUPTURE AREA VS. MAGNITUDE  A_RA  B_RA  SIG_RA  -3.490  0.910  0.240
FAULT SEGMENT COORDINATES
1  -122.6930  38.5755
2  -123.0010  38.8645
3  -123.7194  39.9944
4  -124.0165  40.2653
NDP
  2
ORIGINAL FAULT CROSS SECTION
1  0.0000  0.0000
2  0.0000  12.0000
Computed Total Fault Area = 0.27E+04
-----
FAULT 50
FAULT NAME: SAN ANDREAS (SAS)
NFF  NRL  ATTENUATION CODES:
  7   10   1  3
AMMIN  AMSTEP  IRATE  RATE  BETA  ECTR  ECDP  COEF
5.000  0.1000  1  17.0000  1.842  3.100  2.000  0.123
NMAX  AMMAX  PMAX
1  7.03  1.00
dmchar  ampchar  dmpchar
0.50  6.53  1.00
Slip Rate ( 17.0000 mm/yr) Converted to Activity Rate:
Input Shear Modulus - dyne/cm**2
0.330E+12
Input Fault Area - cm**2
0.930E+13
LOG10[Mo(m)] = (1.50)m + (16.05)
IMAX  AMMAX  PMAX  ARATE = EX-RATE + CH-RATE
1  7.0300  1.0000  0.09624  0.07030  0.02594

IND_RL
  2
RUPTURE AREA VS. MAGNITUDE  A_RA  B_RA  SIG_RA  -3.490  0.910  0.240
FAULT SEGMENT COORDINATES
1  -121.4816  36.8059
2  -121.5645  36.8701
3  -121.6520  36.9260
4  -121.7330  36.9890
5  -121.8120  37.0530

```

6 -121.9070 37.1040
7 -122.0036 37.1762

NDP

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 15.0000

Computed Total Fault Area = 0.93E+03

FAULT 51

FAULT NAME: ORTIGALITA

NFP NRI ATTENUATION CODES:

7 10 1 3

AMMIN AMSTEP IRATE RATE BETA ECTR ECDP COEF
5.000 0.1000 1 1.0000 1.842 3.500 2.000 1.000

MAXX AMMAX PMAX

1 7.10 1.00

dmchar ampxchar dmpchar

0.50 6.60 1.00

Slip Rate (1.0000 mm/yr) Converted to Activity Rate:

Input Shear Modulus - dyne/cm**2

0.330E+12

Input Fault Area - cm**2

0.770E+13

LOG10(Mo(m)) = (1.50)m + (16.05)

INAX AMMAX PMAX ARATE = EX-RATE + CR-RATE

1 7.1000 1.0000 0.00407 0.00308 0.00099

IND_RL

2

RUPTURE AREA VS. MAGNITUDE A_RA B_RA SIG_RA -3.490 0.910 0.240

FAULT SEGMENT COORDINATES

1 -121.2806 37.2705
2 -121.2248 37.1920
3 -121.1512 37.1176
4 -121.1259 37.0381
5 -121.0114 36.9071
6 -120.9036 36.7940
7 -120.8954 36.7322

NDP

2

ORIGINAL FAULT CROSS SECTION

1 0.0000 0.0000
2 0.0000 11.0000

Computed Total Fault Area = 0.77E+03

SITE 1 COORDINATES: -121.8828 38.0189

SADTGH ET AL. (1997) OKRP SOIL 1

AMPLITUDES (g):

0.1000E+000.2000E+000.3000E+000.4000E+000.5000E+000.6000E+000.7000E+000.8000E+000.9000E+000.1000E+01

LN (AMPLITUDE): -2.30 -1.61 -1.20 -0.92 -0.69 -0.51 -0.36 -0.22 -0.11 0.00
FAULT 1 E (NO/YR) 0.6102E-020.3532E-020.1864E-020.9552E-030.4907E-030.2564E-030.1371E-030.7507E-040.4513E-040.2420E-04
FAULT 2 E (NO/YR) 0.5469E-020.1899E-020.6388E-030.2294E-030.8901E-040.3710E-040.1646E-040.7719E-050.3797E-050.1948E-05
FAULT 3 E (NO/YR) 0.2665E-020.9646E-030.3324E-030.1184E-030.4488E-040.1808E-040.7699E-050.3458E-050.1628E-050.7995E-06
FAULT 4 E (NO/YR) 0.1587E-010.5197E-020.1670E-020.5746E-030.2138E-030.8541E-040.3635E-040.1634E-040.7707E-050.3781E-05
FAULT 5 E (NO/YR) 0.7968E-020.3014E-020.1071E-020.3846E-030.1442E-030.5690E-040.2367E-040.1034E-040.4734E-050.2261E-05
FAULT 6 E (NO/YR) 0.1476E-020.4457E-030.1317E-030.4139E-040.1405E-040.5181E-050.2013E-050.8371E-060.3675E-060.1693E-06
FAULT 7 E (NO/YR) 0.2958E-020.6747E-030.1710E-030.4992E-040.1648E-040.6020E-050.2392E-050.1039E-050.4613E-060.2198E-06
FAULT 8 E (NO/YR) 0.2031E-020.4670E-030.1189E-030.3441E-040.1117E-040.3991E-050.1549E-050.6434E-060.2440E-060.1321E-06
FAULT 9 E (NO/YR) 0.5368E-020.2193E-020.8090E-030.2988E-030.1148E-030.4638E-040.1971E-040.6786E-050.4095E-050.1908E-05
FAULT 10 E (NO/YR) 0.2681E-020.3384E-030.5790E-040.1248E-040.3200E-050.9399E-050.3077E-060.1100E-060.4238E-070.1738E-07
FAULT 11 E (NO/YR) 0.6659E-030.7577E-040.1277E-040.2798E-050.7414E-050.2269E-050.7779E-070.2928E-070.1189E-070.5155E-08
FAULT 12 E (NO/YR) 0.2531E-030.3987E-040.7047E-050.1452E-050.3348E-060.8892E-070.2648E-070.8739E-080.3161E-080.1242E-08
FAULT 13 E (NO/YR) 0.5861E-020.9412E-030.1668E-030.1463E-040.8138E-050.2283E-050.6979E-060.2347E-060.8585E-070.3381E-07
FAULT 14 E (NO/YR) 0.2149E-020.3455E-030.6332E-040.1373E-040.3455E-050.9844E-060.3115E-060.1078E-060.4026E-070.146E-07
FAULT 15 E (NO/YR) 0.1194E-020.8302E-040.9981E-050.1715E-050.3771E-060.9940E-070.3013E-070.1020E-070.3785E-080.1515E-08
FAULT 16 E (NO/YR) 0.6327E-030.4733E-040.5161E-050.7691E-060.1454E-060.3307E-070.8730E-080.2605E-080.8617E-090.3113E-09
FAULT 17 E (NO/YR) 0.4463E-030.5860E-040.6891E-050.9194E-060.1453E-060.2723E-070.6004E-080.1546E-080.4599E-090.1581E-09
FAULT 18 E (NO/YR) 0.4007E-020.3234E-030.3784E-040.6023E-050.1211E-050.2919E-060.8137E-070.2555E-070.8668E-080.3352E-08
FAULT 19 E (NO/YR) 0.9617E-030.1158E-030.1256E-040.1592E-050.2397E-060.4211E-070.8445E-080.1856E-080.4694E-090.1264E-09
FAULT 20 E (NO/YR) 0.5801E-030.5980E-040.6252E-050.7907E-060.1231E-060.2334E-070.5307E-080.1426E-080.4444E-090.1576E-09
FAULT 21 E (NO/YR) 0.4081E-020.4341E-030.4957E-040.6987E-050.1210E-050.2511E-060.6106E-070.1706E-070.5387E-080.1495E-08
FAULT 22 E (NO/YR) 0.4605E-020.3658E-030.4065E-040.5989E-050.1114E-050.2493E-060.6528E-070.1939E-070.6424E-080.2338E-08
FAULT 23 E (NO/YR) 0.3089E-030.2305E-040.1043E-050.2017E-060.2699E-070.5241E-080.1152E-080.2997E-090.9004E-100.3029E-10
FAULT 24 E (NO/YR) 0.9860E-030.4737E-040.4069E-050.5201E-060.8780E-070.1820E-070.4421E-080.1218E-080.3720E-090.1229E-09
FAULT 25 E (NO/YR) 0.2944E-030.1976E-040.1321E-050.1595E-060.2541E-070.5014E-080.1179E-080.3196E-090.9776E-100.3287E-10
FAULT 26 E (NO/YR) 0.7965E-030.5802E-040.3799E-050.7809E-060.1334E-060.2768E-070.6479E-080.1844E-080.5695E-090.1939E-09
FAULT 27 E (NO/YR) 0.1466E-020.4951E-040.2567E-050.2034E-060.2308E-070.3515E-080.6943E-090.1691E-090.4749E-100.1346E-10
FAULT 28 E (NO/YR) 0.5719E-030.1266E-040.4710E-060.2892E-070.2722E-080.3708E-090.6829E-100.1512E-100.3076E-110.3134E-12
FAULT 29 E (NO/YR) 0.4937E-030.6674E-050.2703E-060.2019E-070.2232E-080.3149E-090.4768E-100.0000E+000.0000E+000.0000E+00
FAULT 30 E (NO/YR) 0.2420E-040.3407E-060.1493E-070.1235E-080.1544E-090.2524E-100.4558E-110.3444E-120.0000E+000.0000E+00
FAULT 31 E (NO/YR) 0.2064E-030.2981E-050.1360E-060.1167E-070.1499E-080.2497E-090.4510E-100.2917E-110.0000E+000.0000E+00
FAULT 32 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 33 E (NO/YR) 0.1802E-020.1400E-030.1041E-040.9589E-060.1094E-060.1502E-070.2410E-080.4377E-090.8927E-100.1940E-10
FAULT 34 E (NO/YR) 0.1592E-030.2323E-050.6731E-070.3733E-080.3605E-090.5374E-100.1001E-100.6797E-120.0000E+000.0000E+00
FAULT 35 E (NO/YR) 0.2832E-050.3708E-070.5498E-090.4182E-100.2735E-110.1416E-120.1616E-130.0000E+000.0000E+000.0000E+00
FAULT 36 E (NO/YR) 0.3654E-030.8478E-050.2899E-060.1661E-070.1350E-080.1543E-090.2311E-100.2209E-110.0000E+000.0000E+00
FAULT 37 E (NO/YR) 0.7596E-040.4515E-050.2917E-060.2424E-070.2357E-080.3295E-090.5024E-100.8568E-110.1652E-120.3205E-12
FAULT 38 E (NO/YR) 0.3074E-040.1539E-050.8714E-070.6562E-080.6397E-090.7743E-100.1119E-100.1798E-110.3214E-120.4614E-13
FAULT 39 E (NO/YR) 0.4007E-040.7829E-060.2540E-070.1329E-080.1037E-090.1143E-100.1562E-110.7565E-130.0000E+000.0000E+00
FAULT 40 E (NO/YR) 0.4281E-030.1577E-040.7715E-060.5335E-070.4882E-080.5676E-090.7991E-100.1166E-100.1963E-110.2256E-12
FAULT 41 E (NO/YR) 0.1329E-030.1070E-050.2104E-070.7712E-090.4339E-100.2895E-110.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 42 E (NO/YR) 0.1355E-030.1412E-050.3190E-070.1438E-080.1179E-090.1498E-100.1164E-110.0000E+000.0000E+000.0000E+00

FAULT 43 E (NO/YR) 0.1191E-030.1856E-058.5173E-070.2437E-080.1778E-090.1552E-100.1902E-110.0000E+000.0000E+000.0000E+000
 FAULT 44 E (NO/YR) 0.4072E-040.7628E-060.3168E-070.2301E-080.2508E-090.3741E-100.6825E-110.1040E-110.0000E+000.0000E+000
 FAULT 45 E (NO/YR) 0.1065E-030.1809E-050.6414E-070.4007E-080.3861E-090.5234E-100.8899E-110.1343E-110.0000E+000.0000E+000
 FAULT 46 E (NO/YR) 0.1091E-040.1123E-060.2765E-080.1353E-090.1128E-100.1314E-110.8392E-130.0000E+000.0000E+000.0000E+000
 FAULT 47 E (NO/YR) 0.1504E-050.1381E-070.4132E-090.2550E-100.2522E-110.2042E-120.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 48 E (NO/YR) 0.2755E-040.2418E-060.6826E-080.3943E-090.3590E-100.3179E-110.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 49 E (NO/YR) 0.4409E-040.2359E-060.3398E-080.9787E-100.3758E-110.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 50 E (NO/YR) 0.6831E-050.1651E-070.2164E-090.7274E-110.0800E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 51 E (NO/YR) 0.1728E-050.3155E-080.3150E-100.6916E-120.0800E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 TOTAL E (NO/YR) 0.8844E-010.2202E-010.7312E-020.2780E-020.1160E-020.5211E-030.2486E-030.1248E-030.6341E-040.3559E-04
 TOTAL RISK 0.8318E-010.2178E-010.7285E-020.2774E-020.1155E-020.5209E-030.2468E-030.1248E-030.6341E-040.3559E-04

AMPLITUDES (g): 0.1100E+010.1200E+010.1300E+010.1400E+010.1500E+01
 LN (AMPLITUDE): 0.10 0.18 0.26 0.34 0.41
 FAULT 1 E (NO/YR) 0.1421E-040.8521E-050.5210E-050.3244E-050.2054E-05
 FAULT 2 E (NO/YR) 0.1038E-050.5713E-060.3241E-060.1888E-060.1127E-06
 FAULT 3 E (NO/YR) 0.4080E-060.2156E-060.1175E-060.6598E-070.3803E-07
 FAULT 4 E (NO/YR) 0.1935E-050.1021E-050.5551E-060.3099E-060.1772E-06
 FAULT 5 E (NO/YR) 0.1123E-050.5779E-060.3075E-060.1687E-060.9527E-07
 FAULT 6 E (NO/YR) 0.8146E-070.4076E-070.2113E-070.1132E-070.6250E-08
 FAULT 7 E (NO/YR) 0.1095E-060.5678E-070.3049E-070.1699E-070.9629E-08
 FAULT 8 E (NO/YR) 0.6432E-070.3264E-070.1718E-070.9344E-080.5239E-08
 FAULT 9 E (NO/YR) 0.1001E-050.5221E-060.2808E-060.1555E-060.8841E-07
 FAULT 10 E (NO/YR) 0.7524E-080.3414E-080.1614E-080.7922E-090.4005E-09
 FAULT 11 E (NO/YR) 0.2364E-080.1139E-080.5721E-090.2987E-090.1612E-09
 FAULT 12 E (NO/YR) 0.5257E-090.2377E-090.1141E-090.5765E-100.3055E-10
 FAULT 13 E (NO/YR) 0.1423E-070.6351E-080.2991E-080.1478E-080.7624E-09
 FAULT 14 E (NO/YR) 0.6824E-080.3052E-080.1431E-080.7009E-090.3568E-09
 FAULT 15 E (NO/YR) 0.5464E-090.2916E-090.1380E-090.6731E-100.3237E-10
 FAULT 16 E (NO/YR) 0.1211E-090.5006E-100.2185E-100.9572E-110.4142E-11
 FAULT 17 E (NO/YR) 0.5938E-100.2484E-100.1122E-100.5181E-110.2466E-11
 FAULT 18 E (NO/YR) 0.1384E-080.5920E-090.2712E-090.1285E-090.6133E-10
 FAULT 19 E (NO/YR) 0.3661E-100.1127E-100.3630E-110.1034E-110.0000E+000
 FAULT 20 E (NO/YR) 0.6226E-100.2682E-100.1232E-100.5811E-110.2832E-11
 FAULT 21 E (NO/YR) 0.7323E-090.3070E-090.1374E-090.6431E-100.2889E-10
 FAULT 22 E (NO/YR) 0.9223E-090.3895E-090.1735E-090.8015E-100.3681E-10
 FAULT 23 E (NO/YR) 0.1104E-100.4012E-110.1339E-110.3937E-120.2384E-13
 FAULT 24 E (NO/YR) 0.4275E-100.1405E-100.3990E-110.0000E+000.0000E+000
 FAULT 25 E (NO/YR) 0.1175E-100.4214E-110.1223E-110.2429E-120.9819E-14
 FAULT 26 E (NO/YR) 0.7164E-100.2824E-100.1167E-100.4811E-110.1756E-11
 FAULT 27 E (NO/YR) 0.3469E-110.2738E-120.0000E+000.0000E+000.0000E+000
 FAULT 28 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 29 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 30 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 31 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 32 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 33 E (NO/YR) 0.4362E-110.8519E-120.0000E+000.0000E+000.0000E+000
 FAULT 34 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000

FAULT 35 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 36 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 37 E (NO/YR) 0.5639E-130.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 38 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 39 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 40 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 41 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 42 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 43 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 44 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 45 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 46 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 47 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 48 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 49 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 50 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 FAULT 51 E (NO/YR) 0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000
 TOTAL E (NO/YR) 0.2001E-040.1158E-040.6871E-050.4174E-050.2589E-05
 TOTAL RISK 0.2001E-040.1158E-040.6871E-050.4174E-050.2589E-05
 SPECIFIED RISKS: 0.013900 0.010000 0.005000 0.002105 0.001050
 ESTIMATED LN AMP. -1.443 -1.321 -1.092 -0.846 -0.671
 ESTIMATED AMP. (g): 0.23618 0.26691 0.33563 0.42931 0.51142

SADIGH ET AL. (1997) DEEP SOIL 2

AMPLITUDES (g): 0.1000E+000.2000E+000.3000E+000.4000E+000.5000E+000.6000E+000.7000E+000.8000E+000.9000E+000.1000E+01
 LN (AMPLITUDE): -2.30 -1.61 -1.20 -0.92 -0.69 -0.51 -0.36 -0.22 -0.11 0.00
 FAULT 1 E (NO/YR) 0.6102E-020.3532E-020.1844E-020.9552E-030.4907E-030.2564E-030.1371E-030.7507E-040.4213E-040.2420E-04
 FAULT 2 E (NO/YR) 0.5469E-020.1899E-020.6368E-030.2294E-030.8901E-040.3710E-040.1646E-040.7719E-050.3797E-050.1948E-05
 FAULT 3 E (NO/YR) 0.2665E-070.8668E-030.3324E-030.1186E-030.4488E-040.1806E-040.7699E-050.3458E-050.1628E-050.7995E-06
 FAULT 4 E (NO/YR) 0.1587E-010.5197E-020.1678E-020.5746E-030.2138E-030.8541E-040.3635E-040.1638E-040.7707E-050.3791E-05
 FAULT 5 E (NO/YR) 0.7568E-020.3010E-020.1071E-020.3846E-030.1442E-030.5690E-040.2367E-040.1036E-040.4734E-050.2261E-05
 FAULT 6 E (NO/YR) 0.1476E-020.4457E-030.1317E-030.4139E-040.1405E-040.5141E-050.2013E-050.8371E-060.3675E-060.1693E-06
 FAULT 7 E (NO/YR) 0.2958E-020.6747E-030.1710E-030.4992E-040.1648E-040.6020E-050.3392E-050.1919E-050.4613E-060.2198E-06
 FAULT 8 E (NO/YR) 0.2031E-020.4670E-030.1189E-030.3441E-040.1117E-040.3991E-050.1548E-050.6436E-060.2840E-060.1321E-06
 FAULT 9 E (NO/YR) 0.5368E-020.2193E-020.6090E-030.2980E-030.1148E-030.4638E-040.1971E-040.8780E-050.4095E-050.1988E-05
 FAULT 10 E (NO/YR) 0.2681E-020.3384E-030.5790E-040.1248E-040.3200E-050.9399E-060.3077E-060.1100E-060.4238E-070.1738E-07
 FAULT 11 E (NO/YR) 0.6699E-030.7577E-040.1277E-040.2798E-050.7414E-060.2269E-060.7799E-070.2926E-070.1189E-070.5155E-08
 FAULT 12 E (NO/YR) 0.2531E-030.3987E-040.7047E-050.1437E-050.3348E-060.8632E-070.2648E-070.8739E-080.3161E-080.1242E-08
 FAULT 13 E (NO/YR) 0.5861E-020.9412E-030.1668E-030.3463E-040.8335E-050.2283E-050.5979E-060.2347E-060.8355E-070.3381E-07
 FAULT 14 E (NO/YR) 0.2149E-020.3455E-030.6332E-040.1373E-040.3455E-050.9844E-060.3115E-060.1078E-060.4024E-070.1609E-07
 FAULT 15 E (NO/YR) 0.1194E-020.8302E-040.9981E-050.1715E-050.3771E-060.5940E-070.3013E-070.1020E-070.3785E-080.1515E-08
 FAULT 16 E (NO/YR) 0.6327E-030.4733E-040.5161E-050.7691E-060.1454E-060.3307E-070.8730E-080.2605E-080.8617E-090.3113E-09
 FAULT 17 E (NO/YR) 0.4463E-030.8860E-040.6891E-050.9194E-060.1453E-060.2723E-070.6004E-080.1546E-080.4559E-090.1551E-09
 FAULT 18 E (NO/YR) 0.4007E-020.3234E-030.3784E-040.6023E-050.1211E-050.2919E-060.8137E-070.2555E-070.8668E-080.3352E-08
 FAULT 19 E (NO/YR) 0.9617E-070.1156E-030.1256E-040.1592E-050.2397E-060.4211E-070.8445E-080.1968E-080.4694E-090.1204E-09
 FAULT 20 E (NO/YR) 0.5810E-030.5980E-040.6252E-050.7907E-060.1231E-060.2234E-070.5307E-080.1426E-080.4444E-090.1576E-09
 FAULT 21 E (NO/YR) 0.4081E-020.4341E-030.4957E-040.6997E-050.1210E-050.2511E-060.8106E-070.1706E-070.5397E-080.1895E-08

FAULT 22 E (NO/YR)	0.4605E+026.3698E+035.4055E+040.5989E+050.1114E+050.2499E+060.6128E+070.1933E+070.6424E+080.2338E+08
FAULT 23 E (NO/YR)	0.3689E+030.2305E+040.1843E+050.2017E+060.2859E+070.5241E+080.1152E+080.2997E+090.9048E+100.3029E+10
FAULT 24 E (NO/YR)	0.9866E+030.4737E+040.4059E+050.5201E+060.8780E+070.1820E+070.4421E+080.1218E+090.3720E+090.1229E+09
FAULT 25 E (NO/YR)	0.2944E+030.1578E+040.1321E+050.1595E+060.2541E+070.5018E+080.1179E+080.3196E+090.5776E+100.3267E+10
FAULT 26 E (NO/YR)	0.7965E+030.5802E+040.5799E+050.7809E+060.1334E+060.2760E+070.6679E+080.1844E+090.5495E+090.1939E+09
FAULT 27 E (NO/YR)	0.1456E+020.4953E+040.2567E+050.2034E+060.2300E+070.3515E+080.6943E+090.1691E+090.4749E+100.1346E+10
FAULT 28 E (NO/YR)	0.5719E+030.1268E+040.4710E+060.2892E+070.2722E+080.3708E+090.6829E+100.1512E+100.3076E+110.3134E+12
FAULT 29 E (NO/YR)	0.4957E+030.6574E+050.2703E+060.2019E+070.2232E+080.3149E+090.4768E+100.0000E+000.0000E+000.0000E+00
FAULT 30 E (NO/YR)	0.2420E+040.3497E+060.1493E+070.1235E+080.1544E+090.2526E+100.4559E+110.3444E+120.0000E+000.0000E+00
FAULT 31 E (NO/YR)	0.2066E+030.2981E+050.1360E+060.1167E+070.1499E+080.2497E+090.4910E+100.2317E+110.0000E+000.0000E+00
FAULT 32 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 33 E (NO/YR)	0.1882E+020.1400E+030.1041E+040.9589E+060.1094E+060.1502E+070.2410E+080.4377E+090.4977E+100.1940E+10
FAULT 34 E (NO/YR)	0.1592E+030.2323E+050.4731E+070.3733E+080.3605E+090.5376E+100.1001E+100.4797E+120.0000E+000.0000E+00
FAULT 35 E (NO/YR)	0.2932E+050.3708E+070.9484E+090.4192E+100.2759E+110.2416E+120.1616E+130.0000E+000.0000E+000.0000E+00
FAULT 36 E (NO/YR)	0.3648E+030.0478E+050.2939E+060.1661E+070.1350E+080.1543E+090.2311E+100.2209E+110.0000E+000.0000E+00
FAULT 37 E (NO/YR)	0.7596E+040.4515E+050.2917E+060.2426E+070.2557E+080.3295E+090.5024E+100.8566E+110.1632E+110.3205E+12
FAULT 38 E (NO/YR)	0.3074E+040.1539E+050.8716E+070.6562E+080.6397E+090.7743E+100.1118E+100.1798E+110.3245E+120.4614E+13
FAULT 39 E (NO/YR)	0.4007E+040.7819E+060.2540E+070.1329E+080.1037E+090.1143E+100.1562E+110.7565E+130.0000E+000.0000E+00
FAULT 40 E (NO/YR)	0.6281E+030.1577E+040.7715E+060.5315E+070.4882E+080.5670E+090.7991E+100.2116E+100.1963E+110.2258E+12
FAULT 41 E (NO/YR)	0.1329E+030.1070E+050.2104E+070.7712E+090.4339E+100.2989E+110.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 42 E (NO/YR)	0.1353E+030.1412E+050.3198E+070.1438E+080.1179E+090.1498E+100.1164E+110.0000E+000.0000E+000.0000E+00
FAULT 43 E (NO/YR)	0.1111E+030.1858E+050.5173E+070.2437E+080.1778E+090.1852E+100.1902E+110.0000E+000.0000E+000.0000E+00
FAULT 44 E (NO/YR)	0.4072E+040.7628E+060.3148E+070.2301E+080.2508E+090.3741E+100.6825E+110.1040E+110.0000E+000.0000E+00
FAULT 45 E (NO/YR)	0.1045E+030.1809E+050.6414E+070.4007E+080.3861E+090.5234E+100.8099E+110.1343E+110.0000E+000.0000E+00
FAULT 46 E (NO/YR)	0.1081E+040.1123E+060.2745E+080.1353E+090.1128E+100.1314E+110.8392E+130.0000E+000.0000E+000.0000E+00
FAULT 47 E (NO/YR)	0.1604E+050.1381E+070.4132E+090.2550E+100.2522E+110.2002E+120.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 48 E (NO/YR)	0.2755E+040.2416E+060.6926E+080.3943E+090.3596E+100.3178E+110.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 49 E (NO/YR)	0.4469E+040.2359E+060.3394E+080.9787E+100.3756E+110.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 50 E (NO/YR)	0.6831E+050.1651E+070.2164E+090.7274E+110.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 51 E (NO/YR)	0.1738E+050.3152E+080.3150E+100.4961E+120.0000E+000.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
TOTAL E (NO/YR)	0.8484E+010.2282E+010.7312E+020.2780E+020.1160E+020.5211E+030.2486E+030.1248E+030.6541E+040.3559E+04
TOTAL RISK	0.9310E+010.2178E+010.7285E+020.2776E+020.1159E+020.5209E+030.2486E+030.1248E+030.6541E+040.3559E+04
AMPLITUDES (g):	0.1100E+010.1200E+010.1300E+010.1400E+010.1500E+01
LN (AMPLITUDE):	0.10 0.18 0.26 0.34 0.41
FAULT 1 E (NO/YR)	0.1421E+040.8521E+050.5210E+050.3244E+050.2054E+05
FAULT 2 E (NO/YR)	0.1039E+050.5713E+060.3241E+060.1888E+060.1127E+06
FAULT 3 E (NO/YR)	0.4080E+060.2156E+060.1175E+060.6598E+070.3803E+07
FAULT 4 E (NO/YR)	0.1935E+050.1021E+050.5551E+060.3099E+060.1772E+06
FAULT 5 E (NO/YR)	0.1123E+050.5779E+060.3075E+060.1687E+060.9527E+07
FAULT 6 E (NO/YR)	0.8146E+070.4076E+070.2113E+070.1132E+070.6250E+08
FAULT 7 E (NO/YR)	0.1095E+060.5678E+070.3049E+070.1689E+070.9629E+08
FAULT 8 E (NO/YR)	0.6432E+070.3264E+070.1718E+070.9344E+080.5238E+08
FAULT 9 E (NO/YR)	0.1001E+050.5221E+060.2808E+060.1555E+060.8841E+07
FAULT 10 E (NO/YR)	0.7524E+080.3414E+080.1614E+080.7922E+090.4005E+09
FAULT 11 E (NO/YR)	0.2364E+080.1139E+080.5721E+090.2987E+090.1612E+09
FAULT 12 E (NO/YR)	0.5257E+090.2377E+090.1141E+090.5765E+100.3055E+10
FAULT 13 E (NO/YR)	0.1423E+070.6351E+080.2991E+080.1478E+080.7624E+09

FAULT 14 E (NO/YR)	0.6824E+080.3052E+080.1431E+080.7009E+090.3568E+09
FAULT 15 E (NO/YR)	0.6464E+090.2916E+090.1380E+090.6731E+100.3237E+10
FAULT 16 E (NO/YR)	0.1211E+090.5006E+100.2165E+100.9572E+110.4142E+11
FAULT 17 E (NO/YR)	0.5938E+100.2484E+100.1122E+100.5818E+110.2466E+11
FAULT 18 E (NO/YR)	0.1364E+080.5920E+090.2712E+090.1285E+090.6133E+10
FAULT 19 E (NO/YR)	0.3661E+100.1127E+100.3630E+110.1034E+110.0000E+00
FAULT 20 E (NO/YR)	0.6226E+100.2682E+100.1232E+100.5811E+110.2832E+11
FAULT 21 E (NO/YR)	0.7323E+090.3070E+090.1374E+090.6431E+100.2889E+10
FAULT 22 E (NO/YR)	0.9223E+090.3895E+090.1735E+090.8015E+100.3681E+10
FAULT 23 E (NO/YR)	0.1104E+100.4012E+110.1339E+110.3937E+120.2384E+13
FAULT 24 E (NO/YR)	0.4275E+100.1405E+100.3990E+110.0000E+000.0000E+00
FAULT 25 E (NO/YR)	0.1179E+100.4214E+110.1223E+110.2428E+120.9819E+14
FAULT 26 E (NO/YR)	0.7164E+100.2824E+100.1167E+100.4811E+110.1756E+11
FAULT 27 E (NO/YR)	0.3489E+110.2738E+120.0000E+000.0000E+000.0000E+00
FAULT 28 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 29 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 30 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 31 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 32 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 33 E (NO/YR)	0.4362E+110.8519E+120.0000E+000.0000E+000.0000E+00
FAULT 34 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 35 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 36 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 37 E (NO/YR)	0.5639E+130.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 38 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 39 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 40 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 41 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 42 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 43 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 44 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 45 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 46 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 47 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 48 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 49 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 50 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
FAULT 51 E (NO/YR)	0.0000E+000.0000E+000.0000E+000.0000E+000.0000E+00
TOTAL E (NO/YR)	0.2001E+040.1158E+040.6871E+050.4174E+050.2589E+05
TOTAL RISK	0.2001E+040.1158E+040.6871E+050.4174E+050.2589E+05
SPECIFIED RISKS:	0.013900 0.010000 0.005000 0.002100 0.001050
ESTIMATED LN AMP. :	-1.443 -1.321 -1.092 -0.846 -0.671
ESTIMATED AMP. (g):	0.23618 0.26681 0.33563 0.42931 0.51142

CLOSEST DISTANCES BETWEEN SITE AND FAULT RUPTURES

NO.	FAULT NAME	CD_1DRP	CD_2DRP	CDIST	CLODIS	CD_EPI	CD_HYPO
1	GREAT VALLEY 5	13.7	4.0	10.4	10.4	5.2	10.7 km
2	CONCORD/GV (CON)	14.2	14.2	14.2	14.2	14.2	14.3 km
3	CONCORD/GV (CON+GVS)	14.2	14.2	14.2	14.2	14.2	14.3 km
4	CONCORD/GV (FLOATING)	14.2	14.2	14.2	14.2	14.2	14.7 km
5	CONCORD/GV (CON+GVS+GVN)	14.2	14.2	14.2	14.2	14.2	14.3 km
6	GREENVILLE (GN)	15.6	15.6	15.6	15.6	16.7	16.7 km
7	CONCORD/GV (GVS)	17.1	17.1	17.1	17.1	17.5	17.6 km
8	CONCORD/GV (GVS+GVN)	17.1	17.1	17.1	17.1	17.5	17.6 km
9	MOONT DIABLO (MTD)	20.9	10.6	19.1	19.1	11.5	19.2 km
10	CALAVERAS (FLOATING)	25.0	25.0	25.0	25.0	27.1	27.3 km
11	CALAVERAS (CC+CN)	25.0	25.0	25.0	25.0	25.6	25.7 km
12	CALAVERAS (CS+CC+CN)	25.0	25.0	25.0	25.0	25.6	25.7 km
13	CALAVERAS (CN)	25.0	25.0	25.0	25.0	25.6	25.7 km
14	GREAT VALLEY 4	30.8	29.4	30.8	30.8	30.4	31.8 km
15	CONCORD/GV (GVN)	35.2	35.2	35.2	35.2	36.2	36.2 km
16	WEST NAPA	35.6	35.6	35.6	35.6	36.5	36.5 km
17	HAYWARD (HS+HN+HC)	35.9	35.9	35.9	35.9	35.9	35.9 km
18	HAYWARD (HN)	35.9	35.9	35.9	35.9	35.9	35.9 km
19	HAYWARD (FLOATING)	35.9	35.9	35.9	35.9	35.9	36.4 km
20	HAYWARD (HN+HC)	35.9	35.9	35.9	35.9	35.9	35.9 km
21	HAYWARD (HS+HN)	35.9	35.9	35.9	35.9	35.9	35.9 km
22	HAYWARD (HS)	35.9	35.9	35.9	35.9	36.0	36.0 km
23	GREENVILLE (CS+GN)	41.7	41.7	41.7	41.7	42.8	42.8 km
24	GREENVILLE (FLOATING)	41.7	41.7	41.7	41.7	45.1	45.2 km
25	GREENVILLE (GS)	41.7	41.7	41.7	41.7	42.8	42.8 km
26	GREAT VALLEY 7	44.6	44.6	45.1	45.1	45.7	46.3 km
27	HAYWARD (RC)	48.9	48.9	48.9	48.9	49.6	49.6 km
28	HUNTING CREEK - BERRIYESSA	55.6	55.6	55.6	55.6	56.6	56.7 km
29	CALAVERAS (CS+CC FLOATING)	64.2	64.2	64.2	64.2	67.1	67.2 km
30	CALAVERAS (CS+CC)	64.2	64.2	64.2	64.2	65.1	65.1 km
31	CALAVERAS (CC)	64.2	64.2	64.2	64.2	65.1	65.1 km
32	SAN ANDREAS (SAP+SAN)	64.8	64.8	64.8	64.8	64.8	64.9 km
33	SAN ANDREAS (SAS+SAP+SAN+SAO)	64.8	64.8	64.8	64.8	64.8	65.2 km
34	SAN ANDREAS (SAP)	64.8	64.8	64.8	64.8	64.8	64.9 km
35	SAN ANDREAS (FLOATING)	64.8	64.8	64.8	64.8	64.8	65.2 km
36	SAN ANDREAS (SAS+SAP)	64.8	64.8	64.8	64.8	64.8	64.9 km
37	SAN ANDREAS (SAP+SAN+SAO)	64.8	64.8	64.8	64.8	64.8	65.1 km
38	SAN ANDREAS (SAS+SAP+SAN)	64.8	64.8	64.8	64.8	64.8	64.8 km
39	SAN ANDREAS (SAN)	65.9	65.9	65.9	65.9	66.1	66.1 km
40	SAN ANDREAS (SAN+SAO)	65.9	65.9	65.9	65.9	66.1	66.1 km
41	SAN GREGORIO (FLOATING)	70.1	70.1	70.1	70.1	70.9	71.2 km
42	SAN GREGORIO (SGH)	70.1	70.1	70.1	70.1	70.1	70.1 km
43	SAN GREGORIO (SGH+SGN)	70.1	70.1	70.1	70.1	70.1	70.1 km
44	MONTE VISTA - SHANNON	72.2	72.2	72.2	72.2	73.0	73.0 km
45	GREAT VALLEY 3	73.5	71.2	71.8	71.8	72.4	73.0 km

46 POINT REYES	83.7	81.4	81.9	81.9	82.6	83.0 km
47 FOOTHILLS FAULT SYSTEM 1	91.0	91.0	91.0	91.0	91.8	91.8 km
48 GREAT VALLEY 8	90.9	87.5	88.1	88.1	88.9	89.4 km
49 MACAMA - GERRERVILLE	94.2	94.2	94.2	94.2	95.2	95.2 km
50 SAN ANDREAS (SAS)	94.3	94.3	94.3	94.3	95.0	95.0 km
51 ORTIGALITA	98.5	98.5	98.5	98.5	99.6	99.6 km

EXPLANATION

CD_1DRP = Closest distance to projection of rupture area along fault trace.
 CD_2DRP = Closest distance to surface projection of the rupture area.
 CDIST = Closest distance to seismogenic rupture.
 CLODIS = Closest distance to subsurface rupture.
 CD_EPI = Closest epicentral distance.
 CD_HYPO = Closest hypocentral distance.

APPENDIX B

Previous Geotechnical Report

REPORT

TO

PITTSBURG UNIFIED SCHOOL DISTRICT
40 SEENO STREET
PITTSBURG, CALIFORNIA

ON

FOUNDATION SOILS INVESTIGATION FOR
A PROPOSED CREATIVE ARTS BUILDING
PITTSBURG HIGH SCHOOL, PITTSBURG, CALIFORNIA

HERSEY INSPECTION BUREAU
INSPECTING-TESTING ENGINEERS
3405 PIEDMONT AVENUE
OAKLAND 11, CALIFORNIA

CONTENTS

	<u>PAGE</u>
LETTER OF TRANSMITTAL	
SCOPE	1
DESCRIPTION OF TEST HOLES	1
SOILS CONDITIONS	2
EXAMINATIONS AND TEST RESULTS	2
DISCUSSION OF TEST RESULTS	3
CONCLUSIONS AND RECOMMENDATIONS	4

TABLE I	- SUMMARY OF TEST RESULTS
FIGURE 1	- SITE PLAN
FIGURE 2	- LOG OF TEST HOLES
FIGURE 3	- LOG OF TEST HOLES
FIGURE 4	- SOIL CLASSIFICATION CHART
FIGURE 5	- PLASTICITY INDEX

REPORT

TO

PITTSBURG UNIFIED SCHOOL DISTRICT
40 SEENO STREET
PITTSBURG, CALIFORNIA

ON

FOUNDATION SOILS INVESTIGATION FOR
A PROPOSED CREATIVE ARTS BUILDING
PITTSBURG HIGH SCHOOL, PITTSBURG, CALIFORNIA

SCOPE

This report covers an investigation of the foundation conditions of the proposed new Creative Arts Building for the Pittsburg High School, located on the school campus in Pittsburg, California.

The field work consisted of drilling a series of test borings at selected locations on the site. Visual logs were maintained on each test boring. Undisturbed samples were taken at predetermined depths from these test holes. The samples thus obtained were subjected to laboratory analyses and visual inspections to evaluate the physical and mechanical properties of the soils encountered. The data thus obtained have been utilized in determining the structural values allowable for the subgrade soils.

DESCRIPTION OF TEST HOLES

Six (6) test holes were drilled at selected locations in the building area where maximum loadings are expected. Undisturbed samples were obtained by use of a 2-inch modified California Sampler, driven with a 140-lb. hammer having a free fall of thirty (30) inches. Resistance to penetration by the sampler was also noted and recorded. Drilling was performed on May 11 - 12, 1956.

The locations of the test holes are shown on the site plan, Figure 1. Test holes are numbered as indicated on the site plan.

pittsburg High School

Job No. 530-56
Page Three

EXAMINATIONS AND TEST RESULTS(Cont'd.)

Figure 4, and the plasticity characteristics of typical samples are given in Figure 5. The relatively dense and cemented nature of the sand and sand clay subgrade soils indicate that consolidation will not be a factor.

DISCUSSION OF TEST RESULTS

Primary requirements to be fulfilled in any foundation material, whether it is intended to support fill or to offer direct support for structural footings, resolve into these general criteria: (1) it must be safe against shear failure or lateral flow of soil from under the load; and (2), the vertical settlement, caused by the consolidation of the soil in place through a decrease in the volume of voids, must not exceed the amount permissible for the particular type of structure.

Results of tests and past experience with footings which rest on preconsolidated clay-like soils show that, insofar as lateral shear failure is concerned, conservative values are obtained from theoretical values of the ultimate bearing capacity for this type of material as determined from non-confined compression tests. It is observed that the average shear stress values on the surface of impending failure are consistently less than one-half (1/2) the unconfined compressive strengths. The vertical pressure allowable on any clay-like soil, therefore, will be conservatively approximated if it is limited so as not to exceed the non-confined compressive strength (except for short time loads).

Sandy soils have adequate strength against lateral shear failure regardless of low non-confined compressive strengths. Settlement on sandy soils will not be excessive if the soil pressures are governed by the compactness of the material.

DISCUSSION OF TEST RESULTS (Cont'd.)

The soils encountered on the subject site are primarily pre-consolidated sand clays and clay sands. The clay sands and silt sands are lightly cemented and exhibit moderate to low plasticities. The high non-confined compressive values and densities found in the clay-like soils, and the resistance to penetration of the sampler in the sandy soils indicate satisfactory compactness and the ability to support the proposed structural loads at a maximum dead load bearing of 3000 psf at a depth of twenty-four (24) inches below existing grade without excessive settlement. This value may be increased by approximately fifty (50) percent for combined dead load and live load.

Precautions should be taken to reduce to a minimum the possibility of differential settlement of footings. Such differential settlement may be decreased by avoiding differences in pressures due to real loads, by keeping variations in footing widths as small as practicable, and by elimination of eccentric loadings on footings where possible.

The soil pressures recommended are net dead load pressures. The total allowable load on a stratum is the recommended pressure plus the weight of the soil removed from above the footing excavation. The values for dead load pressures only may be increased for a combination dead load plus live load by approximately fifty (50) percent.

CONCLUSIONS AND RECOMMENDATIONS

The area covered by this investigation is composed primarily of preconsolidated sedimentary deposits of sand clays and sand silts with the soils formed on them. They are compact in structure, well drained, and should provide adequate foundation materials for the purposes intended.

CONCLUSIONS AND RECOMMENDATIONS (Cont'd.)

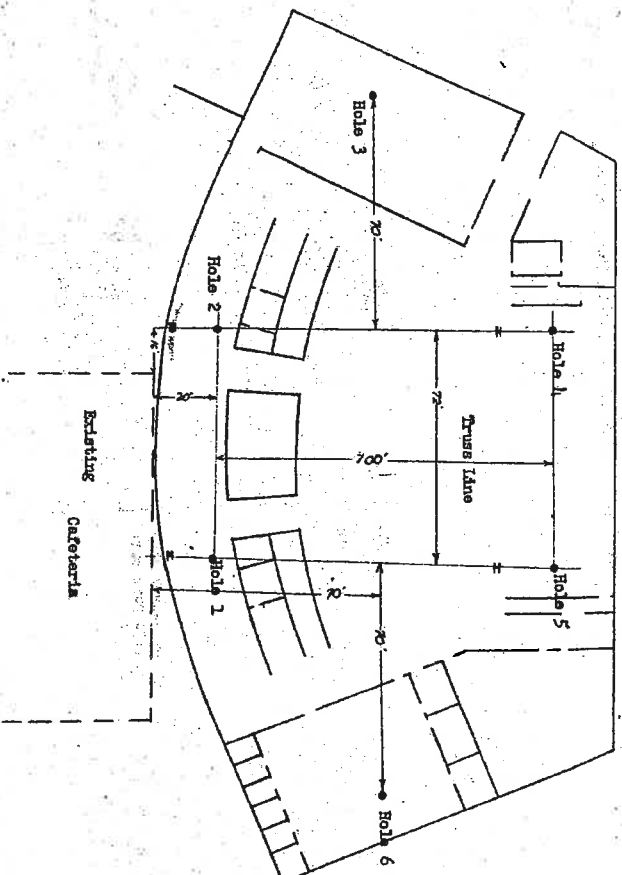
The recommended maximum dead load soil pressure as supported by test data is 3000 psf at a depth of twenty-four (24) inches below existing natural grade. These values may be increased for a combined dead load plus live load to not more than one and one-half (1-1/2) times the amount for dead load only.

In the event final grades might indicate the need for fill under the building site, such fill should be placed under the direct supervision and control of a soils engineer, who will approve fill materials used and compactions obtained. Where such engineer-controlled fill is placed, the suggested bearing values as indicated above may be used.

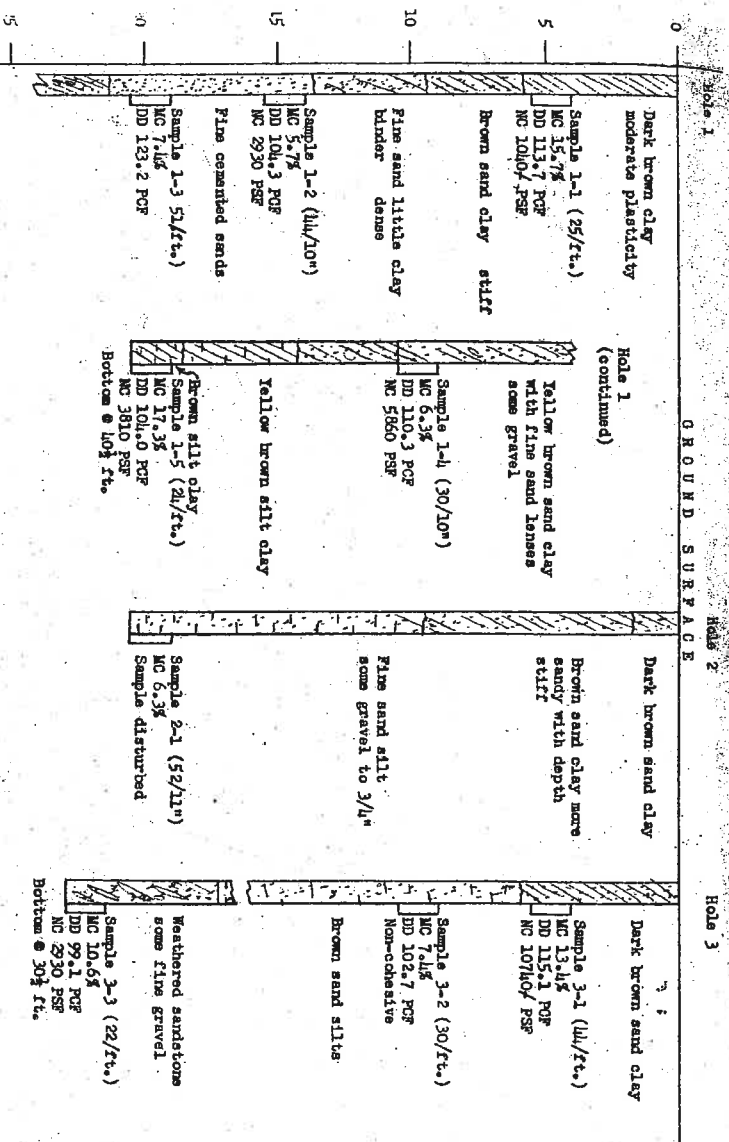
Should the design warrant, drilled caissons may be used. Bearing values of approximately 8000 psf are indicated on end bearing at a depth of approximately ten to twelve (10-12) feet below existing grade.

The moderately low resistance values found in the surface soils indicate that floor slabs, if used, should not be placed directly upon the native soils. It is recommended that the loose topsoils be removed, and after a thorough compaction of the subgrade, a minimum of six (6) inches of compacted, granular, non-plastic fill be placed as a sub base. Likewise, in possible street or parking areas, it is recommended that a minimum of six inches (6") of crusher run base be provided under the plant mix surfacing.

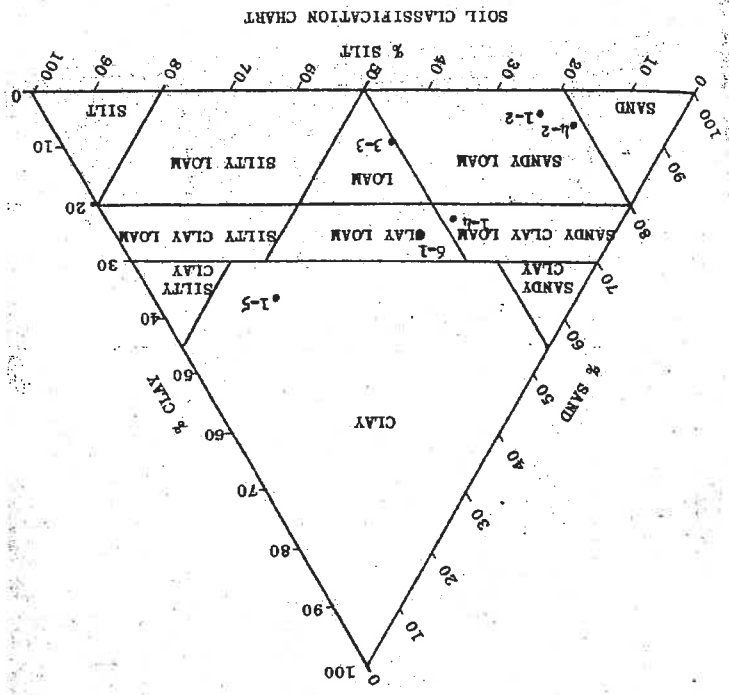
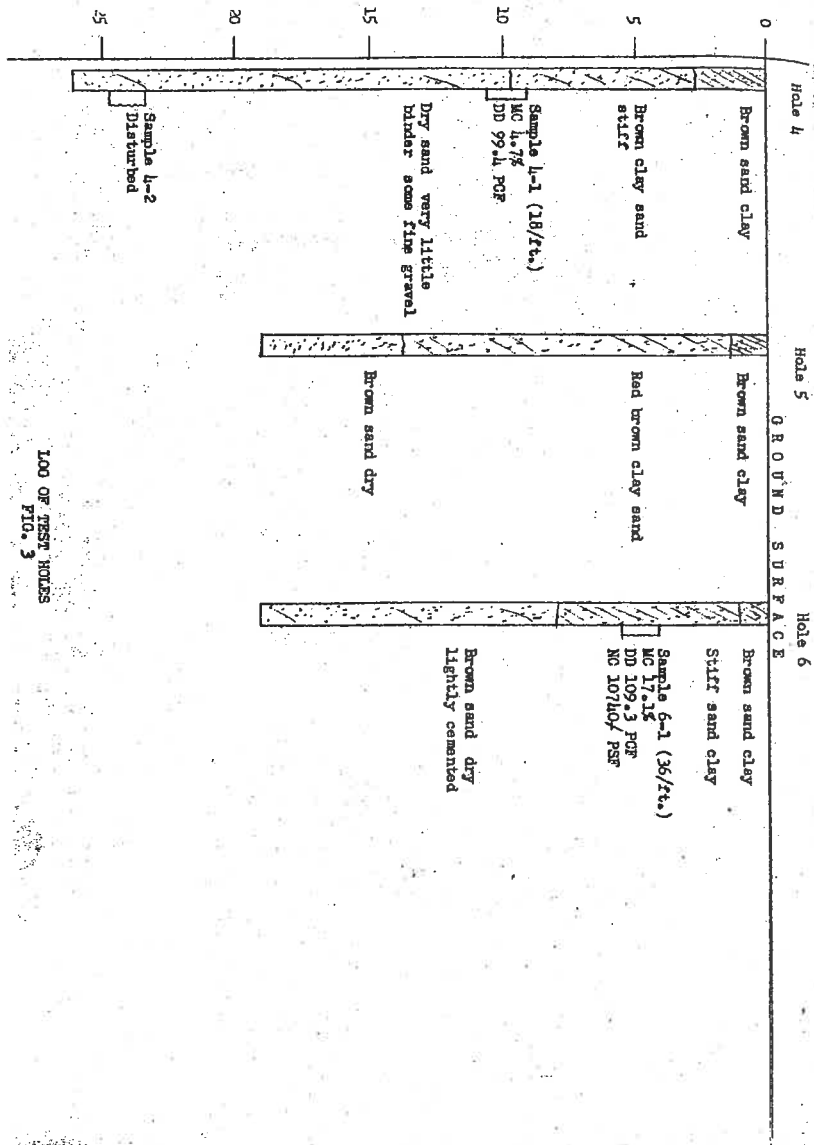
CREATIVE ARTS BUILDING
Pittsford Senior High School



SITE PLAN
FIG. 1

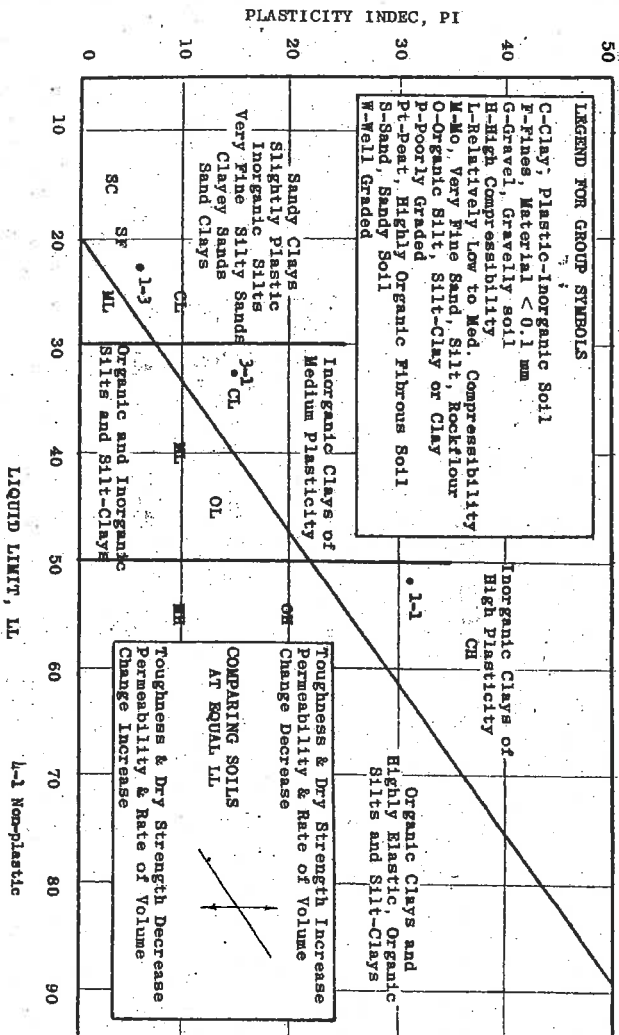


LOG OF TEST HOLES
FIG. 2



NOTE: IN DETERMINING SOIL CLASSIFICATION BY SIZE COLLOIDS ARE INCLUDED IN CLAY SIZE: GRAVEL IS NOT CONSIDERED.

SOIL DESIGNATION	PARTICLE SIZE, MM
COLLOIDS	LESS THAN 0.001
CLAY	UP TO 0.005
SILT	0.005 to 0.050
SAND	0.050 to 2.000
GRAVEL	LARGER THAN 2.000



PLASTICITY CHART
FIG. 5

SAMPLE NUMBER	MOISTURE CONTENT % DRY WT	DRY UNIT WT. PCP	NON-COHESED COMPRESSIVE STRENGTH (PSI)	SOIL CLASSIFICATION SAND-SILT-CLAY (CONSOLID.)	PLASTICITY CHARACTERISTICS
113	15.7	113.7	10, 710+	75	52.4
114	5.7	104.3	2930	21	20.3
115	7.4	123.2	Disturbed	4	32.1
116	6.3	110.3	5060	25	23.4
117	17.3	104.0	3010	19	17.1
118	6.3	Disturbed	10, 710+	23 (11)	6.3
119	13.4	115.1	10, 710+	25	38.0
120	7.4	102.7	Non-cohesive	36 (14)	17.1
121	10.6	99.1	2930	19	14.9
122	4.7	99.4	Non-cohesive	21	38.0
123	-	Disturbed	10, 710+	23 (11)	17.1
124	17.1	109.3	10, 710+	25	6.3

Waburn Unified School District

TABLE 1 - SUMMARY OF TEST RESULTS

Job No. 530-56
May 21, 1956



ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

October 2, 2008

003-09226-02 004

Mr. Mark Bonnett
Assistant Superintendent, Business Services
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, California 94565

Subject: Amendment of the February 21, 2008 Geotechnical Design Report for the Pittsburg Senior High School, Pittsburg, California

Dear Mr. Bonnett:

This letter revises and amends LFR's Geotechnical Design Report for the Pittsburg High School reconstruction project (Revision 1 dated February 21, 2008) and is applicable to the on-going modernization project as well. This letter updates the recommendations for excavation and fill based on the revised grading plan that requires up to 5 feet of cut and 3 feet of fill under the new school building. This letter also addresses the need for sulfate-resistant concrete at the High School. The recommendations contained in this letter apply to building foundations and to paved areas (parking lots, brick or paver courtyards, asphalt play areas, et cetera).

Subgrade Preparation

In areas where more than 12 inches of cut is proposed: scarify to 12 inches below the final grade (i.e., after cutting to the design elevation, scarify an additional 12 inches), moisture condition the scarified soil to a minimum of 3% above optimum moisture content and recompact to between 88 to 93% of the maximum dry density (ASTM D 1557).

In areas where less than 12 inches of cut is proposed, and in all fill areas, clear and grub to remove organic matter. Over-excavate to a minimum of 12 inches below the grade that existed before grubbing. Fill the site in 8-inch loose lifts with native soils moisture conditioned to a minimum of 3% above optimum moisture content compacted between 88 and 93% of the maximum dry density.

Native soils cut from one side of the pad can be used on the other side of the pad. Cut soils not immediately placed on the fill side of the building pad should be stockpiled and covered with plastic sheeting. The soil should not be allowed to dry out. If the soil dries out, it should be crushed (no particles larger than 1/4 inch) and moisture conditioned before it is used as fill. Once the building pad is complete it is imperative that the subgrade be protected to keep it from drying out. Should significant drying occur (such that cracks more than 1 inch deep or 1/4-inch wide form) the surface of the subgrade should be scarified a minimum of 3 inches below the depth of the deepest cracks, moisture-conditioned to a minimum of 3% over optimum and be

1900 Powell Street, 12th Floor
Emeryville, California 94608-1814
Offices Nationwide

510.652.4500 m
510.652.2246 f
www.lfr.com



recompacted.

The compaction criteria shown on Detail 1 on Sheet S101 should be revised to indicate compaction to 88 to 93% of maximum dry density at a water content a minimum of 3% over optimum water content.

The intention of these steps is to get the bottoms of the footings either below the zone of the worst soil desiccation (about 18 inches below current grade) or provide at least 12 inches of moisture-conditioned fill below the bottoms of the footings. Once the building pads are complete, the footing excavations can be made and concrete poured against the soil without further compaction as long as the bottom of the footing is at least 18 inches below original grade or at least 12 inches of compacted fill lies below the footing. This does not change the requirement that the bottoms of the footings be at least 30 inches below final grade. That requirement is intended to reduce the migration of water into and out of the building foundations. If the footing excavations dry out such that cracks more than 1 inch deep or 1/4-inch wide form in the soil below the footing, the soil must be scarified and recompacted as indicated above.

Requirement for Sulfate Resistant Concrete

Section 7.10 of LFR's Geotechnical Design Report for the Pittsburg Senior High School, dated February 21, 2008, recommended the use of Type 5 cement with a water/cement ratio of a maximum of 0.45, with a 28-day compressive strength of not be less than 4,500 psi. The basis of this recommendation was the detection of sulfate in a surface soil sample of 4,105 parts per million.

Subsequently, Jeff Raines, PE, GE of LFR inspected the foundations of the former high school accompanied by Jon Novero of RGM and Associates. A machine operator exposed a section of the existing foundation that had been in contact with Site soils for approximately 60 years. No excess wear consistent with high sulfate concentrations was detected. The machine operator was questioned regarding the nature of the existing foundations and did not report encountering any weakened or severely eroded concrete that would be consistent with high sulfate concentrations.

Three subsurface soil samples were collected from beneath the foundations of the buildings being demolished on Site. The soil samples were analyzed by Curtis & Tompkins, a state-of-California-certified analytical laboratory located in Berkeley, California. The concentrations of sulfate detected in these three samples were 22, 31 and 52 milligrams per kilogram (parts per million). These values are well below the California Building Code levels, as given in ACI 318 Table 4.3.1, where sulfate-resistant concrete would be required. The laboratory report is attached to this letter. The Natural Resources Conservation Service maps the Site soils (Capay Clay) as having no gypsum (calcium sulfate) which is consistent with the laboratory results. The previous high value was collected in a landscaped area and likely represents a soil amendment added to the landscaping to promote growth of plants.



Based on field observations of the existing concrete that had been in contact with Site soils for approximately 60 years and the negligible concentrations of sulfate found in the Site soils, we are revising our report to eliminate the recommendation of using Type 5 cement and the strength and water/cement ratio requirements. Type 2 cement should still be used. The required strength and water/cement ratios should be specified by the project structural engineer.

If you have questions or comments regarding this letter or its findings, feel free to call me at any time at (510) 596-9580. Thank you for selecting LFR to perform these services.

Sincerely,

Jeffery R. Raines, PE (51120) GE (2762)
Principal Geotechnical Engineer

Attachments

Copy to: Jon Novero, RGM Associates
Les Smith, California Design-West
Mitch McAllister, California Design-West
Alan Gibbs, LFR

Sulfate			
Lab #:	205778	Location:	Pittsburg High School
Client:	LFR Levine Fricke	Analysis:	EPA 300.0
Project#:	001 0966 100		
Analyte:	Sulfate	Diln Fac:	1.000
Matrix:	Soil	Batch#:	142328
Units:	mg/Kg	Received:	09/04/08
Basis:	as received		

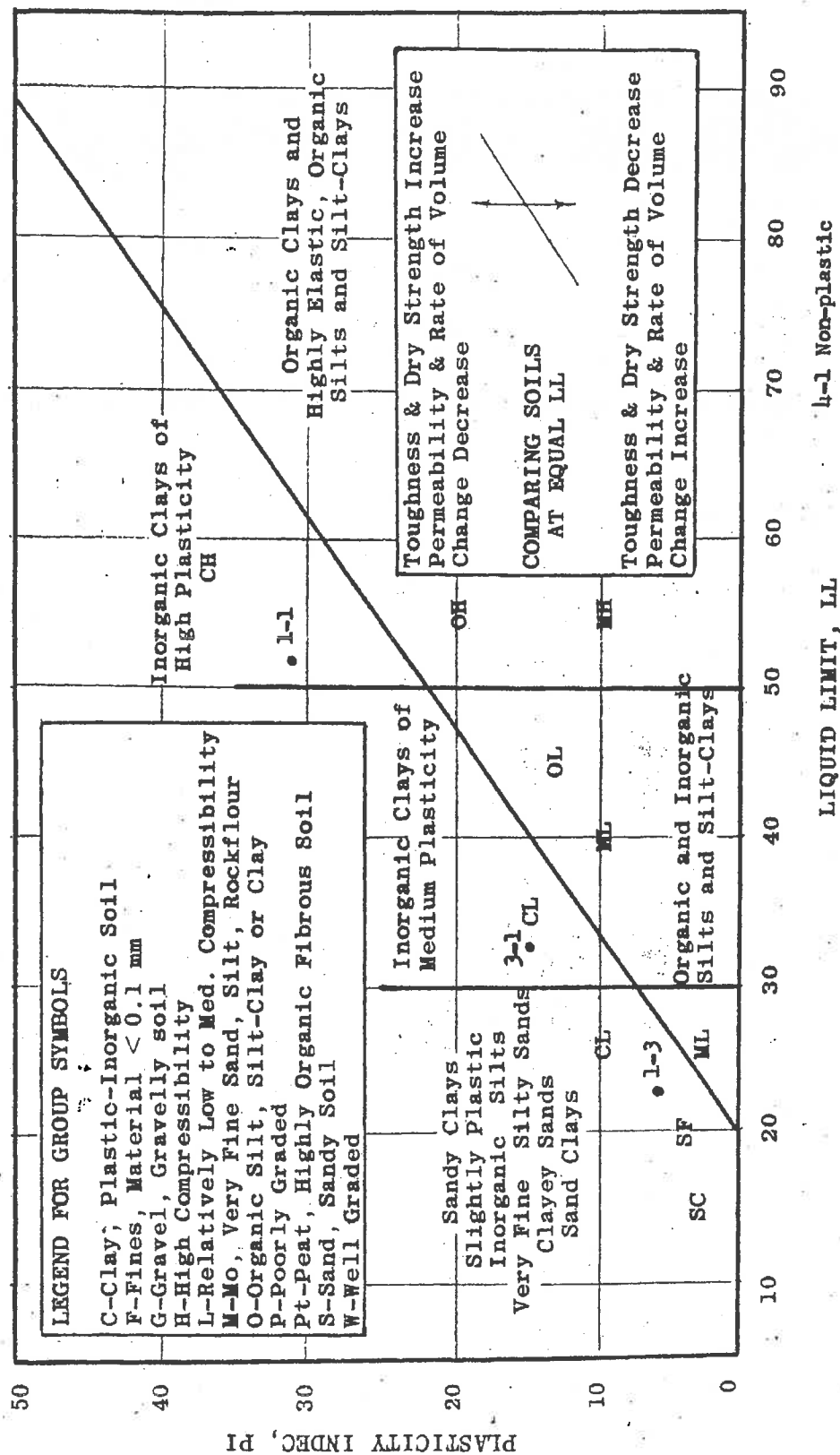
Prd ID	Type	Lab ID	Recon	RL	Sampled	Analyzed
1	SAMPLE	205778-001	52	5.0	09/04/08 14:04	09/09/08 22:03
2	SAMPLE	205778-002	22	5.0	09/04/08 14:20	09/09/08 22:20
3	SAMPLE	205778-003	31	5.0	09/04/08 15:00	09/09/08 22:37
	BLANK	QC459608	ND	5.0		09/09/08 20:35

Batch QC Report

Sulfate			
Lab #:	205778	Location:	Pittsburg High School
Client:	LFR Levine Fricke	Analysis:	EPA 300.0
Project#:	001 0966 100		
Analyte:	Sulfate	Basis:	as received
Field ID:	1	Diln Fac:	1.000
MSS Lab ID:	205778-001	Batch#:	142328
Matrix:	Soil	Sampled:	09/04/08 14:04
Units:	mg/Kg	Received:	09/04/08

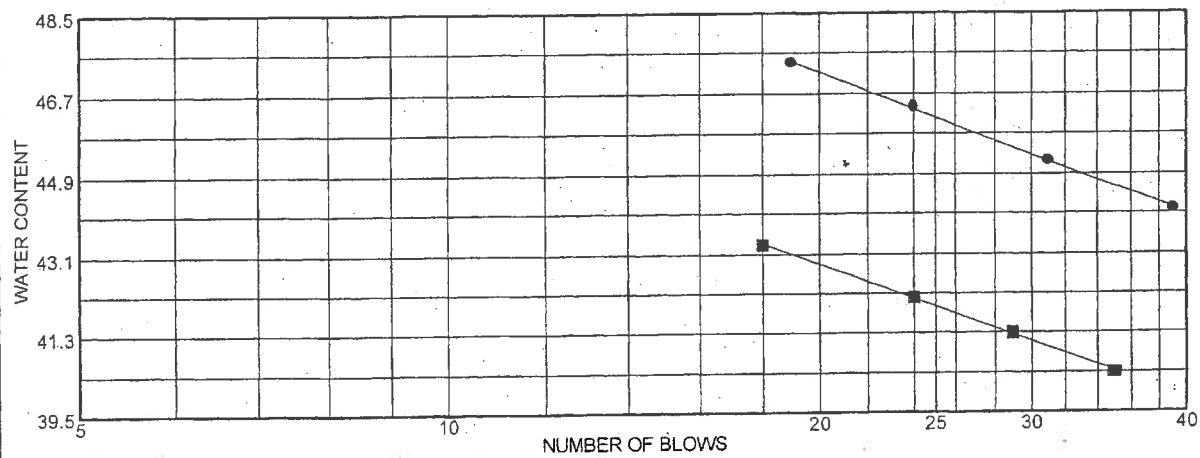
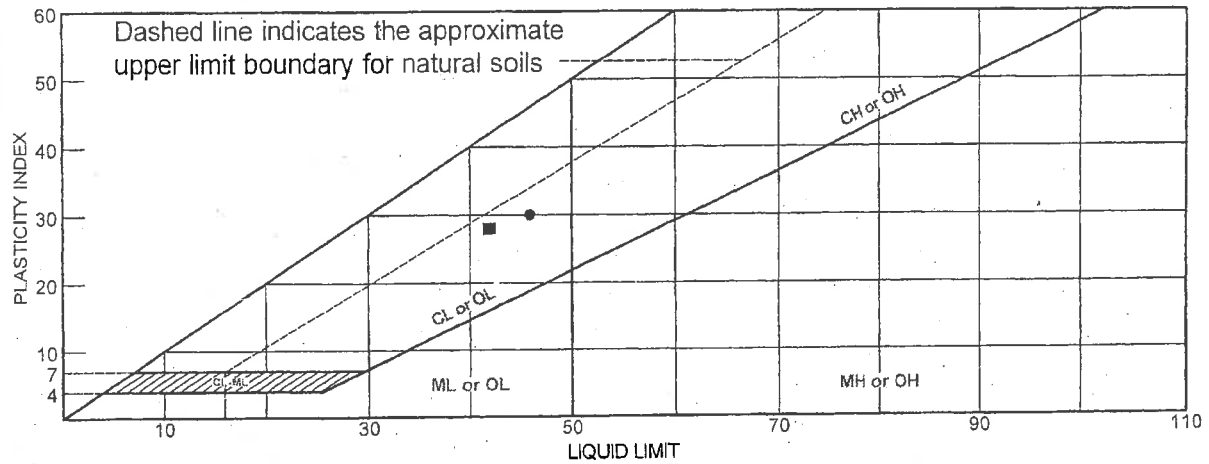
Type	Lab ID	MSS Result	Soaked	Result	PREC	Limits	RPD	Time	Analyzed
BS	QC459609		100.0	98.85	99	80-120			09/09/08 20:53
BSD	QC459610		100.0	98.75	99	80-120	0	20	09/09/08 21:10
MS	QC459611	52.19	50.00	92.54	81	25-155			09/09/08 21:28
MSD	QC459612		50.00	85.00	66	25-155	8	24	09/09/08 21:45

RPD= Relative Percent Difference



PLASTICITY CHART

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Brown Lean Sandy CLAY	46	16	30			
■	Gray Lean Sandy CLAY	42	14	28			

Project No. 473-010 Client: LFR
 Project: Pittsburg High School - 003-09226-02 phase 004

● Source: B1
 ■ Source: B22

Elev./Depth: 2'
 Elev./Depth: 2'

Remarks:

●
 ■

LIQUID AND PLASTIC LIMITS TEST REPORT

COOPER TESTING LABORATORY

Figure



ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

February 21, 2008

003-092226-02-004

Mr. Mark Bonnett
Assistant Superintendent, Business Services
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, California 94565

Subject: Geotechnical Design Report, Pittsburg High School Reconstruction, 250 School Street,
Pittsburg, California

Dear Mr. Bonnett:

LFR Inc. (LFR) is pleased to present the attached revised Geotechnical Design Report for the Pittsburg High School Reconstruction, located at 250 School Street, in Pittsburg ("the Site"). The report was revised to address potential drought conditions at the High School. Design recommendations for building foundations and site grading are presented, along with other pertinent findings and conclusions. Appendix A of this report contains the Geohazards report for the school. Table 1 contains a "Road Map" to assist the California Geological Survey in its review of the report.

LFR observed the installation of 31 cone penetrometer test probes to depths up to 50 feet below ground surface (bgs) and installed two hand-auger probes to 4 feet bgs to assess the subsurface soil conditions at the Site. The results of our assessment indicate that the Site will be suitable to support the proposed development, provided the Site is prepared in accordance with the recommendations contained within the attached report.

We appreciate the opportunity to provide this service for the Pittsburg Unified School District, and look forward to being of further assistance as the project proceeds. If you have any questions concerning the contents of the attached report, please feel free to call Jeff Raines at (510) 596-9580 or Alan Gibbs at (916) 786-8129 at any time.

Sincerely,


Jeff Raines, P.E. (CS1120), GE (2762)
Principal Geotechnical Engineer



Attachment

This Page Intentionally Left Blank for Double-Sided Copying Purposes

CONTENTS

1.0 INTRODUCTION	1
2.0 PROJECT DESCRIPTION	1
3.0 SCOPE OF STUDY	2
4.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING	2
4.1 Subsurface Exploration	2
4.2 Laboratory Testing	4
4.2.1 Sample Testing Summary	4
4.2.2 Moisture Content (ASTM D2216)	4
4.2.3 Compaction Characteristics (ASTM D1557)	5
4.2.4 Resistance Value Test (DOT CAL 301)	5
4.2.5 Soil Corrosion Potential (DOT CAL Test 532/643)	5
4.2.6 Atterberg Limits (ASTM D4318)	5
4.2.7 Expansion Index Test (UBC 18-2)	5
5.0 SITE AND SUBSURFACE CONDITIONS	5
5.1 Site Description	5
5.2 Subsurface Conditions	6
5.3 Groundwater	6
5.4 Site Seismicity	6
5.5 Soil Strength	6
5.6 Lime Stabilization	6
6.0 DISCUSSION	7
6.1 Collapse Potential	7
6.2 Foundations	7
6.3 Settlement Estimates (Including Seismic Shakedown)	7
7.0 DESIGN RECOMMENDATIONS	7
7.1 Site Preparation and Grading	7

7.2 Fill Recommendations	8
7.3 Trench Excavation and Backfilling	8
7.4 Excavations Adjacent to Buildings	8
7.5 Foundations	9
7.5.1 Stiffened Slabs	9
7.5.2 Alternative Foundations	9
7.5.3 Slab Preparation	11
7.6 Lateral Loads	11
7.7 Pavement Design	12
7.8 Site Drainage	13
7.9 California Building Code (CBC) Seismic Design Criteria	13
7.10 Soil Corrosivity	13
7.11 Soil Expansion	14
7.12 Liquefaction Assessment and Seismic Shakedown	15
7.13 Slope Stability	15
7.14 Exterior Flatwork	15
7.15 Wet Weather Construction	16
7.16 Retaining Walls	16
8.0 Design Review and Construction Monitoring	16
9.0 Limitations	17
10.0 References	20
TABLES	
1 Roadmap to Address California Geologic Survey Special Publication 48 Requirements	
2 Geotechnical Laboratory Testing	
3 Differential Slab Movements Due to Expansive Soils	
4 Allowable Bearing Pressures for Spread or Continuous Footings	
5 Subslab Foundation Materials	
6 Pavement Sections	
7 California Building Code Seismic Design Factors	

FIGURES

- 1 Site Vicinity Map
- 2 Layout of Proposed High School
- 3 Profile Section A-A'
- 4 Profile Section B-B'
- 5 Profile Section C-C'
- 6 Rainfall in the Pittsburgh Vicinity (1955 – 2007)

APPENDICES

- A Project Geohazards Report
- B Previous Geotechnical Report
- C CPT Logs
- D Geotechnical Laboratory Results
- E Guide Grading Specifications

This Page Intentionally Left Blank for Double-Sided Copying Purposes

1.0 INTRODUCTION

LFR Inc. (LFR) has prepared this report to present the results of our geotechnical engineering design study for the proposed Pittsburg High School reconstruction located at 250 School Street in Pittsburg, Contra Costa County, California ("the Site"; Figure 1). This Geotechnical Design Report is based on the proposal prepared for the Pittsburg Unified School District by LFR dated April 18, 2007.

This report was prepared in general accordance with the California Department of the State Architect (DSA) requirements for the design of public schools. DSA consults with the California Geologic Survey (CGS) to assess whether the geotechnical work performed for a client site is sufficient. The CGS requirements for the geotechnical reports for client sites are presented in CGS Special Publication 48 (CGS 2004). Table 1 of this report presents a "roadmap" laying out where the information required in CGS Special Publication 48 for client sites is presented in this report. A geohazards report was prepared for the Site under the supervision of a California Registered Engineering Geologist. The geohazards report is included in this report as Appendix A.

LFR reviewed the following reports, which contain geotechnical information potentially applicable to the project Site:

- Hershey Inspection Bureau. 1956. Foundation Soils Investigation for a Proposed Creative Arts Building. This report was prepared for the high school Creative Arts Building. The Creative Arts Building is located directly adjacent to the new high school buildings, but it is uncertain where the borings were installed because the site location map included in the Hershey report does not provide enough details in the site figure. The Hershey report is attached to this report in Appendix B.
- Kleinfelder. 1997. Geotechnical Investigation Report, Proposed Stadium Press Box, Pittsburg High School, Pittsburg, California. November 7. Kleinfelder installed one boring on the southwestern side of the football stadium. The boring log and location map are attached to this report in Appendix B.

2.0 PROJECT DESCRIPTION

The proposed project consists of a 21,000-square-foot gymnasium, a 100,000-square-foot (footprint) two-story classroom building, a 10,000-square-foot cafeteria, and a 12,000-square-foot field house. Locations of the proposed facilities are shown on Figure 2. We estimate that building loads are approximately 2 kips per foot for external wall loads, 1 kip per foot for internal wall loads, with isolated footings loaded by up to 75 kips under columns. Additional details of the project are not known at this time.

3.0 SCOPE OF STUDY

Based on our understanding of the client development, the following scope of services was formulated and completed:

- LFR observed the installation of 31 cone penetrometer test (CPT) probes to depths up to 50 feet below ground surface (bgs) and installed two hand-auger probes to 4 feet bgs. Hand augers were installed in locations where CPT access was impractical.
- Surficial soil samples were collected from the locations of CPT Probes 1, 22, and 26, and were analyzed to estimate soil parameters for geotechnical engineering analyses.
- The following engineering analyses were performed using the laboratory data to develop geotechnical engineering criteria for the proposed project:
 - allowable bearing capacity of shallow foundation systems
 - settlement of the proposed shallow foundation systems
 - allowable passive resistance and base friction to resist wind and seismic lateral loads
 - potential for liquefaction/lateral spread
 - California Building Code Seismic Parameters
- Recommendations were developed for:
 - site preparation and grading
 - allowable soil-bearing pressures for shallow foundation systems
 - design of slabs-on-grade
 - allowable passive soil resistance and base friction
 - pavement design and construction

This report summarizes our study results and presents our design and construction recommendations, as well as the subsurface data on which they are based.

4.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING

4.1 Subsurface Exploration

On July 10 and 11, 2007, John Samiento and Associates used a CPT rig to install 31 CPT probes to depths up to 50 feet bgs. LFR installed two hand auger probes to 4 feet bgs in locations where access for the CPT rig was not practical. Figure 2 illustrates the approximate locations of subsurface probes and hand-auger borings. The subsurface

locations were selected based on the architectural site plan provided by the project architect.

The CPTs were completed using a 25 to -30-ton CPT rig. The soundings were conducted in accordance with ASTM standards (D 5778 - 95 [Reapproved 2000] - Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils). The cone used by John Sarmiento and Associates had the following properties:

Cone

- 20-ton digital cone (thermal sprayed tungsten carbide coating)
- Strain gauge load cell measurement
- Outside diameter: 1.6" - 1.75"
- Temperature compensated
- Calibrated against a NIST standard

Tip Resistance

- Tip area: 10-15 cm²
- Rated Range: 33000 lb
- Apical angle: 60°
- Frequency of measurement: 0.5 inches
- Measured data: Force / base area = qc

Friction

- Surface area: 150 cm²
- Rated Range: 5700 lb
- Location: behind pore pressure element
- End area ratio: 0.85
- Measured independently of cone tip
- Frequency of measurement: 0.5 inch
- Measured data: Force / surface area = fs

Pore Pressure

- Rated Range: 500 pounds per square inch (psi)
- Location: Behind tip (U2 position)
- Composition: Polypropylene porous plastic (5mm thickness)

- Saturation liquid: Silicone liquid
- Saturation method: High vacuum with heat and vibration
- Measured data: U - Measured pore pressure (while advancing) Uo - Equilibrium pore pressure (while stopped)
- Frequency of measurement: 2-4 cm
- Pressure changes are measured with a diaphragm type electronic pressure transducer

Cone penetration testing consists of pushing a steel cone into the ground. Strain gauges in the cone detect the amount of force being applied to both the tip of the cone (tip resistance) and the side of the cone (side friction). Numerous correlations have been developed between the two types of cone resistance and material types (sands, silts, clays) and to the material properties of these soils (e.g., Robertson, and Campanella; 1983, 1990). In addition, the cone used at the Site included a pressure meter in its tip for assessing porewater pressures. Once the excess porewater pressures generated by installing the cone dissipates, the porewater pressure at depth can be used to evaluate the depth of the groundwater table (for unconfined aquifers). In addition, the time required to dissipate the excess pore pressures correlates with the consolidation properties of the soil.

The advantages of CPT include the following:

- Soil data are essentially continuous.
- Higher quality data are obtained due to reduced equipment and operator error, which produces less scatter in the data.
- No spoils requiring characterization and disposal are produced.

A disadvantage of CPT is that no soil samples are recovered for visual description or for laboratory testing. This was not thought to be a significant issue for this Site as sufficient borings have been installed in the subsurface by other contractors.

4.2 Laboratory Testing

4.2.1 Sample Testing Summary

Soil samples collected from the borings drilled during this study were retained and submitted to Cooper Testing Laboratory of Palo Alto, California, for geotechnical testing. Table 2 presents the tests performed on samples from specific locations.

4.2.2 Moisture Content (ASTM D2216)

The purpose of moisture content testing is to evaluate how much moisture conditioning soil will require for compaction. Also, by comparing in situ moisture contents to

Atterberg Limits, qualitative estimates of the soil strengths can be evaluated (soils with moisture contents near the Atterberg liquid limit are likely to be soft and compressible, soils with moisture contents near the Atterberg plastic limit are likely to be hard).

4.2.3 Compaction Characteristics (ASTM D1557)

Compaction curves, which show how dense a soil becomes under a standard laboratory compactive effort as a function of water content, are used to control fill during grading operations.

4.2.4 Resistance Value Test (DOT CAL 301)

R-Value tests provide an index value required for the Caltrans flexible pavement design method.

4.2.5 Soil Corrosion Potential (DOT CAL Test 532/643)

Soil corrosion potential tests are performed for concrete and utility design purposes. The purpose is to assess if sulfate-resistant concrete should be used and to evaluate how corrosive the site soils will be for buried utilities.

4.2.6 Atterberg Limits (ASTM D4318)

Atterberg Limits are soil index tests that help identify the plasticity characteristics of fine-grained soils.

4.2.7 Expansion Index Test (UBC 18-2)

The purpose of these tests is to evaluate if the soil samples tend to expand as their water content changes. Expansive soils can damage light structures.

5.0 SITE AND SUBSURFACE CONDITIONS

5.1 Site Description

The Site is located at 250 School Street in Pittsburg, California. The Site is relatively level, sloping to the north (toward San Francisco Bay) at approximately 80 feet to the mile.

The school is surrounded by single-family homes except for a small motel directly east of the campus and a former hospital located directly west of the campus.

5.2 Subsurface Conditions

The subsurface soils to 50 feet bgs consist almost entirely of fine-grained soils (silt and clays). The upper 20 feet of the subsurface consists predominantly of stiff clays with some strata of stiff silts to silty sands. Based on a correlation between CPT values and standard penetration test (SPT) blow counts, the blow counts in the upper 10 feet bgs of the Site vary between 10 and greater than 100, with most blow counts greater than 20. Terrazghi & Peck (1967, page 347) describe these soils as stiff to hard with unconfined compressive strengths of roughly 2 tons per square foot or greater.

5.3 Groundwater

At the time of the CPT work, groundwater was encountered at 44.5 feet bgs (approximately 6 feet mean sea level [msl]) in CPT Probe 1 and at 41.4 feet bgs in CPT Probe 6 (approximately 6 feet msl). The actual depth to the groundwater table at any time may be different than was noted during the drilling due to variations in precipitation, temperature, and other factors.

The United States Geological Survey reports (USGS 2007) that well 001N001E17K001M, which is or was located at the Site (coordinates 38° 1' 07"; 121° 53' 02") had groundwater levels that varied between 0 and 5 feet above msl between 1970 and 1982.

5.4 Site Seismicity

Site seismicity, except for the 2001 California Building Code parameters, is covered in the project geohazards report presented in Appendix A.

5.5 Soil Strength

Based on correlations with the CPT cone penetration resistance, an allowable undrained shear strength of 2,000 psf should be used for design.

5.6 Lime Stabilization

Because of the high sulfate concentrations detected in one soil sample, lime stabilization of site soils is not recommended.

6.0 DISCUSSION

6.1 Collapse Potential

Stiff clayey soils as indicated by the CPT should not experience collapse.

6.2 Foundations

Because the foundation soils at Pittsburgh High School are expansive, LFR recommends a waftle slab (ribs on a maximum 15-foot center; slab a minimum of 5 inches thick; perimeter beams a minimum of 24 inches deep).

Conventional footings with excavation of the existing soils to a depth of 1.5 feet and replacement with non-expansive fill compacted to a minimum of 95% of the Maximum Proctor density of the fill could also be used.

6.3 Settlement Estimates (Including Seismic Shakedown)

Settlements, based on a uniform load of 2 kips per foot on the exterior beam, should be less than 0.5 inch.

7.0 DESIGN RECOMMENDATIONS

7.1 Site Preparation and Grading

The Site should be cleared and grubbed to remove organic materials. Clearing is to include the removal of accumulated surface debris and vegetation, if any. Soil containing more than 2% organic material should be segregated for use as the topsoil in any landscaped areas, with the approval of the project owner. Soils containing more than 2% organic materials should not be used for engineered fill.

Where trees are to be removed, the entire root ball should be excavated.

Existing foundation elements and any utilities (including irrigation lines) should be removed. Soil below the foundation elements and utilities should be overexcavated by a minimum of 12 inches. Excavations should be backfilled with either non-expansive fill, Caltrans Controlled Density Fill (CDF), or properly moisture-conditioned site soils using the methodologies specified below.

Concrete from demolished structures, if processed to meet the applicable Caltrans gradation specifications and if acceptable to the local building official, can be used as base material for parking lots. It should not be used below buildings.

7.2 Fill Recommendations

Imported fill shall be certified as clean from the source (not from former industrial sites or similar locations; not chemically affected). Imported fill should be non-expansive, contain less than 3% organic material by weight, be granular in nature, and be a select fill meeting the following requirements: minimum R-Value of 35, maximum particle size of 3 inches, maximum expansion index of 20, and maximum plasticity index of 12. Materials should be compacted as described below. A representative of the geotechnical engineer should observe site grading, including stripping, scarifying, and placing and compacting of fill and backfill.

7.3 Trench Excavation and Backfilling

Trenches should be excavated as required by the plans and specifications, using appropriate equipment. Where necessary, trenches should be sloped or shored by the contractor, in accordance with the governing safety standards to provide a safe work site. The contractor shall be responsible for any temporary slopes and trenches excavated at the Site and for design of shoring, should it be required.

Trenches should be backfilled with compacted fill, in accordance with the stricter of the recommendations contained in this section or in accordance with local requirements. Fill material should be placed in lifts no greater than 8 inches in loose thickness and compacted by mechanical means. The maximum particle diameter in the fill below the utility pipe and in the first lift above the pipe should be 1 inch. Trench backfill should be compacted to at least 90% relative compaction, except where located within a pavement section where the upper 18 inches of the trench backfill below subgrade level will require compaction in accordance with the recommendations of Section 7.7 below.

7.4 Excavations Adjacent to Buildings

Trenches and other excavations located adjacent to existing foundations should be located such that an imaginary line drawn at a 45 degree angle from the bottom of the outer edge of the spread footing does not intersect the trench.

Trenches and other excavations that will pass close to a future spread footing or slab-on-grade foundation should be backfilled with clean fill compacted to at least 95% relative compaction or with flowable fill prior to constructing the foundation or slab.

For other trench/foundation layouts, please consult with the engineer.

7.5 Foundations

7.5.1 Stiffened Slabs

The building foundation could consist of a reinforced slab with reinforcing beams (waffle slab). The slab should be a minimum of 5 inches thick with a minimum of 0.2% steel reinforcement (as a percentage of the cross-sectional area) in both directions. Reinforcing beams should be spaced at a maximum distance of 15 feet. Exterior beams should be a minimum of 24 inches deep (to mitigate transmission of water under the slab) and a minimum of 12 inches wide. In addition to other loads, if a program of soil improvement is not implemented, the slabs should be designed to resist the edge and center lift load cases shown in Table 3 below.

The recommended allowable bearing pressures for foundation elements are presented in Table 4 below. Footing concrete should be poured neat against properly moisture-conditioned undisturbed native soil or compacted fill. Any disturbed or softened material encountered at the bottom of the footing excavations should be removed to expose firm bearing material. Overexcavated areas should be backfilled with CDF or structural concrete. Footing excavations should be kept moist before concrete placement. Soil that dries out prior to concrete placement should be scarified to a minimum depth of 6 inches; moisture-conditioned to a minimum of 2% above the Modified Proctor optimum water content, and compacted to a minimum of 95% of the Modified Proctor maximum dry density.

Continuous stiffening beams should be reinforced with a minimum of at least two #4 bars top and bottom in the longitudinal direction unless otherwise determined by the structural engineer.

Before issuing the construction bids, the geotechnical engineer should review the foundation plans and prepare a review letter. In addition, the geotechnical engineer should observe foundation operations.

7.5.2 Alternative Foundations

7.5.2.1 Excavation and Replacement

Rather than providing for a stiffened slab, the top 18 inches of the site soils may be excavated and replaced. The excavation should extend at least 5 feet beyond the edge of the building perimeter on all sides. The replacement should include soil for at least 12 inches below the bottom of all footings. The replacement soils should meet the requirements of Section 7.2. Replacement soil should be compacted in lifts not exceeding 8 inches in loose thickness to a minimum of 95% of the Modified Proctor maximum dry density (ASTM D1557). The geotechnical engineer should inspect the excavation bottom prior to backfilling. Any loose or unsuitable materials should be over-excavated and replaced with engineered fill or Caltrans CDF. Prior to backfilling, the subsoil should be a minimum of 2% above the optimum water content of the soil

(ASTM D 1557). If the subsoil is allowed to dry out or is not sufficiently moist, it should be scarified to a depth of 6 inches, moisture conditioned to between 2 and 5% above the optimum moisture content, and recompact to between 88 and 92% of the Modified Proctor maximum dry density.

The school should then be founded on a continuous perimeter footing a minimum of 12 inches wide installed to a minimum of 30 inches below the adjacent ground surface. Interior isolated footings should be a minimum of 2 feet in either lateral dimension and should be installed at least 18 inches below grade. Footings should be reinforced with a minimum of at least two #4 bars top and bottom in the longitudinal direction unless otherwise determined by the structural engineer.

7.5.2.2 Excavation and Recompaction

Rather than providing for a stiffened slab, the top 24 inches of the site soils may be excavated, moisture-conditioned, and recompact in place. The excavation should extend at least 5 feet beyond the edge of the building perimeter on all sides. The excavation and recompaction should include soil for at least 12 inches below the bottom of all footings. Soil should be compacted in lifts not exceeding 8 inches in loose thickness to between 88 and 92% of the Modified Proctor maximum dry density (ASTM D1557) at water content at least 2% above the optimum water content (ASTM D1557). The geotechnical engineer should inspect the excavation bottom prior to backfilling. Any loose or unsuitable materials should be over-excavated and replaced with engineered fill or Caltrans CDF. Prior to backfilling, the subsoil should be a minimum of 2% above the optimum water content of the soil (ASTM D 1557). If the subsoil is allowed to dry out or is not sufficiently moist, it should be scarified to a depth of 6 inches, moisture-conditioned to between 2 and 5% above the optimum moisture content, and recompact to between 88 and 92% of the Modified Proctor maximum dry density.

The school should be founded on a continuous perimeter footing a minimum of 12 inches wide installed to a minimum of 30 inches below the adjacent ground surface. Interior isolated footings should be a minimum of 2 feet in either lateral dimension and should be installed at least 18 inches below grade. Footings should be reinforced with a minimum of at least two #4 bars top and bottom in the longitudinal direction unless otherwise determined by the structural engineer.

The successful implementation of this method requires that attention be paid to the site soils to avoid significant drying through the useful life of the buildings. During normal rainfall years, significant drying of site soils should not occur as long as irrigation of school landscaping is not curbed. The existing High School (south campus, where the new buildings are to be constructed) does not display significant signs of building distress due to expansive soils. As shown in Figure 6, Pittsburg has not experienced a multi-year drought in the past 52 years which might have caused irrigation of the school lawns to be curtailed. If a multi-year drought occurs in Northern California during which irrigation of the school landscaping is forbidden, LFR recommends that a

foundation drip watering system be installed to counter the effect that drying soil will have on the building foundation.

7.5.3 Slab Preparation

Slab-on-grade floors should be supported on a minimum of 4 inches of clean gravel or crushed rock. We recommend that moisture sensitive foundations in direct contact with the subsurface (mechanical rooms, elevator shafts, lobbies, and commercial and residential units on the ground floor) be underlain by a moisture barrier. A typical moisture barrier should include a capillary moisture break consisting of at least 4 inches of clean, free-draining gravel or crushed rock (1/2 to 3/4 inch gradation) overlain by a moisture-proof membrane of at least 10 mils thick. The vapor retarder should be covered with 2 inches of sand to aid in curing the concrete and to protect the vapor retarder during slab construction. Water should not be allowed to accumulate in the capillary break or sand prior to casting the slab.

The vapor retarder should meet the requirements for Class C vapor retarders as given in ASTM Standard E1745-97. The vapor retarder should be installed in general accordance with the methodology documented in ASTM Standard E1643-98. These requirements include overlapping seams by at least 6 inches, taping seams, and sealing penetration through the vapor retarder. The particle size of the gravel/crushed rock and sand should meet the gradation requirements presented in Table 5.

Material for support of slabs should conform to the following gradation specification presented in Table 5 below.

The sand overlying the membrane should be moist at the time concrete is placed. There should be no free liquid in the sand. If the sand has been placed and there is a possibility for precipitation, the sand should be covered with Visqueen and measures made available to collect the precipitation and remove it from the excavation.

7.6 Lateral Loads

Resistance to lateral loads from wind or seismic forces would be obtained from passive resistance on the vertical faces of footings. We recommend an equivalent fluid pressure of 250 pounds per cubic foot (pcf) be used for a passive resistance value acting on faces of embedded foundation members. The top foot of soil should be neglected in these calculations. The friction on the bottoms of footings and nonstructural slabs-on-grade also may be included in the design. A friction coefficient of 0.35 can be used for calculating base friction for footings. Where a vapor barrier is used between slab-on-grade and soil, a friction coefficient of 0.20 is recommended. These friction coefficient values do not include a factor of safety and can be combined.

Backfill against structures should be compacted to a minimum of 90% relative compaction within 2% of the optimum moisture content. Over-compaction (greater than

92% relative compaction) of clayey soils is not recommended because increased compactive effort can result in lateral pressures higher than those recommended above.

7.7 Pavement Design

Pavements for this project are expected to consist of non-arterial roadways suitable for emergency vehicles, driveways, parking areas, and play areas. Using the American Association of State Highway Officials (AASHTO) traffic types, LFR selected traffic indices of 5, 6, and 7 for the following traffic areas:

- Facility Parking (PC-7) – Open parking areas for private automobiles at large facilities with access for emergency vehicles and occasional use by service vehicles or heavy delivery trucks – traffic index of 7.
- Business Parking (PC-8) – Restricted parking and drop-off areas associated with business premises, mostly used by private automobiles and occasional light delivery trucks. No construction traffic over finished surface – traffic index of 6.
- Commercial Plaza (PC-9) – Predominantly pedestrian traffic, but with access for occasional heavy maintenance and emergency vehicles. No construction traffic over finished surface – traffic index of 5.

Test results for one bulk soil sample of the anticipated subgrade soils indicate an R-Value of 12. Test results conducted on similar soils at the Marina School in Pittsburg, California conducted by Kleinfelder indicated an R-Value of 5. For design purposes, LFR used an R-Value of 8.

Table 6 presents recommended pavement sections for the assumed Traffic Indices, based on the design R-Value of 8 and the California Department of Transportation Flexible Pavement Design Method. If imported fill is required in pavement areas, it should have an R-Value greater than 35.

We recommend the pavement design sections shown in Table 6 based on our experience with similar projects.

To prepare for pavement construction, the exposed subgrade should be scarified to a depth of 12 inches, moisture-conditioned to within 2 to 5% above optimum, and compacted to between 88 and 92% relative compaction as evaluated using the methodology of ASTM D 1557 (Modified Proctor).

Aggregate base and asphalt concrete should be compacted to a minimum of 95% relative compaction.

Curbing should be installed around all parking lots and site roads and should extend at least 2 inches below the depth of the aggregate base.

Concrete slabs-on-grade should be used for trash-collection areas and other locations that may experience heavy wheel or impact loads. The slab thickness should be designed to accommodate the anticipated vehicle loading and a subgrade modulus of 150 pounds per cubic inch divided by the smaller of the length or width of the slab measured in feet. The concrete pavement should be supported on a minimum of 6 inches of Caltrans Class 2 aggregate base rock compacted to at least 95% relative compaction over 6 inches of subgrade compacted as above.

7.8 Site Drainage

All exterior surface areas should be sloped a minimum of 2% away from the buildings to facilitate drainage. In hardscape areas, drainage gradients should be maintained to carry surface water to area drains or off the Site. Surface-water ponding should not be allowed anywhere on the Site during or after construction. Building downspouts should be piped to the storm-drain system and not allowed to discharge directly on pavement or the ground surface. If planter areas will be created between buildings and walkways, drainage inlets should be placed and the ground surface sloped to collect and drain surface water away from the planters. A representative of the geotechnical engineer should review the site-drainage plans and conduct a final drainage review.

7.9 California Building Code (CBC) Seismic Design Criteria

Structural design of future buildings at the Site should take into account the effects of regional seismicity. Table 7 presents specific factors for seismic design, as specified by the 2001 CBC, and takes into account the Site's proximity to the Great Valley Segment 5 fault. The Great Valley Segment 5 fault, a Type B Fault, is located approximately 10.1 kilometers northeast of the Site. The equivalent SPT blow counts from the CPT probes typically exceeded 30. Hence, per Table 16A-J of the California Building Code, the site soil profile was categorized as S_D , Stiff Soil.

As the site buildings are neither tall nor oddly shaped, site-specific spectral accelerations are not presented.

7.10 Soil Corrosivity

Two soil samples were analyzed for sulfate, chloride, pH, and resistivity.

The detected sulfate concentration detected in these two soil samples were less than 5 and 4,105 parts per million (ppm). Based on Table 19-A-4 of the 2001 California Building Code, this sulfate concentration is "severe" and sulfate resistant concrete is deemed necessary at the Site. The concrete used for the school buildings should be Type 5. The water/cement ratio should be a maximum of 0.45. The 28-day compressive strength of the concrete should not be less than 4,500 psi.

The detected chloride contents in the two soil samples were 10 and 220 ppm. According to the Caltrans Corrosion Guidelines (Caltrans 2003), a chloride content of less than 500 ppm does not indicate a corrosive environment.

The soil pH in the two soil samples was measured to be 8.1 and 8.3 pH units. According to the Caltrans Corrosion Guidelines (Caltrans 2003), a pH greater than 5.5 does not indicate a corrosive environment.

The minimum electrical resistivity of the two soil samples was 327 ohm-centimeters. Caltrans considers soils with electrical resistivity of less than 1,500 ohm-centimeters to be corrosive.

Corrosive site soils should be assumed in estimating the service life of the underground utility lines and for metal in contact with on-site soils. It is recommended that a corrosion engineer be consulted to determine the most appropriate corrosion protection measures for the Site. Based on our experience with water pipelines, an electrical resistivity value of 3,000 ohm-centimeters is used as the cut-off value below which cathodic protection is provided for pipelines.

7.11 Soil Expansion

Two UBC 18-2 EI tests were conducted on site soils. The UBC expansion indices were 75 and 85. According to Table 18-1-B (Classification of Expansive Soil) of the California Building Code, soils with expansion indices between 50 and 90 have "Medium" potential for expansion. This is consistent with the soil plasticity indices of site soils, which were 28, 30, and 39 in the three samples analyzed.

The following recommendations should be implemented to mitigate expansion potential of site soils:

- Landscape plantings and irrigation systems should be planned so that watering of beds or lawns does not introduce water to the building foundation and drying of the foundation due to withdrawal of water by roots from large plants near the building perimeter does not occur. Plant trees a distance greater than their mature height from the foundation. If existing trees are closer, install an approximately 4-foot-deep tree root/vertical moisture barrier system near the foundation and possibly prune trees if barrier system is under the drip line of the tree.
- Where existing trees are to remain closer to the building than their height, a root barrier should be installed between the tree and the building. An arborist should be consulted regarding the required depth of the root barrier.
- The ground surface should slope at a minimum of 2% away from the buildings for at least 10 feet around the building perimeter.
- Downspouts from roof drains should be hard-piped into the site storm-drain system.

- Low permeability plugs of native soils or CDF should be installed in utility trenches for 3 feet on either side of building foundations where the utility trench passes under the building foundation.
- All surface water flowing into the building site should be diverted around the structure so that it will not infiltrate the building subgrade.
- Rainfall should be prevented from entering the ground near the perimeter of the structure by providing paving where adequate drainage slopes are not possible and diverting gutter downspouts away from the foundation.
- Wash-down floors should slope to drains to prevent water from entering the subgrade through joints in the floors.
- Because site soils are potentially expansive, slabs should have a minimum thickness of 6 inches and should have a minimum of 0.2% reinforcing by area in each direction.

7.12 Liquefaction Assessment and Seismic Shakedown

Liquefaction is addressed in the project geohazards report (LFR 2007). Liquefaction was not considered to be a significant hazard for the Site.

As no strata of loose cohesionless soils was encountered in any of the 31 CPT probes installed throughout the Site, the probability of seismic shakedown (settlement of dry soils due to seismic excitation) is judged to be insignificant. Helley and Graymer (1997) map the site sediments as Pleistocene-age (older than 12,000 years). Hence, any cohesionless strata below the Site would have gone through multiple seismic events and are unlikely to still be compressible due to earthquakes.

7.13 Slope Stability

The relief across the Site is a maximum of approximately 5 feet. There do not appear to be any significant slope stability issues. Regionally, there is a mild topographic upslope towards the hills to the south. Consequently, there are no off-site slope stability issues (e.g., landslides, debris flows, or rockfalls) that would have an adverse impact on the Site.

7.14 Exterior Flatwork

It is recommended that exterior concrete flatwork be a minimum of 4 inches thick and reinforced with reinforcing bars. Exterior flatwork should be underlain by at least 4 inches of aggregate base rock conforming to Caltrans Class 2 standards that is compacted to a minimum of 92% relative compaction. The exterior flatwork should be poured separately from building foundations so that it acts independently of the walls and foundations. Exterior finish grades should be sloped a minimum of 2% away from interior slab areas to preclude ponding of water adjacent to the structures. Soils below exterior flatwork should scarified to a depth of 6 inches and be compacted to a

minimum of 92% of the Modified Proctor Maximum Density at a moisture content at least 2% greater than the optimum moisture content. This may require moisture conditioning the soil.

7.15 Wet Weather Construction

Earthwork operations will be problematic during wet weather, especially any earthwork involving the native clay soils. When wet, these soils will become soft, yielding, and difficult to compact and will significantly delay the Contractor. LFR recommends that earthwork be performed during the May through October timeframe.

If earthwork must be performed during the rainy season, the following mitigation measures may be required to allow the work to proceed:

- Scarify and air dry until the fill materials have a suitable moisture content for compaction (this will only work if there is a sufficiently long period of dry weather and enough room to spread the soil out in thin lifts).
- Over-excavate the fill and replace with suitably dry on-site or import materials.
- Install geosynthetics (e.g., a non-woven geotextile) to reduce surface yielding and reinforce soft soils.
- Chemically treat the fill with cement kiln dust, or cement to reduce the moisture content and increase the strength of the fill. Lime is not a suitable amendment for site soils because of the high sulfate content of some of the site soils.

The geotechnical engineer should be consulted if it is necessary to implement any of these mitigation measures.

7.16 Retaining Walls

It is LFR's understanding that the project does not include any retaining walls or basements. Retaining walls perform best with granular backfills and adequate drainage. Should the architectural plans change and call for retaining walls greater than 3 feet in height, please consult with the geotechnical engineer for design parameters. Retaining walls less than 3 feet in height should be provided with adequate drainage. Miradrain 6000, or crushed rock wrapped in a filter geotextile. Weepholes should be installed in the wall at a spacing not greater than 10 feet.

8.0 DESIGN REVIEW AND CONSTRUCTION MONITORING

LFR recommends that the geotechnical aspects of the project be reviewed by LFR during the design process. The scope of services may include:

- assisting the design team in providing specific recommendations for special cases

- reviewing the foundation design and evaluating the overall applicability of our recommendations
- reviewing the geotechnical portions of the project for possible cost savings through alternative approaches
- reviewing the proposed construction techniques to evaluate whether they satisfy the intent of our recommendations
- reviewing drawings

LFR recommends that foundation construction and earthwork performed during construction be monitored by a qualified representative from our office, including:

- site preparation (stripping and grading)
- placement of compacted fill and backfill
- all foundation excavations
- construction of slab, roadway, and/or parking-area subgrade

LFR's representative should be present to observe the soil conditions encountered during construction to evaluate the applicability of the recommendations presented in this report to the soil conditions encountered, and to recommend appropriate changes in design or construction procedures, if conditions differ from those described herein.

9.0 LIMITATIONS

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by LFR and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the geotechnical consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that LFR relied upon any information prepared by other parties not under contract to LFR, LFR makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose and only in its entirety. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Furthermore, nothing contained in this report shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

Subsurface Explorations and Testing

Results of any observations, subsurface exploration or testing, and any findings presented in this report apply solely to conditions existing at the time when LFR's exploratory work was performed. It must be recognized that any such observations and exploratory or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected and conditions can change with time. LFR's ability to interpret exploratory and test results is related to the availability of the data and the extent of the exploratory and testing activities.

The findings and recommendations submitted in this report are based, in part, on data obtained from subsurface borings, test pits, and specific, discrete sampling locations. The nature and extent of variation between these test locations, which may be widely spaced, may not become evident until construction. If variations are subsequently encountered, it will be necessary to re-evaluate the conclusions and recommendations of this report.

Correlations and descriptions of subsurface conditions presented in boring logs, test pit logs, subsurface profiles, and other materials are approximate only. Subsurface conditions may vary significantly from those encountered in borings and sampling locations and transitions between subsurface materials may be gradual or highly variable.

Conditions at the time water level measurements and other subsurface observations were made are presented in the boring logs or other sampling forms. This field data have been reviewed and interpretations provided in this report. However, groundwater levels may be variable and may fluctuate due to variations in precipitation, temperature, and other factors. Therefore, groundwater levels at the site at any time may be different than stated in this report.

Review

In the event that any change in the nature, design, or location of the proposed structure(s) is planned, the conclusions and recommendations in this report shall not be considered valid nor relied upon unless the changes are reviewed and the conclusions and recommendations of this report are modified or verified in writing.

LFR should be provided the opportunity for a general review of final design plans and specifications to assess that our recommendations have been properly interpreted and included in the design and construction documents.

Construction

To verify conditions presented in this report and modify recommendations based on field conditions encountered in the field, LFR should be retained to provide geotechnical engineering services during the construction phase of the project. This is to observe compliance with design concepts, specifications, and recommendations contained in this report, and to verify and refine our recommendations as necessary in the event that subsurface conditions differ from those anticipated prior to the start of construction.

10.0 REFERENCES

- Blake, T.F. 2003a. EQSEARCH. Thomas F. Blake, Computer Services & Software, Thousand Oaks, California.
- . 2003b. FRISKSP. Thomas F. Blake, Computer Services & Software, Thousand Oaks, California.
- Bowles, J. 1982. *Foundation Analysis and Design*, 3rd Edition. McGraw Hill Book Company, New York, NY.
- Bryant, W. A. (compiler). 2005. Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, Version 2.0. California Geological Survey.
http://www.consrv.ca.gov/CGS/information/publications/QuaternaryFaults_Ver2_0/
- California Department of Transportation (Caltrans). 2003. Corrosion Guidelines. September – available at
<http://www.dot.ca.gov/hq/esc/tusb/corrosion/CorrGuidelinesSept03.pdf>.
- . 2004. Highway Manual, Section 600, Pavement Structural Section. December 24.
- California Division of Mines and Geology (CDMG). 1994. Fault Activity Map of California and Adjacent Areas.
- . 1997 (Supplements 1 and 2, 1999). Fault Rupture Hazard Zones in California. Special Publication 42.
- California Geological Survey (CGS). 2002. California Geomorphic Provinces.
- . 2004. Note 48, Checklist for the Review of Engineering Geology and Seismology Reports for California Public Clients, Hospitals, and Essential Services Buildings. January 1.
- Cao, T., W. A. Bryant, B. Rowshandel, D. Branum, and C.J. Wills. 2003. The Revised 2002 California Probabilistic Seismic Hazard Maps, June 2003. California Geological Survey.
http://www.consrv.ca.gov/cgs/rghm/psba/fault_parameters/pdf/2002_CA_Hazard_Maps.pdf
- Coduto, D.P. 2001. *Foundation Design, Principles and Practices*, 2nd Edition, Prentice Hall, Upper Saddle River, New Jersey, p. 227.

- FEMA. 2000. Prestandard and Commentary for the Seismic Rehabilitation of Buildings. FEMA 356, November.
- Helley, E.J. and R.W. Graymer. 1997. Quaternary Geology of Contra Costa County, and Surrounding Parts of Alameda, Marin, Sonoma, Solano, Sacramento, and San Joaquin Counties, California: A Digital Database. USGS Open File Report 97-98.
- Hersey Inspection Service. 1956. Foundation Soils Investigation for a Proposed Creative Arts Building, Pittsburg, California (Appendix B of this Report).
- LFR Inc. (LFR). 2007. Geologic Hazards Evaluation Report, Proposed Pittsburg High School, 250 School Street, Pittsburg, California. August 15.
- Petersen, M.D., W.A. Bryant, C.H. Cramer, T. Cao, and M. Reichle. 1996. Probabilistic Seismic Hazard Assessment for the State of California. California Division of Mines and Geology, Open-File Report 96-08; U.S. Geological Survey, Open-File Report 96-706.
- Robertson, P.K. and Campanella, R.G. (1983). "Interpretation of cone penetration tests: Part I - sands; Part II - clays". Canadian Geotechnical Journal, Vol. 20 (4), 719-745.
- Robertson, P.K. (1990). "Soil classification using the cone penetration test". Canadian Geotechnical Journal, Vol. 27 (1), 151-158.
- Seed, R.B., K.O. Cetin, R.E.S. Moss, A.M. Kammerer, J. Wu, J.M. Pestana, M.F. Retner, R.B. Sancio, J.D. Bray, R.E. Kayen, and A. Paris. 2003. Recent Advances in Soil Liquefaction, Engineering: a Unified and Consistent Framework. University of California at Berkeley, Earthquake Engineering Research Center, Report No. EERC 2003-06.
- Southern California Earthquake Center. 1999. Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Liquefaction Hazards in California.
- State of California. 2002. 2001 California Building Code.
- Terzaghi, Karl and Peck, Ralph. 1967. Soil Mechanics in Engineering Practice. John Wiley & Sons, Inc. New York, New York.
- Topoczada, T.R., C.R. Real, and D.L. Parke. 1986. Earthquake History of California: California Geology. February, 27-33.
- Townley, S.D., and M. W. Allen. 1939. Descriptive Catalog of Earthquakes of the Pacific Coast of the United States, 1869 to 1928. B.S.S.A., V. 29, No. 1, January.

- U.S. Army. 1983. Soils and Geology Procedures for Foundation Design of Buildings and Other Structures (Except Hydraulic Structures), ARMY TM 5-818-1. October.
- U.S. Army Corps of Engineers. 1990. EM 1110-1-1904, Settlement Analysis, September.
- U.S. Bureau of Reclamation. 1987. Design of Small Dams, USGPO, Denver, Colorado, p. 661.
- United States Geological Survey. 1953. Honker Bay 7.5-Minute Series Topographic Map. Photorevised 1980.
- _____. 2007. National Water Information System: Web Interface http://nwis.waterdata.usgs.gov/nwis/gwlevels?search_criteria=lat_long_bounding_box&submitted_form=introduction Accessed August 10, 2007.

TABLES

Table 1
Roadmap to Address California Geologic Survey
Special Publication 48 Requirements
Pittsburg High School Reconstruction
Pittsburg, California

Requirement	Report Section
Project Location	
1. Site Location Map, Street Address, County Name, Plot Plan with Building Footprint	1.0, Figures 1 and 2
2. Adequate Number of Boreholes or Trenches - one per 5,000 ft ² , with minimum of 2 for any one building	Figure 2
3. Site Coordinates (latitude & longitude) - correctly plotted on a 7 1/2-minute USGS quadrangle base-map	Appendix A: Section 2; Figure 1
Engineering Geology	
4. Regional Geology and Regional Fault Maps - concise page-sized illustrations with site plotted	Appendix A: Figures 4 and 5
5. Geologic Map of Site - detailed (large-scale) geologic map with proper symbols and geologic legend	Appendix A: Figure 4
6. Subsurface Geology at Site - engineering geology description summarized from boreholes or trench logs	5.2: Appendices B and C; Figures 3, 4 and 5
7. Geologic Cross-Sections - several detailed geologic sections showing pertinent foundations & site grading	Figures 3, 4 and 5
8. Active Faulting and Coseismic Deformation Across Site - Alquist-Priolo Earthquake Fault Zones for active faults; excavation of fault trenches; 50-foot setbacks from fault plane	Appendix A: Section 4.4 Not applicable
9. Geologic Hazard Zones - Seismic Hazard Zone Maps (liquefaction & landslides)	Not applicable
10. Landslides - both on-site & on adjacent hillside property (above or below); debris flows & rockfalls	Section 7.13
11. Geotechnical Testing of Representative Samples - broad suite of appropriate geotechnical tests	Table 2, Appendix D (also Appendix B)
12. Expansive Soils - Clay Mineralogy of the Geologic Subgrade Classify by Table 18-1-B & remediante	Section 7.11
13. Geochemistry of Geologic Subgrade - Soluble Sulfates and Corrosive Soils Specify either Type II or Type V portland cement. Typical soluble sulfates include gypsum and jarosite.	Section 7.10

Table 1
Roadmap to Address California Geologic Survey
Special Publication 48 Requirements
Pittsburg High School Reconstruction
Pittsburg, California

Requirement	Report Section
14. Flooding & Severe Erosion - discuss FEMA Flood Zones; show site plotted on official map (if applicable)	Appendix A: Section 4.7
Seismology & Calculation of Earthquake Ground-Motion	
15. Evaluation of Historic Seismicity - significant earthquakes that affected the site in the past 200 years	Appendix A: Table 3
16. Probabilistic Seismic Hazard Analysis (PSHA) Evaluation of Earthquake Ground-Motion	Appendix A: Section 4.3
17. Upper-Bound Earthquake Ground-Motion - 10% chance of exceedance in 100 years: cite & use	Appendix A: Section 4.3
18. Design-Basis Earthquake Ground-Motion - 10% chance of exceedance in 50 years: cite & use	Appendix A: Section 4.3
19. Characterize and Classify the Geologic Subgrade from Table 16A-I of Code; shear-wave velocity	Section 7.9
20. Near-Source Coefficients and Distance to Nearest Active Fault - If applicable: Na, Nv, Ca, Cv	Table 7
21. Peak Ground Acceleration for UBE and DBE levels of ground-motion - summary PGA values	Appendix A: Section 4.3
22. Normalized Spectral Acceleration - Site-specific spectral acceleration is required for dynamic analysis for irregular and tall buildings. Use $\zeta \approx 5\%$ viscous damping for both UBE and DBE ground-motion.	Not applicable
23. Seismic Zone 3 or 4 - determine appropriate zone from Figure 16A-2 and Section 1629A.4.1	Table 7
24. Scaled Time-Histories of Earthquake Ground-Motion - as applicable for base-isolated structures	Not applicable
25. Geologic Setting for Occurrence of Seismically-Induced Liquefaction: ♦ applicable to any ground-water surface < 50 ft. depth; for calculations use historic-highest ground-water ♦ low-density alluvium, typically SPT N < 35, composed of sands or silty sands with non-plastic fines ♦ moderate earthquake ground-motion, typically PGA UBE > 0.1g.	Appendix A: Section 4.5
26. Liquefaction Methodology - NSF/MCEER treatise on liquefaction by Youd, Idriss, and 19 others, Oct. 2001 issue of ASCE	Not applicable

Table 1
Roadmap to Address California Geologic Survey
Special Publication 48 Requirements
Pittsburg High School Reconstruction
Pittsburg, California

Requirement	Report Section
USGS Bulletin 1847 (Miller, 1979)	
40. Tsunami or Seiche — only for low-lying sites close to California coastline or large lakes and reservoirs	Not applicable
41. Asbestos — in formations associated with serpentine and tremolite. Refer to CGS Special Publication 124.	Appendix A: Section 4.10
42. Radon-222 Gas — typically within organic-rich marine shales of the California Coast Ranges.	Appendix A: Section 4.11
43. Other Geologic Hazards — use professional judgment for complicated or unusual geologic hazards	Appendix A: Section 4.11
Grading-Plan Review and Foundation-Plan Review	
44. Areas of Cut & Fill, Preparation of Ground, Depth of Removals and Recompectation	Sections 7.1 – 7.4
45. Geologic & Geotechnical Inspections and Problems Anticipated During Grading — called inspections for CEG or RGE (removal & recompectation; canyon clean-out; shear-key for buttress fill)	Section 8
46. Subdrainage Plans for Ground Water and Surface Water — show details of planned subdrains	Not applicable
47. Cut-Fill Prisms — seismic compression and incoherent ground-motion across the cut-fill line of hillside pads	Not applicable
48. Deep Foundations, Structural Mat Foundations (only as applicable) — piles, belled caissons, etc.	Not applicable
49. Retaining Walls, Engineered Fill Buttresses, Soil-Nailed Walls, Geosynthetics, Gabions, etc.	Not applicable; general guidance in Section 7.16
Report Documentation	
50. Geology, Seismology, and Geotechnical References — current & adequate published citations	Appendix A: Section 6
51. Engineering Geology report signed by Certified Engineering Geologist with CEG seal or number	Appendix A: Cover Letter
52. Geotechnical Engineering report signed by Registered Geotechnical Engineer with RGE seal	Cover Letter

Table 1
Roadmap to Address California Geologic Survey
Special Publication 48 Requirements
Pittsburg High School Reconstruction
Pittsburg, California

Requirement	Report Section
Journal of Geotechnical & Geoenvironmental Engineering & CGS Special Publication 117	
27. Liquefaction Calculations — based on detailed geologic cross-section and Safety Factor SF < 1.3	Not applicable
28. Seismic Settlement of entire Soil Column at relevant Boreholes (both unsaturated & saturated) total & differential as %/L Provide complete calculations (no estimates). Input PGA = UBE ground-motion	Section 7.12
29. Lateral Spreading due to Liquefaction — when near a free-face (river bank, canal, cut-slope)	Not applicable
30. Remedial Options for Liquefaction — several appropriate options to remediate liquefaction effects	Not applicable
31. Acceptance Criteria for Liquefaction Remediation — needed for subsequent remediation contract	Not applicable
Exceptional Geologic Hazards and Complicated Site Conditions. These exceptional items are not typically applicable statewide, but may be pertinent to a complicated site. Use prudent and careful analysis for all CCR Title 24 sites to avoid predicaments and expensive delays in construction of public client and hospital sites. This list of exceptional geologic hazards will help to avoid misunderstandings and back-checks when additional information is required by the reviewing agency. N/R = not reviewed; not evaluated at this time.	
32. Phase I & II Environmental Site Assessment Work — ASTM Test E-1527 & Test E-1903 for toxics	Not applicable
33. Hazardous Materials — methane gas, hydrogen sulfide gas, air seeps, high-pressure gas pipelines, etc.	Appendix A: Section 4.8
34. Calif. Environmental Quality Act — applicable Environmental Impact Report data, paleontology, etc.	Not applicable
35. Ground-Water Quality — safe drinking water supplies for rural or suburban campuses (if applicable)	Not applicable
36. On-Site Septic Systems — for rural or suburban campuses, evaluate septic leach-field system	Not applicable
37. Non-Tectonic Faulting and Hydrocollapse of Alluvial Fan Soils — due to anthropic use of water	Section 6.1
38. Regional Subsidence — due to sustained withdrawal of fluids (ground-water extraction & petroleum)	Appendix A: Section 4.9
39. Volcanic Eruption — only near active volcanic centers; refer to	Not applicable

Table 2: Geotechnical Laboratory Testing
Pittsburg High School Reconstruction, Pittsburg, California

	Location	
	1	22
Moisture Content	X	X
R-Value Test		X
Compaction (Modified Proctor)	X	X
Soil corrosivity package test	X	X
Aterberg Limits	X	X
Expansion Index	X	X

Notes:

R-Value: CTM 301
Moisture Content: ASTM D-2937
Compaction (Modified Proctor): ASTM D-1557 4-inch mold
Soil Corrosivity Package Test: DOT CA Test 532/643
Expansion Index: (UBC 18-2)
1-Stage Collapse Potential (ASTM D-4546)

Table 3: Differential Slab Movements Due to Expansive Soils
Pittsburg High School Reconstruction, Pittsburg, California

Loading Condition	Edge Distance Penetration, e_s (feet)	Differential Settlement, y_w (inches)
Edge Lift	2.5	0.3
Center Lift	5.5	2.1

Notes: Based on Chapter 18 of the California Building Code

Table 4: Allowable Bearing Pressures for Spread or Continuous Footings
Pittsburg High School Reconstruction, Pittsburg, California

Loading Condition	Allowable Bearing Pressure
Dead Loads	3,500 psf
Dead plus Live Loads	5,500 psf
All Loads, including Wind or Seismic	7,250 psf

Notes: psf = pounds per square foot

These values are based on an undrained shear strength of 2,000 psf and factors of safety of 3 and 2 for the dead load and live plus dead load cases. The allowable bearing pressure was increased by 1/3 for seismic and wind loading.

Table 5: Subslab Foundation Materials
Pittsburg High School Reconstruction
Pittsburg, California

	Sieve Size	Percentage Passing Sieve
Gravel or Crushed Rock	1 inch	90 - 100
	¾ inch	30 - 100
	½ inch	5 - 25
	¾ inch	0 - 6
Sand	No. 4	100
	No. 200	0 - 5

Table 6: Pavement Sections
Pittsburg High School Reconstruction, Pittsburg, California

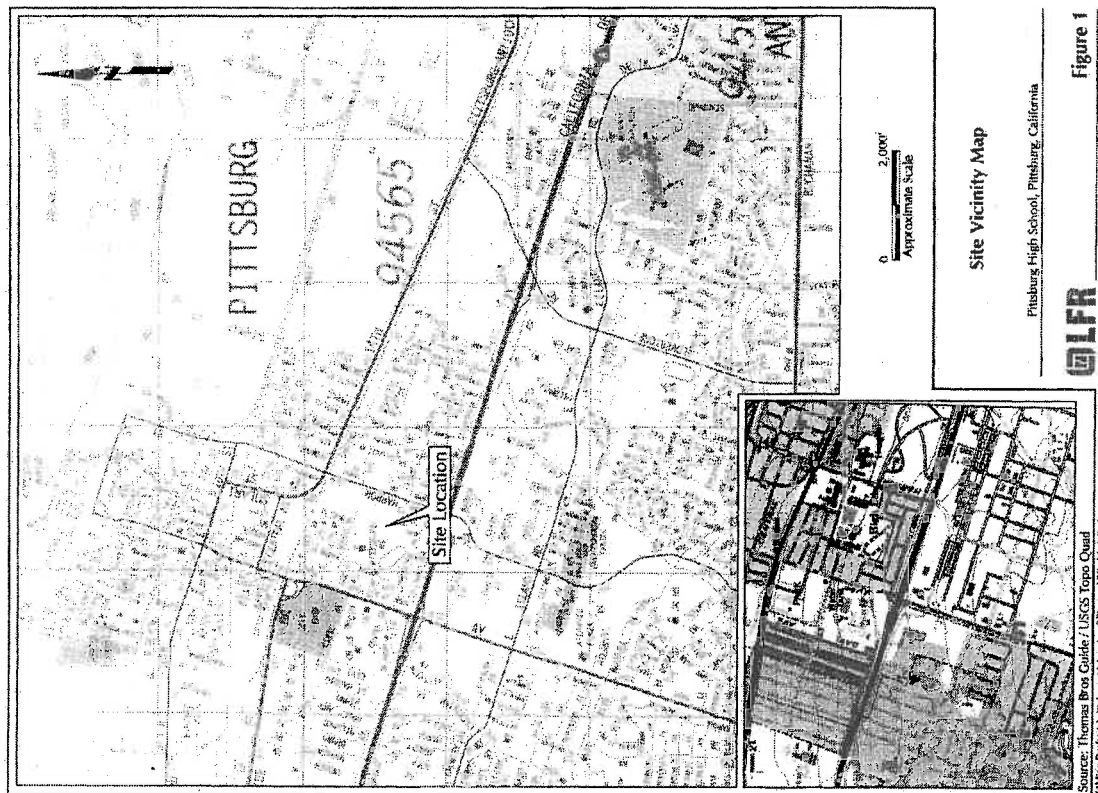
Recommended Pavement Designs (R-Value = 8)		
Traffic Index	Description	Pavement Component (inches)
5	Playgrounds AASHTO PC-9 Commercial Plaza	2.4
		10
6	Parking AASHTO PC-8 Business Parking	3
		12.5
7	Emergency Vehicle Access AASHTO PC-7 Facility Parking	3.5
		15

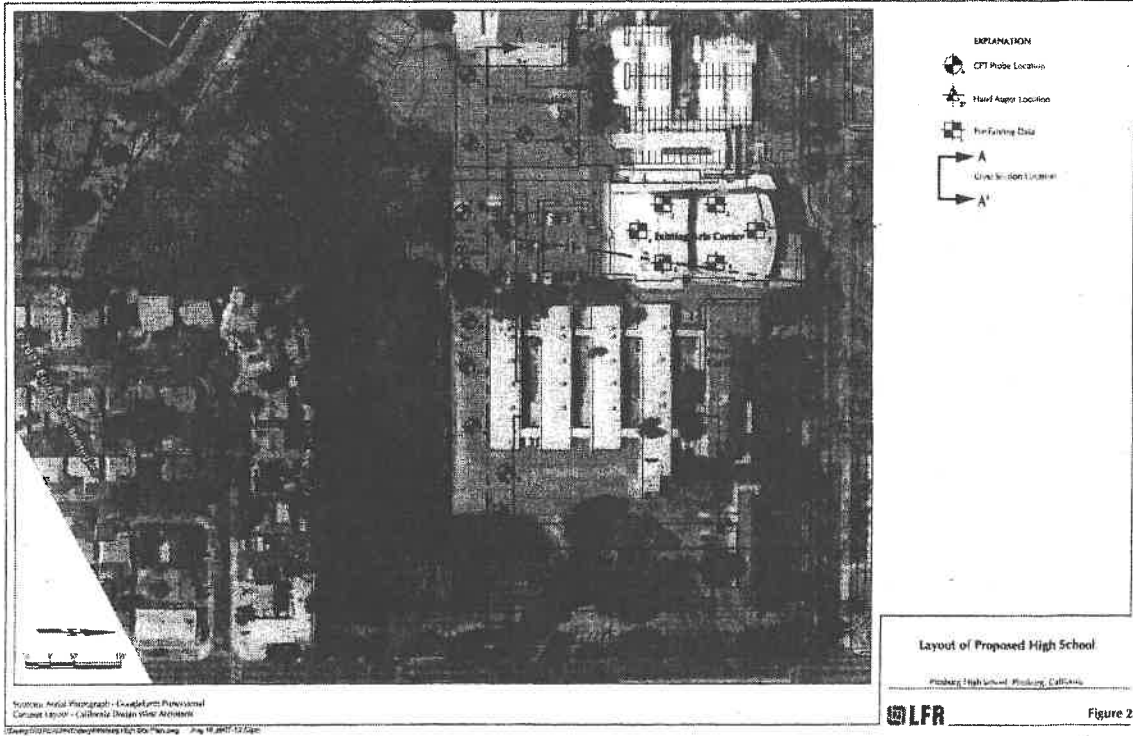
Asphaltic concrete thickness includes the Caltrans Factor of Safety.
Aggregate Base is to be CALTRANS Type 2. Asphalt Concrete shall meet the current requirements of the Caltrans District Engineer for the Pittsburg area.

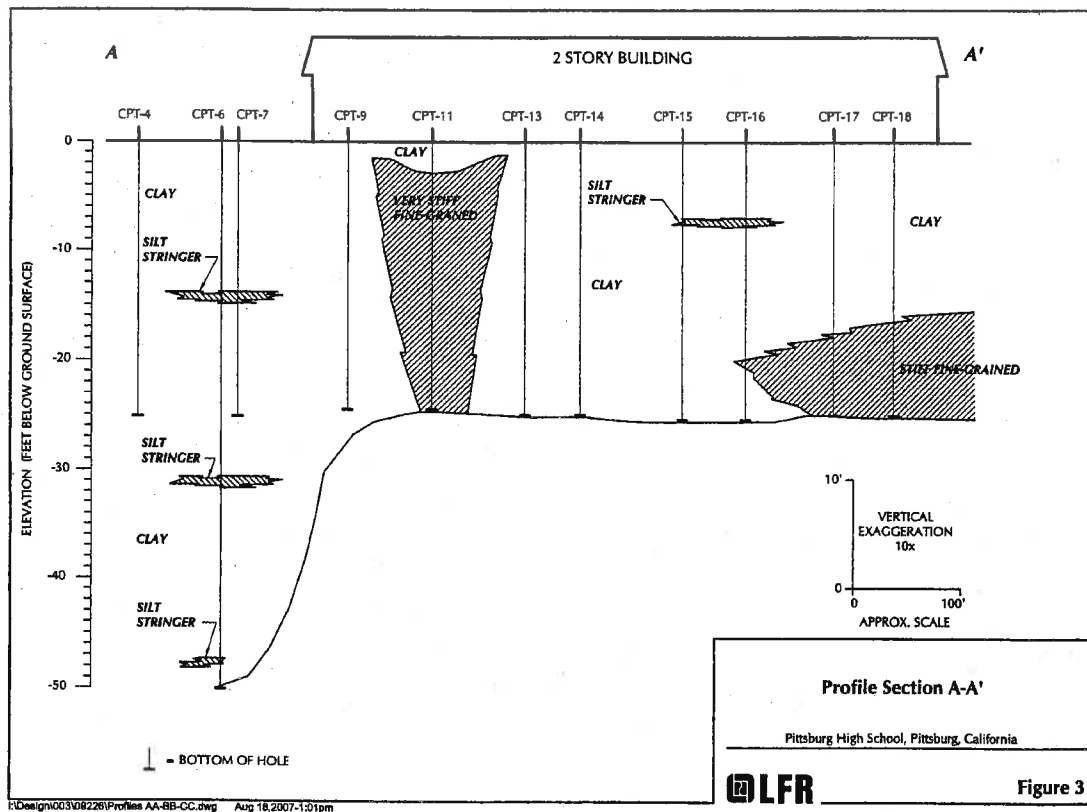
Table 7: California Building Code Seismic Design Factors
Pittsburg High School Reconstruction, Pittsburg, California

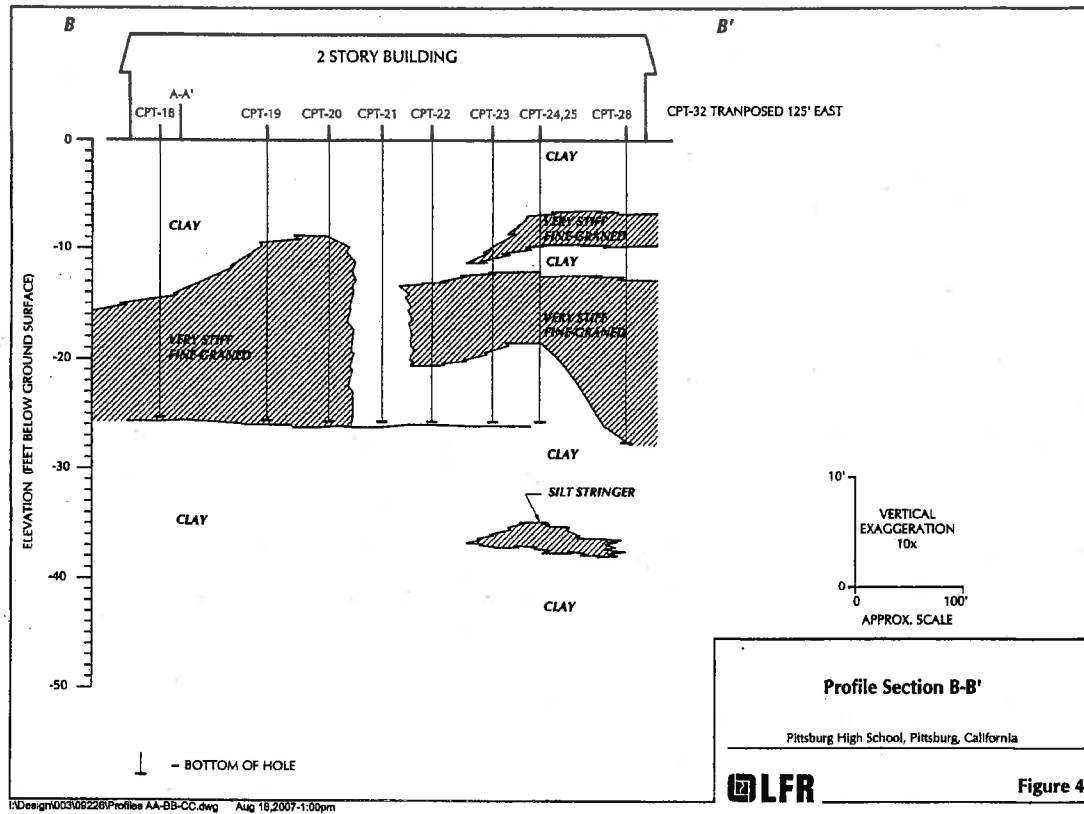
2001 CBC Seismic Design Parameters, Zone 4	
Seismic Zone Factor, Z	0.4
Soil Profile Type	S ₁
Seismic Coefficient C _s	0.44/S _a
Seismic Coefficient C _v	0.64/S _v
Near-Source Factor N _a	1
Near-Source Factor N _v	1
Seismic Source Type	B

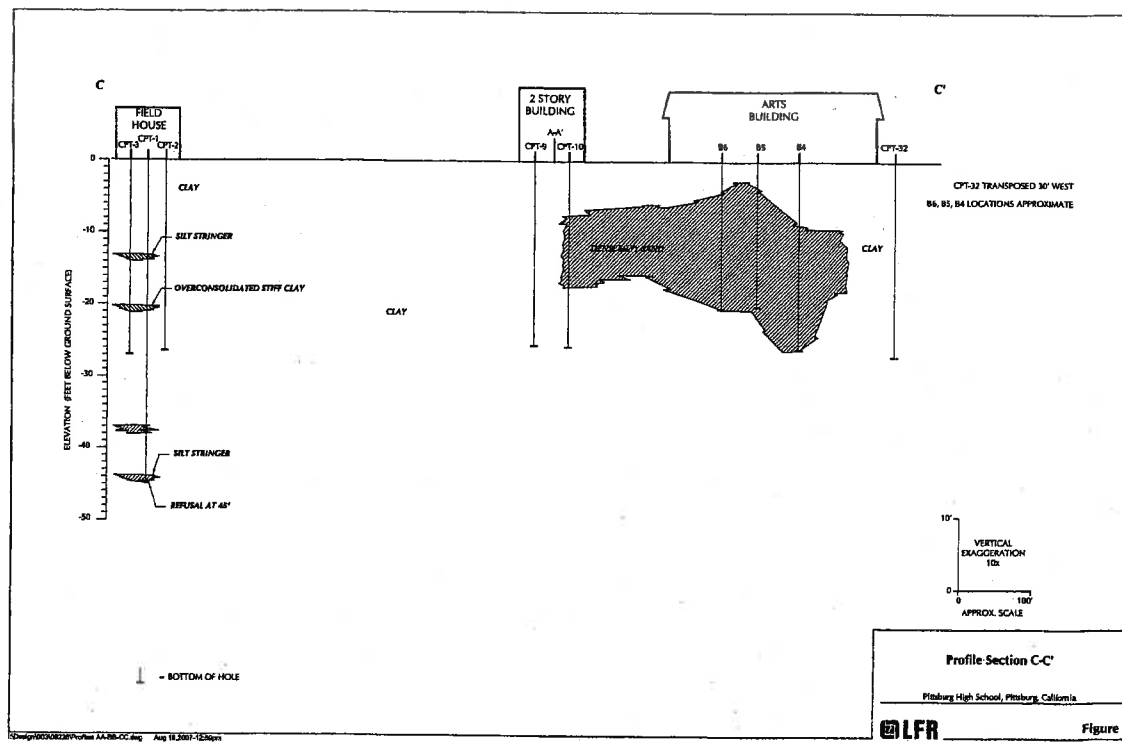
FIGURES



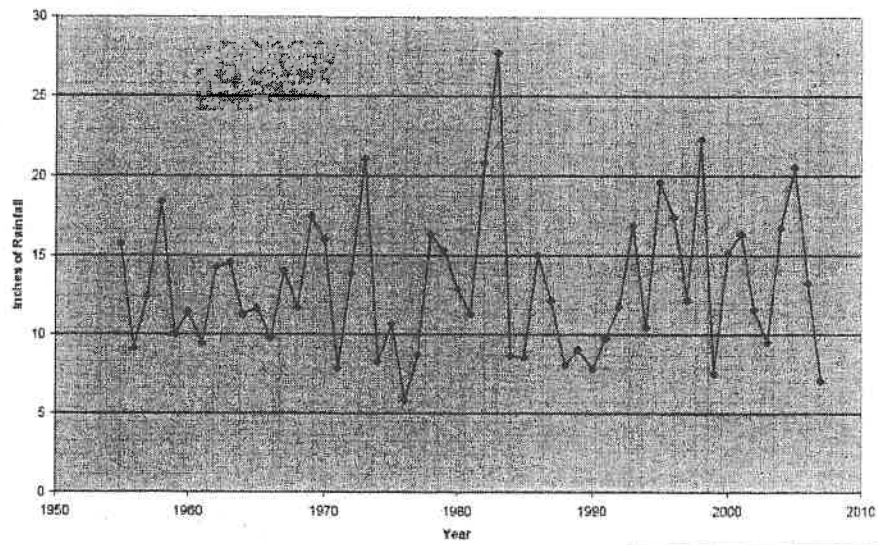








Rainfall in Antioch



Data Collected at Antioch Pump Plant
3 - approximately 8 miles ESE of the
High School

Rainfall in Antioch

Pittsburgh High School, Pittsburg, CA



Figure 6

APPENDICES

APPENDIX A

APPENDIX A

Project Geohazards Report

Geotechnical Design Report
Pittsburg High School Reconstruction
250 School Street
Pittsburg, California

Revision 1 – February 21, 2008
003-09226-02-004

Prepared for
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, California 94565



Geotechnical Design Report
Pittsburg High School Reconstruction
250 School Street
Pittsburg, California

Revision 1 – February 21, 2008
003-09226-02-004

Prepared for
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, California 94565



Geologic Hazards Evaluation Report
Proposed Pittsburg High School
250 School Street
Pittsburg, California

August 15, 2007
003-09226-02-004

Prepared for the
Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, California 94565



BID FORM AND PROPOSAL

To: Governing Board of the Pittsburgh Unified 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. **26-016**.

PROJECT: **Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project**

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

_____ dollars \$ _____

BASE BID

Bidder acknowledges and agrees that the Base Bid accounts for any and all costs, and Allowances.

Additional Detail Regarding Calculation of Base Bid

1. **Alternates: NOT USED**
2. **Unit Prices: NOT USED**
3. **Allowances: NOT USED**
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.
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

Receipt and acceptance of the following Addenda is hereby acknowledged:

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

10. Bidder acknowledges that the license required for performance of the Work is an **A** **or B** license.
11. The undersigned 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.
12. 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, and with all requirements of the Project Stabilization Agreement.
13. The 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.
14. 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.

15. 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.
16. 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: _____

No.: _____ Class: _____ Expiration Date: _____

No.: _____ Class: _____ Expiration Date: _____

Public Works Contractor Registration No.: _____

END OF DOCUMENT

BID BOND

(Note: If Bidder is providing a bid bond as its bid security, Bidder must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned, _____, as Principal ("Principal"),

and _____, as Surety ("Surety"), a corporation organized and existing under and by virtue of the laws of the State of California and authorized to do business as a surety in the State of California, are held and firmly bound unto the Pittsburg Unified School District ("District") of Contra Costa County, State of California, as Obligee, in an amount equal to ten percent (10%) of the Base Bid plus alternates, in the sum of

_____ Dollars (\$ _____)

lawful money of the United States of America, for the payment of which sum well and truly to be made, we, and each of us, 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 a bid to the District for all Work specifically described in the accompanying bid for the following project: **Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** ("Project" or "Contract").

NOW, THEREFORE, if the Principal is awarded the Contract and, within the time and manner required under the Contract Documents, after the prescribed forms are presented to Principal for signature, enters into a written contract, in the prescribed form in accordance with the bid, and files two bonds, one guaranteeing faithful performance and the other guaranteeing payment for labor and materials as required by law, and meets all other conditions to the Contract between the Principal and the Obligee becoming effective, or if the Principal shall fully reimburse and save harmless the Obligee from any damage sustained by the Obligee through failure of the Principal to enter into the written contract and to file the required performance and labor and material bonds, and to meet all other conditions to the Contract between the Principal and the Obligee becoming effective, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. The full payment of the sum stated above shall be due immediately if Principal fails to execute the Contract within seven (7) days of the date of the District's Notice of Award to Principal.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms 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 the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorneys' fee to be fixed by the Court.

If the District awards the bid, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on the _____ day of _____, 20__.

Principal

By

Surety

By

Name of California Agent of Surety

Address of California Agent of Surety

Telephone Number of California Agent of Surety

Bidder must attach Power of Attorney and Certificate of Authority for Surety and a Notarial Acknowledgment for all Surety's signatures. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

END OF DOCUMENT

DESIGNATED SUBCONTRACTORS LIST
(Public Contact Code Sections 4100-4114)

PROJECT: **Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza**
Modernization Project

Bidder acknowledges and agrees that it must clearly set forth below the name, location and California contractor license number of each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the Work or who will specially fabricate and install a portion of the Work according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent (0.5%) of Bidder's total Base Bid and the kind of Work that each will perform. Vendors or suppliers of materials only do not need to be listed.

Bidder acknowledges and agrees that, if Bidder fails to list as to any portion of Work, or if Bidder lists more than one subcontractor to perform the same portion of Work, Bidder must perform that portion itself or be subjected to penalty under applicable law. In case more than one subcontractor is named for the same kind of Work, state the portion of the kind of Work that each subcontractor will perform.

If alternate bid(s) is/are called for and Bidder intends to use subcontractors different from or in addition to those subcontractors listed for work under the Base Bid, Bidder must list subcontractors that will perform Work in an amount in excess of one half of one percent (0.5%) of Bidder's total Base Bid plus alternate(s).

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

Portion of Work: _____

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

NON-COLLUSION DECLARATION
(Public Contract Code Section 7106)

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.
[Title] [Name of Firm]

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. 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. All statements contained in the bid are true. 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, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____,
[Date]
at _____, _____.
[City] [State]

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

IRAN CONTRACTING ACT CERTIFICATION
(Public Contract Code Sections 2202-2208)

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** between the Pittsburg Unified School District ("District") and _____ ("Contractor" or "Bidder").

Prior to bidding on or submitting a proposal for a contract for goods or services of \$1,000,000 or more, the bidder/proposer must submit this certification pursuant to Public Contract Code section 2204.

The bidder/proposer must complete **ONLY ONE** of the following two options. To complete OPTION 1, check the corresponding box **and** complete the certification below. To complete OPTION 2, check the corresponding box, complete the certification below, and attach documentation demonstrating the exemption approval.

- ☐ **OPTION 1.** Bidder/Proposer is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b), and we are not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.
- ☐ **OPTION 2.** Bidder/Proposer has received a written exemption from the certification requirement pursuant to Public Contract Code sections 2203(c) and (d). *A copy of the written documentation demonstrating the exemption approval is included with our bid/proposal.*

CERTIFICATION:

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY, that I am duly authorized to legally bind the bidder/proposer to the OPTION selected above. This certification is made under the laws of the State of California.

<i>Vendor Name/Financial Institution (Printed)</i>	<i>Federal ID Number (or n/a)</i>
<i>By (Authorized Signature)</i>	
<i>Printed Name and Title of Person Signing</i>	<i>Date Executed</i>

END OF DOCUMENT

WORKERS' COMPENSATION CERTIFICATION

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** between the Pittsburg Unified School District ("District") and _____ ("Contractor" or "Bidder").

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 by one or more insurers duly authorized to write compensation insurance in this state; and/or
- b. By 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.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

(In accordance with Labor Code sections 1860 and 1861, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

END OF DOCUMENT

**PREVAILING WAGE AND
RELATED LABOR REQUIREMENTS CERTIFICATION**

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza
Modernization Project** between the Pittsburg Unified School District ("District") and _____
_____"Contractor" or "Bidder").

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.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

**DISABLED VETERAN BUSINESS
ENTERPRISE PARTICIPATION CERTIFICATION**

PROJECT/CONTRACT NO.: _____ between the Pittsburg Unified School District ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

GENERAL INSTRUCTIONS

Section 17076.11 of the Education Code requires school districts using, or planning to use, funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year by the school district on projects that receive state funding. Therefore, the lowest responsive responsible Bidder awarded the Contract must submit this document to the District with its executed Agreement, identifying the steps contractor took to solicit DVBE participation in conjunction with this Contract. **Do not submit this form with your bids.**

PART I – Method of Compliance with DVBE Participation Goals. Check the appropriate box to indicate your method of committing the contract dollar amount.

YOUR BUSINESS ENTERPRISE IS:	AND YOU WILL	AND YOU WILL
A. ☐ Disabled veteran owned and your forces will perform at least 3% of this Contract	Include a copy of your DVBE letter from Office of Small Business and Disabled Veterans Business Enterprise Services ("OSDS")*	Complete Part 1 of this form and the Certification
B. ☐ Disabled veteran owned but is unable to perform 3% of this Contract with your forces	Use DVBE subcontractors /suppliers to bring the Contract participation to at least 3%	Include a copy of each DVBE's letter from OSDS (including yours, if applicable), and complete Part 1 of this form and the Certification
C. ☐ NOT disabled veteran owned	Use DVBE subcontractors /suppliers for at least 3% of this Contract	
D. ☐ Unable to meet the required participation goals after good faith efforts	Make good faith efforts, including contacts, advertisement and DVBE solicitation	Complete all of this form and the Certification

* A DVBE letter from OSDS is obtained from the participating DVBE.

You must complete the following table to show the dollar amount of DVBE participation:

	TOTAL CONTRACT PRICE
A. Prime Bidder, if DVBE (own participation)	\$
B. DVBE Subcontractor or Supplier	
1.	
2.	
3.	
4.	
C. Subtotal (A & B)	
D. Non-DVBE	
E. Total Bid	

PART II – Contacts. To identify DVBE subcontractors/suppliers for participation in your contract, you must contact each of the following categories. You should contact several DVBE organizations.

CATEGORY	TELEPHONE NUMBER	DATE CONTACTED	PERSON CONTACTED
1. The District, if any			*
2. OSDS, provides assistance locating DVBEs at https://caleprocure.ca.gov/pages/PublicSearch/supplier-search.aspx	(916) 375-4940		*
3. DVBE Organization (List)			*

*Write "recorded message" in this column, if applicable.

PART III – Advertisement. You must advertise for DVBE participation in both a trade and focus paper. List the advertisement you place to solicit DVBE participation. Advertisements should be published at least fourteen (14) days prior to bid/proposal opening; if you cannot advertise fourteen (14) days prior, advertisements should be published as soon as possible. Advertisements must include that your firm is seeking DVBE participation, the project name and location, and your firm’s name, your contact person, and telephone number. Attach copies of advertisements to this form.

FOCUS/TRADE PAPER NAME	CHECK ONE		DATE OF ADVERTISEMENT
	TRADE	FOCUS	

PART IV – DVBE Solicitations. List DVBE subcontractors/suppliers that were invited to bid. Use the following instructions to complete the remainder of this section (read the three columns as a sentence from left to right). If you need additional space to list DVBE solicitations, please use a separate page and attach to this form.

IF THE DVBE.....	THEN.....		AND.....	
was selected to participate	Check "YES" in the "SELECTED" column		include a copy of their DVBE letter(s) from OSDS	
was NOT selected to participate	Check "NO" in the "SELECTED" column		state why in the "REASON NOT SELECTED" column	
did not respond to your solicitation	Check the "NO RESPONSE" column.			
DVBE CONTACTED	SELECTED		REASON NOT SELECTED	NO RESPONSE
	YES	NO		

A copy of this form must be retained by you and may be subject to a future audit.

CERTIFICATION

I, _____, certify that I am the bidder's _____
and that I have made a diligent effort to ascertain the facts with regard to the
representations made herein. In making this certification, I am aware of section 12650 et
seq. of the Government Code providing for the imposition of treble damages for making
false claims.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DRUG-FREE WORKPLACE CERTIFICATION

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** between the Pittsburg Unified School District ("District") and _____
("Contractor" or "Bidder").

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 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 service 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 or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of the Drug-Free Workplace Act of 1990.

Contractor 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 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.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

TOBACCO-FREE ENVIRONMENT CERTIFICATION

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** between the Pittsburg Unified School District ("District") and _____ ("Contractor" or "Bidder").

This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq., and District Board policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to use tobacco and/or smoke on the Project site.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

HAZARDOUS MATERIALS CERTIFICATION

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** between Pittsburg Unified School District ("District") and _____

("Contractor" or "Bidder").

1. Contractor hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations, ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.
2. Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.
3. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.
4. Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.
5. All Work or materials found to be New Hazardous Material or Work or material installed with equipment containing New Hazardous Material will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.
6. Contractor has read and understood the document titled Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

LEAD-BASED MATERIALS CERTIFICATION

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** between the Pittsburg Unified School District ("District") and _____

("Contractor" or "Bidder").

This certification provides notice to the Contractor that:

- (1) Contractor's work may disturb lead-containing building materials.
- (2) Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.
- (3) Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

1. Lead as a Health Hazard

Lead poisoning is recognized as a serious environmental health hazard facing children today. Even at low levels of exposure, much lower than previously believed, lead can impair the development of a child's central nervous system, causing learning disabilities, and leading to serious behavioral problems. Lead enters the environment as tiny lead particles and lead dust disburses when paint chips, chalks, peels, wears away over time, or is otherwise disturbed. Ingestion of lead dust is the most common pathway of childhood poisoning; lead dust gets on a child's hands and toys and then into a child's mouth through common hand-to-mouth activity. Exposures may result from construction or remodeling activities that disturb lead paint, from ordinary wear and tear of windows and doors, or from friction on other surfaces.

Ordinary construction and renovation or repainting activities carried out without lead-safe work practices can disturb lead-based paint and create significant hazards. Improper removal practices, such as dry scraping, sanding, or water blasting painted surfaces, are likely to generate high volumes of lead dust.

Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, CONTRACTOR IS HEREBY NOTIFIED of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1978 are presumed to contain some lead-based paint until sampling proves otherwise.

2. Overview of California Law

Education Code section 32240 et seq. is known as the Lead-Safe Schools Protection Act. Under this act, the Department of Health Services is to conduct a sample survey of schools in the State of California for the purpose of developing risk factors to predict lead contamination in public schools. (Ed. Code, § 32241.)

Any school that undertakes any action to abate existing risk factors for lead is required to utilize trained and state-certified contractors, inspectors, and workers. (Ed. Code, § 32243, subd. (b).) Moreover, lead-based paint, lead plumbing, and solders, or other potential sources of lead contamination, shall not be utilized in the construction of any new school facility or the modernization or renovation of any existing school facility. (Ed. Code, § 32244.)

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

The OSHA Regulations apply to all construction work where a contractor's employee may be occupationally exposed to lead. The OSHA Regulations contain specific and detailed requirements imposed on contractors subject to those regulations. The OSHA Regulations define construction work as work for construction, alteration, and/or repair, including painting and decorating. Regulated work includes, but is not limited to, the following:

- a. Demolition or salvage of structures where lead or materials containing lead are present;
- b. Removal or encapsulation of materials containing lead;
- c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- d. Installation of products containing lead;
- e. Lead contamination/emergency cleanup;
- f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and
- g. Maintenance operations associated with the construction activities described in the subsection.

Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (including title 8, California Code of Regulations, section 1532.1).

Contractor shall notify the District if any Work may result in the disturbance of lead-containing building materials. Any and all Work that may result in the disturbance of lead-containing building materials shall be coordinated through the District. A signed copy of this Certification shall be on file prior to beginning Work on the Project, along with all current insurance certificates.

3. Renovation, Repair and Painting Rule, Section 402(c)(3) of the Toxic Substances Control Act

The EPA requires lead safe work practices to reduce exposure to lead hazards created by renovation, repair and painting activities that disturb lead-based paint. Pursuant to the Renovation, Repair and Painting Rule (RRP), renovations in homes, childcare facilities, and schools built prior to 1978 must be conducted by certified renovations firms, using renovators with training by a EPA-accredited training provider, and fully and adequately complying with all applicable laws, rules and regulations governing lead-based materials, including those rules and regulations appearing within title 40 of the Code of Federal Regulations as part 745 (40 CFR 745).

The RRP requirements apply to all contractors who disturb lead-based paint in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors. If a DPH-certified inspector or risk assessor determines that a home constructed before 1978 is lead-free, the federal certification is not required for anyone working on that particular building.

4. Contractor's Liability

If the Contractor fails to comply with any applicable laws, rules, or regulations, and that failure results in a site or worker contamination, the Contractor will be held solely responsible for all costs involved in any required corrective actions, and shall defend, indemnify, and hold harmless the District, pursuant to the indemnification provisions of the Contract, for all damages and other claims arising therefrom.

If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations, licenses, and training shall conduct this Work.

It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including, but not limited to, paint chips, any collected residue, or any other visual material that may occur from the prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be registered with the Department of Transportation (DOT) and shall be able to issue a current manifest number upon transporting any hazardous material from any school site within the District.

The Contractor shall provide the District with any sample results prior to beginning Work, during the Work, and after the completion of the Work. The District may request to examine, prior to the commencement of the Work, the lead training records of each employee of the Contractor.

THE CONTRACTOR HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;
2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

CRIMINAL BACKGROUND INVESTIGATION
/FINGERPRINTING CERTIFICATION

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Alterations Project** between the Pittsburg Unified School District ("District") and _____

("Contractor" or "Bidder").

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: _____

END OF DOCUMENT

BUY AMERICAN CERTIFICATION

CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** between the Pittsburg Unified School District ("District") and _____

("Contractor" or "Bidder").

Federal regulations require that all of the iron, steel, and manufactured goods used in projects for the construction, installation, repairs, renovation, modernization, or maintenance of a public building or public work funded in part or in whole by federal stimulus funds, with the exception of projects funded by Qualified School Construction Bonds, be produced in the United States of America, unless a federal department waives this requirement because (1) it is inconsistent with the public interest, (2) the goods are not produced in sufficient quantities or of satisfactory quality in the United States, or (3) the requirement would increase the cost of the Project overall by more than twenty-five percent (25%) ("Buy American").

Contractor shall submit this Certification with its executed agreement, identifying the steps Contractor will take to use goods produced in the United States of America in carrying out this Contract. Bidder should not submit this form with its bid.

Contractor shall retain a copy of this form and may be subject to a future audit.

CERTIFICATION

On behalf of Contractor, I represent and covenant that Contractor will use on the Project only iron, steel and manufactured goods produced in the United States of America except goods for which a federal department has waived this requirement.

I, _____, certify that I am the Contractor's _____
_____ and that the representations and covenants made herein are true and correct. In making this certification, I am aware of section 12650 et seq. of the Government Code providing for the imposition of treble damages for making false claims.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

REGISTERED SUBCONTRACTORS LIST
(Labor Code Section 1771.1)

PROJECT: **Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza**
Modernization Project

Date Submitted (for Updates): _____

Contractor acknowledges and agrees that it must clearly set forth below the name and Department of Industrial Relations (DIR) registration number of each subcontractor **for all tiers** who will perform work or labor or render service to Contractor or its subcontractors in or about the construction of the Work **at least two (2) weeks before the subcontractor is scheduled to perform work**. This document is to be updated as all tiers of subcontractors are identified.

Contractor acknowledges and agrees that, if Contractor fails to list as to any subcontractor of any tier who performs any portion of Work, the Contract is subject to cancellation and the Contractor will be subjected to penalty under applicable law.

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Date: _____

Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

NOTICE OF AWARD

Dated: _____ 20__

To: _____ (Contractor)

To: _____
(Address)

From: Governing Board ("Board") of the Pittsburgh Unified School District ("District" or "Owner")

PROJECT: **Contract No. 26-016, Pittsburgh HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project**, ("Project").

Contractor has been awarded the referenced Contract on _____, 20__, by action of the District's Board.

The Contract Price is _____ Dollars (\$_____).

Three (3) copies of each of the Contract Documents (except Drawings) accompany this Notice of Award. Three (3) sets of the Drawings will be delivered separately or otherwise made available. Additional copies are available at cost of reproduction.

You must comply with the following conditions precedent within **SEVEN (7)** calendar days of the date of this Notice of Award.

The Contractor shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award.

- a. Agreement: To be executed by successful Bidder. Submit four (4) copies, each bearing an original signature.
- b. Escrow of Bid Documentation: This must include all required documentation. See the document titled Escrow Bid Documentation for more information.
- c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- d. Payment Bond (Contractor's Labor & Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- e. Insurance Certificates and Endorsements as required.
- f. Iran Contracting Act Certification.
- g. Workers' Compensation Certification.
- h. Prevailing Wage and Related Labor Requirements Certification.

- i. Disabled Veteran Business Enterprise Participation Certification.
- j. Drug-Free Workplace Certification.
- k. Tobacco-Free Environment Certification.
- l. Hazardous Materials Certification.
- m. Lead-Based Materials Certification.
- n. Criminal Background Investigation/Fingerprinting Certification.
- o. Buy American Certification.
- p. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.

Failure to comply with these conditions within the time specified will entitle District to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited, as well as any other rights the District may have against the Contractor.

After you comply with those conditions, District will return to you one fully signed counterpart of the Agreement.

PITTSBURG UNIFIED SCHOOL DISTRICT

BY: _____

NAME: **Sean Vandermey**

TITLE: **Director of Facilities**

END OF DOCUMENT

AGREEMENT

THIS AGREEMENT IS MADE AND ENTERED INTO THIS ____ DAY OF _____, **2025**, by and between the Pittsburgh Unified School District ("District") and _____ ("Contractor").

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other, as follows:

- 1. The Work:** Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, and material necessary to perform and complete in a good and workmanlike manner, the work of the following project:

Contract No.: 26-016, Pittsburgh HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project ("Project" or "Contract" or "Work")

It is understood and agreed that the Work shall be performed and completed as required in the Contract Documents including, without limitation, the Drawings and Specifications and submission of all documents required to secure funding or by the Division of the State Architect for close-out of the Project, under the direction and supervision of, and subject to the approval of, the District or its authorized representative.

- 2. The Contract Documents:** The complete Contract consists of all Contract Documents as defined in the General Conditions and incorporated herein by this reference. Any and all obligations of the District and Contractor are fully set forth and described in the Contract Documents. All Contract Documents are intended to cooperate so that any Work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all Contract Documents.
- 3. Interpretation of Contract Documents:** Should any question arise concerning the intent or meaning of Contract Documents, including the Drawings or Specifications, the question shall be submitted to the District for interpretation. If a conflict exists in the Contract Documents, valid, written modifications, beginning with the most recent, shall control over this Agreement (if any), which shall control over the Special Conditions, which shall control over any Supplemental Conditions, which shall control over the General Conditions, which shall control over the remaining Division 0 documents, which shall control over Division 1 Documents which shall control over Division 2 through Division 49 documents, which shall control over figured dimensions, which shall control over large-scale drawings, which shall control over small-scale drawings. In no case shall a document calling for lower quality and/or quantity material or workmanship control. The decision of the District in the matter shall be final.
- 4. Time for Completion:** It is hereby understood and agreed that all on-site Work, under this Contract, shall be completed on or before **Friday, November 20, 2026**, and that all Work under this Contract shall be completed on or before **Friday, December 18, 2026 ("Contract Time")** as specified in the District's Notice to Proceed.

- 5. Completion - Extension of Time:** Should the Contractor fail to complete this Contract, and the Work provided herein, within the time fixed for completion, due allowance being made for the contingencies provided for herein, the Contractor shall become liable to the District for all loss and damage that the District may suffer on account thereof. The Contractor shall coordinate its Work with the Work of all other contractors. The District shall not be liable for delays resulting from Contractor's failure to coordinate its Work with other contractors in a manner that will allow timely completion of Contractor's Work. Contractor shall be liable for delays to other contractors caused by Contractor's failure to coordinate its Work with the Work of other contractors.
- 6. Liquidated Damages:** Time is of the essence for all work under this Agreement. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Contractor's delay; therefore, Contractor agrees that it shall pay to the District the sum of **Two Thousand Five Dollars (\$2,500.00)** per day as liquidated damages for each and every day's delay beyond the time herein prescribed in finishing the Work.

It is hereby understood and agreed that this amount is not a penalty.

In the event that any portion of the liquidated damages is not paid to the District, the District may deduct that amount from any money due or that may become due the Contractor under this Agreement, and such deduction does not constitute a withholding or penalty. The District's right to assess liquidated damages is as indicated herein and in the General Conditions.

The time during which the Contract is delayed for cause, as hereinafter specified, may extend the time of completion for a reasonable time as the District may grant, provided that Contractor has complied with the claims procedure of the Contract Documents. This provision does not exclude the recovery of damages by either party under other provisions in the Contract Documents.

- 7. Loss Or Damage:** The District and its agents and authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatsoever; and shall hold the District and its agents and authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatsoever.
- 8. Insurance and Bonds:** Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance and insurance endorsements, and payment and performance bonds as evidence thereof. Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance, insurance endorsements, and payment and performance bonds as evidence thereof.

9. **Prosecution of Work:** If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.
10. **Authority of Architect, Project Inspector, and DSA:** Contractor hereby acknowledges that the Architect(s), the Project Inspector(s), and the Division of the State Architect ("DSA") have authority to approve and/or suspend Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws and regulations. The Contractor shall be liable for any delay caused by its non-compliant Work.
11. **Assignment of Contract:** Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the prior written approval of the District, nor without the written consent of the Surety on the Contractor's Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.
12. **Classification of Contractor's License:** Contractor hereby acknowledges that it currently holds valid Type A or B Contractor's license(s) issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.
13. **Registration as Public Works Contractor:** The Contractor and all Subcontractors currently are registered as public works contractors with the Department of Industrial Relations, State of California, in accordance with Labor Code section 1771.1.
14. **Payment of Prevailing Wages:** The Contractor and all Subcontractors shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code.
15. **Labor Compliance:** This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code, including, without limitation, the requirement that the Contractor and all of its Subcontractors shall timely submit complete and accurate electronic certified payroll records as required by the Contract Documents, or the District may not issue payment.

- 16. Contract Price:** In consideration of the foregoing covenants, promises, and agreements on the part of the Contractor, and the strict and literal fulfillment of each and every covenant, promise, and agreement, and as compensation agreed upon for the Work and construction, erection, and completion as aforesaid, the District covenants, promises, and agrees that it will well and truly pay and cause to be paid to the Contractor in full, and as the full Contract Price and compensation for construction, erection, and completion of the Work hereinabove agreed to be performed by the Contractor, the following price:

_____ Dollars (\$ _____),

in lawful money of the United States, which sum is to be paid according to the schedule provided by the Contractor and accepted by the District and subject to additions and deductions as provided in the Contract. This amount supersedes any previously stated and/or agreed to amount(s).

- 17. No Representations:** No representations have been made other than as set forth in writing in the Contract Documents, including this Agreement. Each of the Parties to this Agreement warrants that it has carefully read and understood the terms and conditions of this Agreement and all Contract Documents, and that it has not relied upon the representations or advice of any other Party or any attorney not its own.
- 18. Entire Agreement:** The Contract Documents, including this Agreement, set forth the entire agreement between the parties hereto and fully supersede any and all prior agreements, understandings, written or oral, between the parties hereto pertaining to the subject matter thereof.
- 19. Severability:** If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.

IN WITNESS WHEREOF, accepted and agreed on the date indicated above:

CONTRACTOR

PITTSBURG UNIFIED SCHOOL DISTRICT

By: _____

By: **Sean Vandermey**

Title: _____

Title: **DIRECTOR OF FACILITIES**

NOTE: If the party executing this Contract is a corporation, a certified copy of the by-laws, or of the resolution of the Board of Directors, authorizing the officers of said corporation to execute the Contract and the bonds required thereby must be attached hereto.

END OF DOCUMENT

PERFORMANCE BOND
(100% of Contract Price)

(Note: Contractor must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Pittsburgh Unified School District, ("District") and _____, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

Contract No.: 26-016, Pittsburgh HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project

("Project" or "Contract") which Contract dated _____, **2026**, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound unto the Board of the District in the penal sum of _____

Dollars (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Promptly perform all the work required to complete the Project; and
- Pay to the District all damages the District incurs as a result of the Principal's failure to perform all the Work required to complete the Project.

Or, at the District's sole discretion and election, the Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the District of the lowest responsible bidder, arrange for a contract between such bidder and the District and make available as Work progresses sufficient funds to pay the cost of completion less the "balance of the Contract Price," and to pay and perform all obligations of Principals under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by the District under the Contract and any modifications thereto, less the amount previously paid by the District to the Principal, less any withholdings by the District allowed under the Contract. District shall not be required or obligated to accept a tender of a completion contractor from the Surety for any or no reason.

The condition of the obligation is such that, if the above bound Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

Surety expressly agrees that the District may reject any contractor or subcontractor proposed by Surety to fulfill its obligations in the event of default by the Principal. Surety shall not utilize Principal in completing the Work nor shall Surety accept a Bid from Principal for completion of the Work if the District declares the Principal to be in default and notifies Surety of the District's objection to Principal's further participation in the completion of the Work.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond. The Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond by any overpayment or underpayment by the District that is based upon estimates approved by the Architect. The Surety does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

PAYMENT BOND
Contractor's Labor & Material Bond
(100% Of Contract Price)

(Note: Contractor must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Pittsburgh Unified School District, ("District") and _____, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

Contract No.: 26-016, Pittsburgh HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project

("Project" or "Contract") which Contract dated _____, **2026**, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by which the Contract is awarded in an amount equal to one hundred percent (100%) of the Contract price, to secure the claims to which reference is made in sections 9000 through 9510 and 9550 through 9566 of the Civil Code, and division 2, part 7, of the Labor Code.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound unto all laborers, material men, and other persons referred to in said statutes in the sum of _____ Dollars (\$_____), lawful money of the United States, being a sum not less than the total amount payable by the terms of Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of its subcontractors, or their heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or any of his or its subcontractors of any tier under Section 13020 of the Unemployment Insurance Code with respect to such work or labor, that the Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and remain in full force and affect.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of Contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF CLAIMS ("Agreement and Release") IS MADE AND ENTERED INTO THIS _____ DAY OF _____, 20____ by and between the PITTSBURG UNIFIED SCHOOL DISTRICT ("District") and _____ ("Contractor"), whose place of business is _____.

RECITALS:

1. District and Contractor entered into CONTRACT NO.: **26-016, Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** ("Contract" or "Project") in the County of Contra Costa, California.
2. The Work under the Contract was completed on _____, and a Notice of Completion was recorded with the County Recorder on _____.

NOW, THEREFORE, it is mutually agreed between District and Contractor as follows:

AGREEMENT AND RELEASE

3. Contractor will only be assessed liquidated damages as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____
4. Subject to the provisions hereof, District shall forthwith pay to Contractor the undisputed sum of _____ Dollars (\$_____) under the Contract, less any amounts represented by any notice to withhold funds on file with District as of the date of such payment.
5. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the performance of work under the Contract, except for the claims described in Paragraph 6 and continuing obligations described in Paragraph 8. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District and all of its respective agents, employees, trustees, inspectors, assignees, consultants and transferees, except for any Disputed Claim that may be set forth in Paragraph 6 and the continuing obligations described in Paragraph 8 hereof.

PITTSBURG UNIFIED SCHOOL DISTRICT

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

DOCUMENT 00 65 19.26-1

6. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

<u>Claim No.</u>	<u>Description of Claim</u>	<u>Amount of Claim</u>	<u>Date Claim Submitted</u>
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____

[If further space is required, attach additional sheets showing the required information.]

7. Consistent with California Public Contract Code section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 4 hereof, Contractor hereby releases and forever discharges District, all its agents, employees, inspectors, assignees, and transferees from any and all liability, claims, demands, actions, or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.
8. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
9. To the furthest extent permitted by California law, Contractor shall defend, indemnify, and hold harmless the District, its agents, representatives, officers, consultants, employees, trustees, and volunteers (the "indemnified parties") from any and all losses, liabilities, claims, suits, and actions of any kind, nature, and description, including, but not limited to, attorneys' fees and costs, directly or indirectly arising out of, connected with, or resulting from the performance of the Contract unless caused wholly by the sole negligence or willful misconduct of the District.
10. Contractor hereby waives the provisions of California Civil Code section 1542 which provides as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

11. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable. If any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal, or other law, ruling, or regulations, then such provision, or part thereof, shall remain in force and effect to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.
12. All rights of District shall survive completion of the Work or termination of Contract, and execution of this Release.

* * * CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING * * *

PITTSBURG UNIFIED SCHOOL DISTRICT

Signature: _____

Print Name: _____

Title: _____

CONTRACTOR: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

GUARANTEE FORM

_____ ("Contractor") hereby agrees that the **Pittsburg HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project** ("Work" of Contractor) which Contractor has installed for the Pittsburg Unified School District ("District") for the following project:

PROJECT: **Parkside HS – Creative Arts Bldg. (CAB) Entry Plaza Modernization Project**

("Project" or "Contract") has been performed in accordance with the requirements of the Contract Documents and that the Work as installed will fulfill the requirements of the Contract Documents.

The undersigned agrees to repair or replace any or all of such Work that may prove to be defective in workmanship or material together with any other adjacent Work that may be displaced in connection with such replacement within a period of **Two (2)** years from the date of completion as defined in Public Contract Code section 7107, subdivision (c), ordinary wear and tear and unusual abuse or neglect excepted. The date of completion is _____, 20____.

In the event of the undersigned's failure to comply with the above-mentioned conditions within a reasonable period of time, as determined by the District, but not later than seven (7) days after being notified in writing by the District, the undersigned authorizes the District to proceed to have said defects repaired and made good at the expense of the undersigned. The undersigned shall pay the costs and charges therefor upon demand.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

Representatives to be contacted for service subject to terms of Contract:

Name: _____

Address: _____

Phone No.: _____

Email: _____

END OF DOCUMENT

TABLE OF CONTENTS

	<u>Page</u>
1. CONTRACT TERMS AND DEFINITIONS	1
1.1 Definitions.....	1
1.2 Laws Concerning the Contract.....	6
1.3 No Oral Agreements	6
1.4 No Assignment.....	6
1.5 Notice and Service Thereof	7
1.6 No Waiver	7
1.7 Substitutions for Specified Items.....	7
1.8 Materials and Work.....	8
2. [RESERVED]	9
3. ARCHITECT	9
4. CONSTRUCTION MANAGER.....	10
5. INSPECTOR, INSPECTIONS, AND TESTS.....	10
5.1 Project Inspector.....	10
5.2 Tests and Inspections	11
5.3 Costs for After Hours and/or Off Site Inspections	11
6. CONTRACTOR	12
6.1 Status of Contractor	12
6.2 Project Inspection Card(s)	12
6.3 Contractor’s Supervision	12
6.4 Duty to Provide Fit Workers	13
6.5 Field Office	13
6.6 Purchase of Materials and Equipment.....	14

6.7	Documents on Work	14
6.8	Preservation of Records	15
6.9	Integration of Work	15
6.10	Notifications	16
6.11	Obtaining of Permits, Licenses and Registrations	16
6.12	Royalties and Patents	16
6.13	Work to Comply With Applicable Laws and Regulations	17
6.14	Safety/Protection of Persons and Property	18
6.15	Working Evenings and Weekends	20
6.16	Cleaning Up.....	20
7.	SUBCONTRACTORS	21
8.	OTHER CONTRACTS/CONTRACTORS	22
9.	DRAWINGS AND SPECIFICATIONS	23
10.	CONTRACTOR'S SUBMITTALS AND SCHEDULES	24
10.1	Schedule of Work, Schedule of Submittals, and Schedule of Values	24
10.2	Monthly Progress Schedule(s)	27
10.3	Material Safety Data Sheets (MSDS).....	27
11.	SITE ACCESS, CONDITIONS, AND REQUIREMENTS	28
11.1	Site Investigation	28
11.2	Soils Investigation Report.....	28
11.3	Access to Work	28
11.4	Layout and Field Engineering	29
11.5	Utilities	29
11.6	Sanitary Facilities	29
11.7	Surveys	29
11.8	Regional Notification Center.....	29
11.9	Existing Utility Lines	30

11.10	Notification.....	30
11.11	Hazardous Materials	30
11.12	No Signs	31
12.	TRENCHES	31
12.1	Trenches Greater Than Five Feet.....	31
12.2	Excavation Safety	31
12.3	No Tort Liability of District.....	31
12.4	No Excavation without Permits.....	31
12.5	Discovery of Hazardous Waste and/or Unusual Conditions	31
13.	INSURANCE AND BONDS	32
13.1	Insurance.....	32
13.2	Contract Security - Bonds	36
14.	WARRANTY/GUARANTEE/INDEMNITY.....	37
14.1	Warranty/Guarantee.....	37
14.2	Indemnity and Defense	38
15.	TIME.....	39
15.1	Notice to Proceed	39
15.2	Computation of Time / Adverse Weather	40
15.3	Hours of Work	40
15.4	Progress and Completion.....	41
15.5	Schedule	41
15.6	Expeditious Completion.....	41
16.	EXTENSIONS OF TIME – LIQUIDATED DAMAGES	41
16.1	Liquidated Damages	41
16.2	Excusable Delay	42
16.3	No Additional Compensation for Delays Within Contractor’s Control	43
16.4	Float or Slack in the Schedule	43

17.	CHANGES IN THE WORK	43
17.1	No Changes Without Authorization	43
17.2	Architect Authority	44
17.3	Change Orders.....	44
17.4	Construction Change Directives.....	44
17.5	Force Account Directives	45
17.6	Price Request.....	46
17.7	Proposed Change Order	46
17.8	Format for Proposed Change Order.....	48
17.9	Change Order Certification	50
17.10	Determination of Change Order Cost	50
17.11	Deductive Change Orders.....	50
17.12	Addition or Deletion of Alternate Bid Item(s)	51
17.13	Discounts, Rebates, and Refunds	51
17.14	Accounting Records	51
17.15	Notice Required	51
17.16	Applicability to Subcontractors	52
17.17	Alteration to Change Order Language	52
17.18	Failure of Contractor to Execute Change Order.....	52
18.	REQUEST FOR INFORMATION	52
19.	PAYMENTS	52
19.1	Contract Price	52
19.2	Applications for Progress Payments	52
19.3	Progress Payments	55
19.4	Decisions to Withhold Payment	57
19.5	Subcontractor Payments	59
20.	COMPLETION OF THE WORK.....	60

20.1	Completion.....	60
20.2	Close-Out/Certification Procedures	60
20.3	Final Inspection	61
20.4	Costs of Multiple Inspections.....	62
20.5	Partial Occupancy or Use Prior to Completion.....	62
21.	FINAL PAYMENT AND RETENTION.....	63
21.1	Final Payment.....	63
21.2	Prerequisites for Final Payment	63
21.3	Retention	64
21.4	Substitution of Securities	64
22.	UNCOVERING OF WORK.....	65
23.	NONCONFORMING WORK AND CORRECTION OF WORK	65
23.1	Nonconforming Work	65
23.2	Correction of Work	65
23.3	District's Right to Perform Work	66
24.	TERMINATION AND SUSPENSION.....	66
24.1	District's Right to Terminate Contractor for Cause	66
24.2	Termination of Contractor for Convenience	69
24.3	Suspension of Work.....	70
25.	CLAIMS PROCESS	70
25.1	Performance during Claim Process.....	70
25.2	Definition of Claim.....	70
25.3	Claims Presentation	71
25.4	Claim Resolution pursuant to Public Contract Code section 9204	72
25.5	Subcontractor Pass-Through Claims.....	73
25.6	Government Code Claim Act Claim	74

25.7	Claim Resolution pursuant to Public Contract Code section 20104 et seq.....	74
25.8	Claim Resolution Non-Applicability.....	76
25.9	Attorney’s Fees	76
26.	STATE LABOR, WAGE & HOUR, APPRENTICE, AND RELATED PROVISIONS	76
26.1	Labor Compliance and Enforcement.....	76
26.2	Wage Rates, Travel, and Subsistence.....	76
26.3	Hours of Work	78
26.4	Payroll Records	78
26.5	[RESERVED]	80
26.6	Apprentices	80
26.7	Non-Discrimination.....	81
26.8	Labor First Aid	81
27.	[RESERVED]	81
28.	MISCELLANEOUS	81
28.1	Assignment of Antitrust Actions	81
28.2	Excise Taxes.....	82
28.3	Taxes	82
28.4	Shipments.....	82
28.5	Compliance with Government Reporting Requirements	83

GENERAL CONDITIONS

1. CONTRACT TERMS AND DEFINITIONS

1.1 Definitions

Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

1.1.1 Adverse Weather: Shall be only weather that satisfies all of the following conditions: (1) unusually severe precipitation, sleet, snow, hail, or extreme temperature conditions in excess of the norm for the location and time of year it occurred based on the closest weather station data averaged over the past five years, (2) that is unanticipated and would cause unsafe work conditions and/or is unsuitable for scheduled work that should not be performed during inclement weather (i.e., exterior finishes), and (3) at the Project.

1.1.2 Allowance Expenditure Directive: Written authorization for expenditure of allowance, if any.

1.1.3 Approval, Approved, and/or Accepted: Written authorization, unless stated otherwise.

1.1.4 Architect (or "Design Professional in General Responsible Charge"): The individual, partnership, corporation, joint venture, or any combination thereof, named as Architect, who will have the rights and authority assigned to the Architect in the Contract Documents. The term Architect means the Design Professional in General Responsible Charge as defined in DSA PR 13-02 on this Project or the Architect's authorized representative.

1.1.5 As-Builts: Reproducible blue line prints of drawings to be prepared on a monthly basis pursuant to the Contract Documents, that reflect changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed since the preceding monthly submittal. See **Record Drawings**.

1.1.6 Bidder: A contractor who intends to provide a proposal to the District to perform the Work of this Contract.

1.1.7 Change Order: A written order to the Contractor authorizing an addition to, deletion from, or revision in the Work, and/or authorizing an adjustment in the Contract Price or Contract Time.

1.1.8 Claim: A Dispute that remains unresolved at the conclusion of the all the applicable Dispute Resolution requirements provided herein.

1.1.9 Construction Change Directive: A written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work.

1.1.10 Construction Manager: The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Construction Manager is used on the Project that is the subject of this Contract, then all references to Construction Manager herein shall be read to refer to District.

1.1.11 Construction Schedule: The progress schedule of construction of the Project as provided by Contractor and approved by District.

1.1.12 Contract, Contract Documents: The Contract consists exclusively of the documents evidencing the agreement of the District and Contractor, identified as the Contract Documents. The Contract Documents consist of the following documents:

- 1.1.12.1** Notice to Bidders
- 1.1.12.2** Instructions to Bidders
- 1.1.12.3** Bid Form and Proposal
- 1.1.12.4** Bid Bond
- 1.1.12.5** Designated Subcontractors List
- 1.1.12.6** Site Visit Certification (if a site visit was required)
- 1.1.12.7** Non-Collusion Declaration
- 1.1.12.8** Notice of Award
- 1.1.12.9** Notice to Proceed
- 1.1.12.10** Agreement
- 1.1.12.11** Escrow of Bid Documentation
- 1.1.12.12** Escrow Agreement for Security Deposits in Lieu of Retention (if applicable)
- 1.1.12.13** Performance Bond
- 1.1.12.14** Payment Bond (Contractor's Labor & Material Bond)
- 1.1.12.15** General Conditions
- 1.1.12.16** Special Conditions (if applicable)
- 1.1.12.17** Project Labor Agreement (if applicable)
- 1.1.12.18** Hazardous Materials Procedures and Requirements
- 1.1.12.19** Workers' Compensation Certification
- 1.1.12.20** Prevailing Wage Certification
- 1.1.12.21** Disabled Veteran Business Enterprise Participation Certification (if applicable)
- 1.1.12.22** Drug-Free Workplace Certification (if applicable)
- 1.1.12.23** Tobacco-Free Environment Certification
- 1.1.12.24** Hazardous Materials Certification (if applicable)
- 1.1.12.25** Lead-Based Materials Certification (if applicable)
- 1.1.12.26** Imported Materials Certification (if applicable)
- 1.1.12.27** Criminal Background Investigation/Fingerprinting Certification
- 1.1.12.28** Buy American Certification (if applicable)
- 1.1.12.29** Roofing Project Certification (if applicable)
- 1.1.12.30** Registered Subcontractors List
- 1.1.12.31** Iran Contracting Act Certification (if applicable)
- 1.1.12.32** Post Bid Interview

- 1.1.12.33** All Plans, Technical Specifications, and Drawings
- 1.1.12.34** Any and all addenda to any of the above documents
- 1.1.12.35** Any and all change orders or written modifications to the above documents if approved in writing by the District

1.1.13 Contract Price: The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

1.1.14 Contract Time: The time period stated in the Agreement for the completion of the Work.

1.1.15 Contractor: The person or persons identified in the Agreement as contracting to perform the Work to be done under this Contract, or the legal representative of such a person or persons.

1.1.16 Daily Job Report(s): Daily Project reports prepared by the Contractor's employee(s) who are present on Site, which shall include the information required herein.

1.1.17 Day(s): Unless otherwise designated, day(s) means calendar day(s).

1.1.18 Department of Industrial Relations (or "DIR"): is responsible, among other things, for labor compliance monitoring and enforcement of California prevailing wage laws and regulations for public works contracts.

1.1.19 Design Professional in General Responsible Charge: See definition of **Architect** above.

1.1.20 Dispute: A separate demand by Contractor for a time extension, or payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or Contractor is not otherwise entitled to; or an amount of payment disputed by the District.

1.1.21 District: The public agency or the school district for which the Work is performed. The governing board of the District or its designees will act for the District in all matters pertaining to the Contract. The District may, at any time,

1.1.21.1 Direct the Contractor to communicate with or provide notice to the Construction Manager or the Architect on matters for which the Contract Documents indicate the Contractor will communicate with or provide notice to the District; and/or

1.1.21.2 Direct the Construction Manager or the Architect to communicate with or direct the Contractor on matters for which the Contract Documents indicate the District will communicate with or direct the Contractor.

1.1.22 Drawings (or "Plans"): The graphic and pictorial portions of the Contract Documents showing the design, location, scope and dimensions of the work, generally including plans, elevations, sections, details, schedules, sequence of operation, and diagrams.

1.1.23 DSA: Division of the State Architect.

1.1.24 Force Account Directive: A process that may be used when the District and the Contractor cannot agree on a price for a specific portion of work or before the Contractor prepares a price for a specific portion of work and whereby the Contractor performs the work as indicated herein on a time and materials basis.

1.1.25 Job Cost Reports: Any and all reports or records detailing the costs associated with work performed on or related to the Project that Contractor shall maintain for the Project. Specifically, Job Cost Reports shall contain, but are not limited by or to, the following information: a description of the work performed or to be performed on the Project; quantity, if applicable, of work performed (hours, square feet, cubic yards, pounds, etc.) for the Project; Project budget; costs for the Project to date; estimated costs to complete the Project; and expected costs at completion. The Job Cost Reports shall also reflect all Contract cost codes, change orders, elements of non-conforming work, back charges, and additional services.

1.1.26 Labor Commissioner's Office (or "Labor Commissioner", also known as the Division of Labor Standards Enforcement ("DLSE")): Division of the DIR responsible for adjudicating wage claims, investigating discrimination and public works complaints, and enforcing Labor Code statutes and Industrial Welfare Commission orders.

1.1.27 Municipal Separate Storm Sewer System (or "MS4"): A system of conveyances used to collect and/or convey storm water, including, without limitation, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.

1.1.28 Plans: See **Drawings**.

1.1.29 Premises: The real property owned by the District on which the Site is located.

1.1.30 Product(s): New material, machinery, components, equipment, fixtures and systems forming the Work, including existing materials or components required and approved by the District for reuse.

1.1.31 Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

1.1.32 Program Manager: The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Program Manager is designated for Project that is the subject of this Contract, then all references to Project Manager herein shall be read to refer to District.

1.1.33 Project: The planned undertaking as provided for in the Contract Documents.

1.1.34 Project Inspector (or "Inspector"): The individual(s) retained by the District in accordance with title 24 of the California Code of Regulations to monitor and inspect the Project.

1.1.35 Project Labor Agreement (or "PLA"): a pre-hire collective bargaining agreement in accordance with Public Contract Code section 2500 et seq. that establishes terms and conditions of employment for a specific construction project or projects and/or is an agreement described in Section 158(f) of Title 29 of the United States Code.

1.1.36 Proposed Change Order (or "PCO"): a written request prepared by the Contractor requesting that the District and the Architect issue a Change Order based upon a proposed change to the Work.

1.1.37 Provide: Shall include "provide complete in place," that is, "furnish and install," and "provide complete and functioning as intended in place" unless specifically stated otherwise.

1.1.38 Qualified SWPPP Practitioners (or "QSP"): certified personnel that attended a State Water Resources Control Board sponsored or approved training class and passed the qualifying exam.

1.1.39 Record Drawings: Reproducible drawings (or Plans) prepared pursuant to the requirements of the Contract Documents that reflect all changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed upon completion of the Project. See also **As-Builts**.

1.1.40 Request for Information (or "RFI"): A written request prepared by the Contractor requesting that the Architect provide additional information necessary to clarify or amplify an item in the Contract Documents that the Contractor believes is not clearly shown or called for in the Drawings or Specifications or other portions of the Contract Documents, or to address problems that have arisen under field conditions.

1.1.41 Request for Substitution for Specified Item: A request by Contractor to substitute an equal or superior material, product, thing, or service for a specific material, product, thing, or service that has been designated in the Contract Documents by a specific brand or trade name.

1.1.42 Safety Orders: Written and/or verbal orders for construction issued by the California Division of Occupational Safety and Health ("CalOSHA") or by the United States Occupational Safety and Health Administration ("OSHA").

1.1.43 Safety Plan: Contractor's safety plan specifically adapted for the Project. Contractor's Safety Plan shall comply with all provisions regarding Project safety, including all applicable provisions in these General Conditions.

1.1.44 Samples: Physical examples that illustrate materials, products, equipment, finishes, colors, or workmanship and that, when approved in accordance with the Contract Documents, establish standards by which portions of the Work will be judged.

1.1.45 Shop Drawings: All drawings, prints, diagrams, illustrations, brochures, schedules, and other data that are prepared by the Contractor, a subcontractor,

manufacturer, supplier, or distributor, that illustrate how specific portions of the Work shall be fabricated or installed.

1.1.46 Site: The Project site as shown on the Drawings.

1.1.47 Specifications: That portion of the Contract Documents, Division 1 through Division 49, and all technical sections, and addenda to all of these, if any, consisting of written descriptions and requirements of a technical nature of materials, equipment, construction methods and systems, standards, and workmanship.

1.1.48 State: The State of California.

1.1.49 Storm Water Pollution Prevention Plan (or "SWPPP"): A document which identifies sources and activities at a particular facility that may contribute pollutants to storm water and contains specific control measures and time frames to prevent or treat such pollutants.

1.1.50 Subcontractor: A contractor and/or supplier who is under contract with the Contractor or with any other subcontractor, regardless of tier, to perform a portion of the Work of the Project.

1.1.51 Submittal Schedule: The schedule of submittals as provided by Contractor and approved by District.

1.1.52 Surety: The person, firm, or corporation that executes as surety the Contractor's Performance Bond and Payment Bond, and must be a California admitted surety insurer as defined in the Code of Civil Procedure section 995.120.

1.1.53 Work: All labor, materials, equipment, components, appliances, supervision, coordination, and services required by, or reasonably inferred from, the Contract Documents, that are necessary for the construction and completion of the Project.

1.2 Laws Concerning the Contract

Contract is subject to all provisions of the Constitution and laws of California and the United States governing, controlling, or affecting District, or the property, funds, operations, or powers of District, and such provisions are by this reference made a part hereof. Any provision required by law to be included in this Contract shall be deemed to be inserted.

1.3 No Oral Agreements

No oral agreement or conversation with any officer, agent, or employee of District, either before or after execution of Contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the Contract.

1.4 No Assignment

Contractor shall not assign this Contract or any part thereof including, without limitation, any services or money to become due hereunder without the prior written consent of the District. Assignment without District's prior written consent shall be null and void. Any

assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or material supplied for performance of work called for under this Contract in favor of all persons, firms, or corporations rendering services or supplying material to the extent that claims are filed pursuant to the Civil Code, Code of Civil Procedure, Government Code, Labor Code, and/or Public Contract Code, and shall also be subject to deductions for liquidated damages or withholding of payments as determined by District in accordance with this Contract. Contractor shall not assign or transfer in any manner to a Subcontractor or supplier the right to prosecute or maintain an action against the District.

1.5 Notice and Service Thereof

1.5.1 Any notice from one party to the other or otherwise under Contract shall be in writing and shall be dated and signed by the party giving notice or by a duly authorized representative of that party. Any notice shall not be effective for any purpose whatsoever unless served in one of the following manners:

1.5.1.1 If notice is given by personal delivery thereof, it shall be considered delivered on the day of delivery.

1.5.1.2 If notice is given by overnight delivery service, it shall be considered delivered one (1) day after date deposited, as indicated by the delivery service.

1.5.1.3 If notice is given by depositing same in United States mail, enclosed in a sealed envelope, it shall be considered delivered three (3) days after date deposited, as indicated by the postmarked date.

1.5.1.4 If notice is given by registered or certified mail with postage prepaid, return receipt requested, it shall be considered delivered on the day the notice is signed for.

1.5.1.5 Electronic mail may be used for convenience but is not a substitute for the notice and service requirements herein.

1.6 No Waiver

The failure of District in any one or more instances to insist upon strict performance of any of the terms of this Contract or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion. No action or failure to act by the District, Architect, or Construction Manager shall constitute a waiver of any right or duty afforded the District under the Contract, nor shall any action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

1.7 Substitutions for Specified Items

Unless the Special Conditions contain different provisions, Contractor shall not substitute different items for any items identified in the Contract Documents without prior written approval of the District.

1.8 Materials and Work

1.8.1 Except as otherwise specifically stated in this Contract, Contractor shall provide and pay for all materials, labor, tools, equipment, transportation, supervision, temporary constructions of every nature, and all other services, management, and facilities of every nature whatsoever necessary to execute and complete this Contract, in a good and workmanlike manner, within the Contract Time.

1.8.2 Unless otherwise specified, all materials shall be new and of the best quality of their respective kinds and grades as noted or specified, workmanship shall be of good quality, and Contractor shall use all diligence to inform itself fully as to the required manufacturer's instructions and to comply therewith.

1.8.3 Materials shall be furnished in ample quantities and at such times as to insure uninterrupted progress of Work and shall be stored properly and protected from the elements, theft, vandalism, or other loss or damage as required.

1.8.4 For all materials and equipment specified or indicated in the Drawings, the Contractor shall provide all labor, materials, equipment, and services necessary for complete assemblies and complete working systems, functioning as intended. Incidental items not indicated on Drawings, nor mentioned in the Specifications, that can legitimately and reasonably be inferred to belong to the Work described, or be necessary in good practice to provide a complete assembly or system, shall be furnished as though itemized here in every detail. In all instances, material and equipment shall be installed in strict accordance with each manufacturer's most recent published recommendations and specifications.

1.8.5 Contractor shall, after award of Contract by District and after relevant submittals have been approved, place orders for materials and/or equipment as specified so that delivery of same may be made without delays to the Work. Contractor shall, upon demand from District, present documentary evidence showing that orders have been placed.

1.8.6 District reserves the right but has no obligation, in response to Contractor's neglect or failure in complying with the above instructions, to place orders for such materials and/or equipment as the District may deem advisable in order that the Work may be completed at the date specified in the Agreement, and all expenses incidental to the procuring of said materials and/or equipment shall be paid for by Contractor or deducted from payment(s) to Contractor.

1.8.7 Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver the Site to District, together with all improvements and appurtenances constructed or placed thereon by it, and free from any claims, liens, or charges. Contractor further agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by the Contract shall have any right to lien any portion of the Premises or any improvement or appurtenance thereon, except that Contractor may install metering devices or other equipment of utility companies or of political subdivision, title to which is commonly retained by utility company or political subdivision. In the event of installation of any such metering device or equipment, Contractor shall advise District as to owner thereof.

1.8.7.1 If a lien or a claim based on a stop payment notice of any nature should at any time be filed against the Work or any District property, by any entity that has supplied material or services at the request of the Contractor, Contractor and Contractor's Surety shall promptly, on demand by District and at Contractor's and Surety's own expense, take any and all action necessary to cause any such lien or a claim based on a stop payment notice to be released or discharged immediately therefrom.

1.8.7.2 If the Contractor fails to furnish to the District within ten (10) calendar days after demand by the District, satisfactory evidence that a lien or a claim based on a stop payment notice has been so released, discharged, or secured, the District may discharge such indebtedness and deduct the amount required therefor, together with any and all losses, costs, damages, and attorney's fees and expense incurred or suffered by District from any sum payable to Contractor under the Contract.

1.8.8 Nothing contained in this Article, however, shall defeat or impair the rights of persons furnishing materials or labor under any bond given by Contractor for their protection or any rights under any law permitting such protection or any rights under any law permitting such persons to look to funds due Contractor in hands of District (e.g., stop payment notices), and this provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing material for work when no formal contract is entered into for such material.

1.8.9 Title to new materials and/or equipment for the Work of this Contract and attendant liability for its protection and safety shall remain with Contractor until incorporated in the Work of this Contract and accepted by District. No part of any materials and/or equipment shall be removed from its place of storage except for immediate installation in the Work of this Contract. Should the District, in its discretion, allow the Contractor to store materials and/or equipment for the Work off-site, Contractor will store said materials and/or equipment at a bonded warehouse and with appropriate insurance coverage at no cost to District. Contractor shall keep an accurate inventory of all materials and/or equipment in a manner satisfactory to District or its authorized representative and shall, at the District's request, forward it to the District.

2. [RESERVED]

3. ARCHITECT

3.1 The Architect shall represent the District during the Project and will observe the progress and quality of the Work on behalf of the District. Architect shall have the authority to act on behalf of District to the extent expressly provided in the Contract Documents and to the extent determined by District. Architect shall have authority to reject materials, workmanship, and/or the Work whenever rejection may be necessary, in Architect's reasonable opinion, to insure the proper execution of the Contract.

3.2 Architect shall, with the District and on behalf of the District, determine the amount, quality, acceptability, and fitness of all parts of the Work, and interpret the Specifications, Drawings, and shall, with the District, interpret all other Contract Documents.

3.3 Architect shall have all authority and responsibility established by law, including title 24 of the California Code of Regulations.

3.4 Contractor shall provide District and the Construction Manager with a copy of all written communication between Contractor and Architect at the same time as that communication is made to Architect, including, without limitation, all RFIs, correspondence, submittals, claims, and proposed change orders.

4. CONSTRUCTION MANAGER

4.1 If a Construction Manager is used on this Project ("Construction Manager" or "CM"), the Construction Manager will provide administration of the Contract on the District's behalf. After execution of the Contract and Notice to Proceed, all correspondence and/or instructions from Contractor and/or District shall be forwarded through the Construction Manager. The Construction Manager will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences, or procedures or for safety precautions in connection with the Work, which shall all remain the Contractor's responsibility.

4.2 The Construction Manager, however, will have authority to reject materials and/or workmanship not conforming to the Contract Documents, as determined by the District, the Architect, and/or the Project Inspector. The Construction Manager shall also have the authority to require special inspection or testing of any portion of the Work, whether it has been fabricated, installed, or fully completed. Any decision made by the Construction Manager, in good faith, shall not give rise to any duty or responsibility of the Construction Manager to: the Contractor; any Subcontractor; the Contractor or Subcontractor's respective agents, employees; or other persons performing any of the Work. The Construction Manager shall have free access to any or all parts of Work at any time.

4.3 If the District does not use a Construction Manager on this Project, all references to Construction Manager or CM shall be read as District.

5. INSPECTOR, INSPECTIONS, AND TESTS

5.1 Project Inspector

5.1.1 One or more Project Inspector(s), including special Project Inspector(s), as required, will be assigned to the Work by District, in accordance with requirements of title 24, part 1, of the California Code of Regulations, to enforce the building code and monitor compliance with Plans and Specifications for the Project previously approved by the DSA. Duties of Project Inspector(s) are specifically defined in section 4-342 of said part 1 of title 24.

5.1.2 No Work shall be carried on except with the knowledge and under the inspection of the Project Inspector(s). The Project Inspector(s) shall have free access to any or all parts of Work at any time. Contractor shall furnish Project Inspector(s) reasonable opportunities for obtaining such information as may be necessary to keep Project Inspector(s) fully informed respecting progress and manner of work and character of materials, including, but not limited to, submission of form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector at least 48 hours in advance of the

commencement and completion of construction of each and every aspect of the Work. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>. Inspection of Work shall not relieve Contractor from an obligation to fulfill this Contract. Project Inspector(s) and the DSA are authorized to suspend work whenever the Contractor and/or its Subcontractor(s) are not complying with the Contract Documents. Any work stoppage by the Project Inspector(s) and/or DSA shall be without liability to the District. Contractor shall instruct its Subcontractors and employees accordingly.

5.1.3 If Contractor and/or any Subcontractor requests that the Project Inspector(s) perform any inspection off-site, this shall only be done if it is allowable pursuant to applicable regulations and DSA approval, if the Project Inspector(s) agree to do so, and at the expense of the Contractor.

5.2 Tests and Inspections

5.2.1 Tests and Inspections shall comply with title 24, part 1, California Code of Regulations, group 1, article 5, section 4-335, and with the provisions of the Specifications.

5.2.2 The District will select an independent testing laboratory to conduct the tests. Selection of the materials required to be tested shall be by the laboratory or the District's representative and not by the Contractor. The Contractor shall notify the District's representative a sufficient time in advance of its readiness for required observation or inspection.

5.2.3 The Contractor shall notify the District's representative a sufficient time in advance of the manufacture of material to be supplied under the Contract Documents, which must be by terms of the Contract Documents be tested, in order that the District may arrange for the testing of same at the source of supply. This notice shall be provided, at a minimum, seventy-two (72) hours prior to the manufacture of the material that needs to be tested.

5.2.4 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 from said representative that such testing and inspection will not be required, shall not be incorporated into and/or onto the Project.

5.2.5 The District will select the testing laboratory and pay for the cost of all tests and inspections. Contractor shall reimburse the District for any and all laboratory costs or other testing costs for any materials found to be not in compliance with the Contract Documents. At the District's discretion, District may elect to deduct laboratory or other testing costs for noncompliant materials from the Contract Price, and such deduction shall not constitute a withholding.

5.3 Costs for After Hours and/or Off Site Inspections

If the Contractor performs Work outside the Inspector's regular working hours or requests the Inspector to perform inspections off Site, costs of any inspections required outside regular working hours or off Site shall be borne by the Contractor and may be invoiced to the Contractor by the District or the District may deduct those expenses from the next Progress Payment.

6. CONTRACTOR

Contractor shall construct and complete, in a good and workmanlike manner, the Work for the Contract Price including any adjustment(s) to the Contract Price pursuant to provisions herein regarding changes to the Contract Price. Except as otherwise noted, Contractor shall provide and pay for all labor, materials, equipment, permits (excluding DSA), fees, licenses, facilities, transportation, taxes, bonds and insurance, and services necessary for the proper execution and completion of the Work, except as indicated herein.

6.1 Status of Contractor

6.1.1 Contractor is and shall at all times be deemed to be an independent contractor and shall be wholly responsible for the manner in which it and its Subcontractors perform the services required of it by the Contract Documents. Nothing herein contained shall be construed as creating the relationship of employer and employee, or principal and agent, between the District, or any of the District's employees or agents, and Contractor or any of Contractor's Subcontractors, agents or employees. Contractor assumes exclusively the responsibility for the acts of its agents, and employees as they relate to the services to be provided during the course and scope of their employment. Contractor, its Subcontractors, agents, and its employees shall not be entitled to any rights or privileges of District employees. District shall be permitted to monitor the Contractor's activities to determine compliance with the terms of this Contract.

6.1.2 As required by law, Contractor and all Subcontractors shall be properly licensed and regulated by the Contractors State License Board, 9821 Business Park Drive, Sacramento, California 95827, <http://www.cslb.ca.gov>.

6.1.3 As required by law, Contractor and all Subcontractors shall be properly registered as public works contractors by the Department of Industrial Relations at: <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm> or current URL.

6.1.4 Contractor represents that it has no existing interest and will not acquire any interest, direct or indirect, which could conflict in any manner or degree with the performance of Work required under this Contract and that no person having any such interest shall be employed by Contractor.

6.2 Project Inspection Card(s)

Contractor shall verify that forms DSA 152 (or the current version applicable at the time the Work is performed) are issued for the Project prior to the commencement of construction.

6.3 Contractor's Supervision

6.3.1 During progress of the Work, Contractor shall keep on the Premises, and at all other locations where any Work related to the Contract is being performed, an experienced and competent project manager and construction superintendent who are employees of the Contractor, to whom the District does not object and at least one of whom shall be fluent in English, written and verbal.

6.3.2 The project manager and construction superintendent shall both speak fluently the predominant language of the Contractor's employees.

6.3.3 Before commencing the Work herein, Contractor shall give written notice to District of the name of its project manager and construction superintendent. Neither the Contractor's project manager nor construction superintendent shall be changed except with prior written notice to District. If the Contractor's project manager and/or construction superintendent proves to be unsatisfactory to Contractor, or to District, any of the District's employees, agents, the Construction Manager, or the Architect, Contractor shall notify District in writing before any change occurs, but no less than two (2) business days prior. Any replacement of the project manager and/or construction superintendent shall be made promptly and must be satisfactory to the District. The Contractor's project manager and construction superintendent shall each represent Contractor, and all directions given to Contractor's project manager and/or construction superintendent shall be as binding as if given to Contractor.

6.3.4 Contractor shall give efficient supervision to Work, using its best skill and attention. Contractor shall carefully study and compare all Contract Documents, Drawings, Specifications, and other instructions and shall at once report to District, Construction Manager, and Architect any error, inconsistency, or omission that Contractor or its employees and Subcontractors may discover, in writing, with a copy to District's Project Inspector(s). The Contractor shall have responsibility for discovery of errors, inconsistencies, or omissions.

6.4 Duty to Provide Fit Workers

6.4.1 Contractor and Subcontractor(s) shall at all times enforce strict discipline and good order among their employees and shall not employ or work any unfit person or anyone not skilled in work assigned to that person. It shall be the responsibility of Contractor to ensure compliance with this requirement. District may require Contractor to permanently remove unfit persons from Project Site.

6.4.2 Any person in the employ of Contractor or Subcontractor(s) whom District may deem incompetent or unfit shall be excluded from working on the Project and shall not again be employed on the Project except with the prior written consent of District.

6.4.3 The Contractor shall furnish labor that can work in harmony with all other elements of labor employed or to be employed in the Work.

6.4.4 If Contractor intends to make any change in the name or legal nature of the Contractor's entity, Contractor must first notify the District in writing prior to making any contemplated change. The District shall determine in writing if Contractor's intended change is permissible while performing this Contract.

6.5 Field Office

6.5.1 Contractor shall provide a temporary office on the Work Site for the District's use exclusively, during the term of the Contract.

6.6 Purchase of Materials and Equipment

The Contractor is required to order, obtain, and store materials and equipment sufficiently in advance of its Work at no additional cost or advance payment from District to assure that there will be no delays.

6.7 Documents on Work

6.7.1 Contractor shall at all times keep on the Work Site, or at another location as the District may authorize in writing, one legible copy of all Contract Documents, including Addenda and Change Orders, and Titles 19 and 24 of the California Code of Regulations, the specified edition(s) of the Uniform Building Code, all approved Drawings, Plans, Schedules, and Specifications, and all codes and documents referred to in the Specifications, and made part thereof. These documents shall be kept in good order and available to District, Construction Manager, Architect, Architect's representatives, the Project Inspector(s), and all authorities having jurisdiction. Contractor shall be acquainted with and comply with the provisions of these titles as they relate to this Project. (See particularly the duties of Contractor, Title 24, Part 1, California Code of Regulations, section 4-343.) Contractor shall also be acquainted with and comply with all California Code of Regulations provisions relating to conditions on this Project, particularly Titles 8 and 17. Contractor shall coordinate with Architect and Construction Manager and shall submit its verified report(s) according to the requirements of Title 24.

6.7.2 Daily Job Reports.

6.7.2.1 Contractor shall maintain, at a minimum, at least one (1) set of Daily Job Reports on the Project. These must be prepared by the Contractor's employee(s) who are present on Site, and must include, at a minimum, the following information:

- 6.7.2.1.1** A brief description of all Work performed on that day.
- 6.7.2.1.2** A summary of all other pertinent events and/or occurrences on that day.
- 6.7.2.1.3** The weather conditions on that day.
- 6.7.2.1.4** A list of all Subcontractor(s) working on that day, including DIR registration numbers.
- 6.7.2.1.5** A list of each Contractor employee working on that day and the total hours worked for each employee.
- 6.7.2.1.6** A complete list of all equipment on Site that day, whether in use or not.
- 6.7.2.1.7** A complete list of all materials, supplies, and equipment delivered on that day.
- 6.7.2.1.8** A complete list of all inspections and tests performed on that day.

6.7.2.2 Each day Contractor shall provide a copy of the previous day's Daily Job Report to the District or the Construction Manager.

6.8 Preservation of Records

Contractor shall maintain, and District shall have the right to inspect, Contractor's financial records for the Project, including, without limitation, Job Cost Reports for the Project in compliance with the criteria set forth herein. The District shall have the right to examine and audit all Daily Job Reports or other Project records of Contractor's project manager(s), project superintendent(s), and/or project foreperson(s), all certified payroll records and/or related documents including, without limitation, Job Cost Reports, payroll, payment, timekeeping and tracking documents; all books, estimates, records, contracts, documents, bid documents, bid cost data, subcontract job cost reports, and other data of the Contractor, any Subcontractor, and/or supplier, including computations and projections related to bidding, negotiating, pricing, or performing the Work or Contract modification, in order to evaluate the accuracy, completeness, and currency of the cost, manpower, coordination, supervision, or pricing data at no additional cost to the District. These documents may be duplicative and/or be in addition to any Bid Documents held in escrow by the District. The Contractor shall make available at its office at all reasonable times the materials described in this paragraph for the examination, audit, or reproduction until three (3) years after final payment under this Contract. Notwithstanding the provisions above, Contractor shall provide any records requested by any governmental agency, if available, after the time set forth above.

6.9 Integration of Work

6.9.1 Contractor shall do all cutting, fitting, patching, and preparation of Work as required to make its several parts come together properly, to fit it to receive or be received by work of other contractors, and to coordinate tolerances to various pieces of work, showing upon, or reasonably implied by, the Drawings and Specifications for the completed structure, and shall conform them as District and/or Architect may direct.

6.9.2 Contractor shall make its own layout of lines and elevations and shall be responsible for the accuracy of both Contractor's and Subcontractors' work resulting therefrom.

6.9.3 Contractor and all Subcontractors shall take all field dimensions required in performance of the Work, and shall verify all dimensions and conditions on the Site. All dimensions affecting proper fabrication and installation of all Work must be verified prior to fabrication by taking field measurements of the true conditions. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the Work, Contractor shall bring such discrepancies to the attention of the District and Architect for adjustment before proceeding with the Work. In doing so, it is recognized that Contractor is not acting in the capacity of a licensed design professional, and that Contractor's examination is made in good faith to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies in the Contract Documents or to ascertain compliance with applicable laws, building codes or regulations. Following receipt of written notice from Contractor, the District and/or Architect shall inform Contractor what action, if any, Contractor shall take with regard to such discrepancies.

6.9.4 All costs caused by noncompliant, defective, or delayed Work shall be borne by Contractor, inclusive of repair work.

6.9.5 Contractor shall not endanger any work performed by it or anyone else by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other contractor except with consent of District.

6.10 Notifications

6.10.1 Contractor shall notify the Architect and Project Inspector, in writing, of the commencement of construction of each and every aspect of the Work at least 48 hours in advance by submitting form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>.

6.10.2 Contractor shall notify the Architect and Project Inspector, in writing, of the completion of construction of each and every aspect of the Work at least 48 hours in advance by submitting form DSA 156 (or current version) to the Project Inspector.

6.11 Obtaining of Permits, Licenses and Registrations

Contractor shall secure and pay for all permits (except DSA), licenses, registrations, approvals and certificates necessary for prosecution of Work, including but not limited to those listed in the Special Conditions, if any, before the date of the commencement of the Work or before the permits, licenses, registrations, approvals and certificates are legally required to continue the Work without interruption. The Contractor shall obtain and pay, only when legally required, for all licenses, registrations, approvals, permits, inspections, and inspection certificates required to be obtained from or issued by any authority having jurisdiction over any part of the Work included in the Contract. All final permits, licenses, registrations, approvals and certificates shall be delivered to District before demand is made for final payment.

6.12 Royalties and Patents

6.12.1 Contractor shall obtain and pay, only when legally required, all royalties and license fees necessary for prosecution of Work before the earlier of the date of the commencement of the Work or the date that the license is legally required to continue the Work without interruption. Contractor shall defend suits or claims of infringement of patent, copyright, or other rights and shall hold the District, the Architect, and the Construction Manager harmless and indemnify them from loss on account thereof except when a particular design, process, or make or model of product is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process, or product is an infringement of a patent or copyright, the Contractor shall indemnify and defend the District, Architect and Construction Manager against any loss or damage unless the Contractor promptly informs the District of its information.

6.12.2 The review by the District or Architect of any method of construction, invention, appliance, process, article, device, or material of any kind shall be only its adequacy for the Work and shall not approve use by the Contractor in violation of any patent or other rights of any person or entity.

6.13 Work to Comply With Applicable Laws and Regulations

6.13.1 Contractor shall give all notices and comply with the following specific laws, ordinances, rules, and regulations and all other applicable laws, ordinances, rules, and regulations bearing on conduct of Work as indicated and specified, including but not limited to the appropriate statutes and administrative code sections. If Contractor observes that Drawings and Specifications are at variance therewith, or should Contractor become aware of the development of conditions not covered by Contract Documents that may result in finished Work being at variance therewith, Contractor shall promptly notify District in writing and any changes deemed necessary by District shall be made as provided in Contract for changes in Work.

6.13.1.1 National Electrical Safety Code, U. S. Department of Commerce

6.13.1.2 National Board of Fire Underwriters' Regulations

6.13.1.3 International Building Code, latest addition, and the California Code of Regulations, title 24, and other amendments

6.13.1.4 Manual of Accident Prevention in Construction, latest edition, published by A.G.C. of America

6.13.1.5 Industrial Accident Commission's Safety Orders, State of California

6.13.1.6 Regulations of the State Fire Marshall (title 19, California Code of Regulations) and Pertinent Local Fire Safety Codes

6.13.1.7 Americans with Disabilities Act

6.13.1.8 Education Code of the State of California

6.13.1.9 Government Code of the State of California

6.13.1.10 Labor Code of the State of California, division 2, part 7, Public Works and Public Agencies

6.13.1.11 Public Contract Code of the State of California

6.13.1.12 California Art Preservation Act

6.13.1.13 U. S. Copyright Act

6.13.1.14 U. S. Visual Artists Rights Act

6.13.2 Contractor shall comply with all applicable mitigation measures, if any, adopted by any public agency with respect to this Project pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.).

6.13.3 If Contractor performs any Work that it knew, or through exercise of reasonable care should have known, to be contrary to any applicable laws,

ordinance, rules, or regulations, Contractor shall bear all costs arising therefrom and arising from the correction of said Work.

6.13.4 Where Specifications or Drawings state that materials, processes, or procedures must be approved by the DSA, State Fire Marshall, or other body or agency, Contractor shall be responsible for satisfying requirements of such bodies or agencies applicable at the time the Work is performed, and as determined by those bodies or agencies.

6.14 Safety/Protection of Persons and Property

6.14.1 The Contractor will be solely and completely responsible for conditions of the Work Site, including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours.

6.14.2 The wearing of hard hats will be mandatory at all times for all personnel on Site. Contractor shall supply sufficient hard hats to properly equip all employees and visitors.

6.14.3 Any construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the Work Site.

6.14.4 Implementation and maintenance of safety programs shall be the sole responsibility of the Contractor.

6.14.5 The Contractor shall furnish to the District a copy of the Contractor's safety plan within the time frame indicated in the Contract Documents and specifically adapted for the Project.

6.14.6 Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Contract and shall take all necessary measures and be responsible for the proper care and completion and final acceptance by District. All Work shall be solely at Contractor's risk with the exception of damage to the Work caused by "acts of God" as defined in Public Contract Code section 7105.

6.14.7 Contractor shall take, and require Subcontractors to take, all necessary precautions for safety of workers on the Project and shall comply with all applicable federal, state, local, and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where Work is being performed and to provide a safe and healthful place of employment. Contractor shall furnish, erect, and properly maintain at all times, all necessary safety devices, safeguards, construction canopies, signs, nets, barriers, lights, and watchmen for protection of workers and the public and shall post danger signs warning against hazards created by such features in the course of construction.

6.14.8 Hazards Control – Contractor shall store volatile wastes in covered metal containers and remove them from the Site daily. Contractor shall prevent accumulation of wastes that create hazardous conditions. Contractor shall provide adequate ventilation during use of volatile or noxious substances.

6.14.9 Contractor shall designate a responsible member of its organization on the Project, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety, and health of workers. Name and position of person so designated shall be reported to District by Contractor.

6.14.10 Contractor shall correct any violations of safety laws, rules, orders, standards, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, Contractor shall correct such violation promptly.

6.14.11 Contractor shall comply with any District storm water requirements that are approved by the District and applicable to the Project, at no additional cost to the District.

6.14.12 In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization, shall act, at its discretion, to prevent such threatened loss or injury. Any compensation claimed by Contractor on account of emergency work shall be determined by agreement.

6.14.13 All salvage materials will become the property of the Contractor and shall be removed from the Site unless otherwise called for in the Contract Documents. However, the District reserves the right to designate certain items of value that shall be turned over to the District unless otherwise directed by District.

6.14.14 All connections to public utilities and/or existing on-site services shall be made and maintained in such a manner as to not interfere with the continuing use of same by the District during the entire progress of the Work.

6.14.15 Contractor shall provide such heat, covering, and enclosures as are necessary to protect all Work, materials, equipment, appliances, and tools against damage by weather conditions, such as extreme heat, cold, rain, snow, dry winds, flooding, or dampness.

6.14.16 The Contractor shall protect and preserve the Work from all damage or accident, providing any temporary roofs, window and door coverings, boxings, or other construction as required by the Architect. The Contractor shall be responsible for existing structures, walks, roads, trees, landscaping, and/or improvements in working areas; and shall provide adequate protection therefore. If temporary removal is necessary of any of the above items, or damage occurs due to the Work, the Contractor shall replace same at his expense with same kind, quality, and size of Work or item damaged. This shall include any adjoining property of the District and others.

6.14.17 Contractor shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property, and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations.

6.14.18 Contractor shall confine apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits, or directions of

Architect, and shall not interfere with the Work or unreasonably encumber Premises or overload any structure with materials. Contractor shall enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking, and require that all workers comply with all regulations while on Project Site.

6.14.19 Contractor, Contractor's employees, Subcontractors, Subcontractors' employees, or any person associated with the Work shall conduct themselves in a manner appropriate for a school site. No verbal or physical contact with neighbors, students, and faculty, profanity, or inappropriate attire or behavior will be permitted. District may require Contractor to permanently remove non-complying persons from Project Site.

6.14.20 Contractor shall take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed, Contractor shall have a civil engineer, registered as a professional engineer in California, replace them at no cost to District.

6.14.21 In the event that the Contractor enters into any agreement with owners of any adjacent property to enter upon the adjacent property for the purpose of performing the Work, Contractor shall fully indemnify, defend, and hold harmless each person, entity, firm, or agency that owns or has any interest in adjacent property. The form and content of the agreement of indemnification shall be approved by the District prior to the commencement of any Work on or about the adjacent property. The Contractor shall also indemnify the District as provided in the indemnification provision herein. These provisions shall be in addition to any other requirements of the owners of the adjacent property.

6.15 Working Evenings and Weekends

Contractor may be required to work increased hours, evenings, and/or weekends at no additional cost to the District. Contractor shall give the District seventy-two (72) hours' notice prior to performing any evening and/or weekend work. Contractor shall perform all evening and/or weekend work only upon District's approval and in compliance with all applicable rules, regulations, laws, and local ordinances including, without limitation, all noise and light limitations. Contractor shall reimburse the District for any increased or additional Inspector charges as a result of Contractor's increased hours, or evening and/or weekend work.

6.16 Cleaning Up

6.16.1 The Contractor shall provide all services, labor, materials, and equipment necessary for protecting and securing the Work, all school occupants, furnishings, equipment, and building structure from damage until its completion and final acceptance by District. Dust barriers shall be provided to isolate dust and dirt from construction operations. At completion of the Work and portions thereof, Contractor shall clean to the original state any areas beyond the Work area that become dust laden as a result of the Work. The Contractor must erect the necessary warning signs and barricades to ensure the safety of all school occupants. The Contractor at all times must maintain good housekeeping practices to reduce the risk of fire damage and must make a fire extinguisher, fire blanket, and/or fire watch, as applicable, available at each location where cutting, braising, soldering, and/or welding is being performed or where there is an increased risk of fire.

6.16.2 Contractor at all times shall keep Premises, including property immediately adjacent thereto, free from debris such as waste, rubbish (including personal rubbish of workers, e.g., food wrappers, etc.), and excess materials and equipment caused by the Work. Contractor shall not leave debris under, in, or about the Premises (or surrounding property or neighborhood), but shall promptly remove same from the Premises on a daily basis. If Contractor fails to clean up, District may do so and the cost thereof shall be charged to Contractor. If Contract is for work on an existing facility, Contractor shall also perform specific clean-up on or about the Premises upon request by the District as it deems necessary for the continuing education process. Contractor shall comply with all related provisions of the Specifications.

6.16.3 If the Construction Manager, Architect, or District observes the accumulation of trash and debris, the District will give the Contractor a 24-hour written notice to mitigate the condition.

6.16.4 Should the Contractor fail to perform the required clean-up, or should the clean-up be deemed unsatisfactory by the District, the District will then perform the clean-up. All cost associated with the clean-up work (including all travel, payroll burden, and costs for supervision) will be deducted from the Contract Price, or District may withhold those amounts from payment(s) to Contractor.

7. SUBCONTRACTORS

7.1 Contractor shall provide the District with information for all Subcontracts as indicated in the Contractor's Submittals and Schedules Section herein.

7.2 No contractual relationship exists between the District and any Subcontractor, supplier, or sub-subcontractor by reason of this Contract.

7.3 Contractor agrees to bind every Subcontractor by terms of this Contract as far as those terms that are applicable to Subcontractor's work including, without limitation, all labor, wage & hour, apprentice and related provisions and requirements. If Contractor shall subcontract any part of this Contract, Contractor shall be as fully responsible to District for acts and omissions of any Subcontractor and of persons either directly or indirectly employed by any Subcontractor, including Subcontractor caused Project delays, as it is for acts and omissions of persons directly employed by Contractor. The divisions or sections of the Specifications and/or the arrangement of the drawings are not intended to control the Contractor in dividing the Work among Subcontractors or limit the work performed by any trade.

7.4 District's consent to, or approval of, or failure to object to, any Subcontractor under this Contract shall not in any way relieve Contractor of any obligations under this Contract and no such consent shall be deemed to waive any provisions of this Contract.

7.5 Contractor is directed to familiarize itself with sections 4100 through 4114 of the Public Contract Code of the State of California, as regards subletting and subcontracting, and to comply with all applicable requirements therein. In addition, Contractor is directed to familiarize itself with sections 1720 through 1861 of the Labor Code of the State of California, as regards the payment of prevailing wages and related issues, and to comply with all applicable requirements therein including, without

limitation, section 1775 and the Contractor's and Subcontractors' obligations and liability for violations of prevailing wage law and other applicable laws.

7.6 No Contractor whose Bid is accepted shall, without consent of the awarding authority and in full compliance with section 4100 et seq. of the Public Contract Code, including, without limitation, sections 4107, 4107.5, and 4109 of the Public Contract Code, and section 1771.1 of the Labor Code, either:

7.6.1 Substitute any person as a Subcontractor in place of the Subcontractor designated in the original Bid; or

7.6.2 Permit any Subcontract to be assigned or transferred, or allow any portion of the Work to be performed by anyone other than the original Subcontractor listed in the Bid; or

7.6.3 Sublet or subcontract any portion of the Work in excess of one-half of one percent (0.5%) of the Contractor's total bid as to which his original bid did not designate a Subcontractor.

7.7 The Contractor shall be responsible for the coordination of the trades, Subcontractors, sub-subcontractors, and material or equipment suppliers working on the Project.

7.7.1 If the Contract is valued at \$1 million or more and uses, or plans to use, state bond funds, then Contractor is responsible for ensuring that first tier Subcontractors holding C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43, and/or C-46 licenses are prequalified by the District to work on the Project pursuant to Public Contract Code section 20111.6.

7.7.2 Contractor is responsible for ensuring that all Subcontractors are properly registered as public works contractors by the Department of Industrial Relations.

7.8 Contractor is solely responsible for settling any differences between the Contractor and its Subcontractor(s) or between Subcontractors.

7.9 Contractor must include in all of its subcontracts the assignment provisions as indicated in the Termination section of these General Conditions.

8. OTHER CONTRACTS/CONTRACTORS

8.1 District reserves the right to let other contracts, and/or to perform work with its own forces, in connection with the Project. Contractor shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly coordinate and connect Contractor's Work with the work of other contractors.

8.2 In addition to Contractor's obligation to protect its own Work, Contractor shall protect the work of any other contractor that Contractor encounters while working on the Project.

8.3 If any part of Contractor's Work depends for proper execution or results upon work of District or any other contractor, the Contractor shall inspect and, before

proceeding with its Work, promptly report to the District in writing any defects in District's or any other contractor's work that render Contractor's Work unsuitable for proper execution and results. Contractor shall be held accountable for damages to District for District's or any other contractor's work that Contractor failed to inspect or should have inspected. Contractor's failure to inspect and report shall constitute Contractor's acceptance of all District's or any other contractor's work as fit and proper for reception of Contractor's Work, except as to defects that may develop in District's or any other contractor's work after execution of Contractor's Work and not caused by execution of Contractor's Work.

8.4 To ensure proper execution of its subsequent work, Contractor shall measure and inspect work already in place and shall at once report to the District in writing any discrepancy between that executed work and the Contract Documents.

8.5 Contractor shall ascertain to its own satisfaction the scope of the Project and nature of District's or any other contracts that have been or may be awarded by District in prosecution of the Project to the end that Contractor may perform this Contract in light of the other contracts, if any.

8.6 Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy of the Site, the Premises, or of the Project. Contractor shall not cause any unnecessary hindrance or delay to the use and/or school operation(s) of the Premises and/or to District or any other contractor working on the Project. If simultaneous execution of any contract or school operation is likely to cause interference with performance of Contractor's Contract, Contractor shall coordinate with those contractor(s), person(s), and/or entity(s) and shall notify the District of the resolution.

9. DRAWINGS AND SPECIFICATIONS

9.1 A complete list of all Drawings that form a part of the Contract is to be found as an index on the Drawings themselves, and/or may be provided to the Contractor and/or in the Table of Contents.

9.2 Materials or Work described in words that so applied have a well-known technical or trade meaning shall be deemed to refer to recognized standards, unless noted otherwise.

9.3 Trade Name or Trade Term. It is not the intention of this Contract to go into detailed descriptions of any materials and/or methods commonly known to the trade under "trade name" or "trade term." The mere mention or notation of "trade name" or "trade term" shall be considered a sufficient notice to Contractor that it will be required to complete the work so named, complete, finished, and operable, with all its appurtenances, according to the best practices of the trade.

9.4 The naming of any material and/or equipment shall mean furnishing and installing of same, including all incidental and accessory items thereto and/or labor therefor, as per best practices of the trade(s) involved, unless specifically noted otherwise.

9.5 Contract Documents are complementary, and what is called for by one shall be binding as if called for by all. As such, Drawings and Specifications are intended to be fully cooperative and to agree. However, if Contractor observes that Drawings and

Specifications are in conflict with the Contract Documents, Contractor shall promptly notify District and Architect in writing, and any necessary changes shall be made as provided in the Contract Documents.

9.6 In the case of discrepancy or ambiguity in the Contract Documents, the order of precedence in the Agreement shall prevail. However, in the case of discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide District with the functionally complete and operable Project described in the Drawings and Specifications. In case of ambiguity, conflict, or lack of information, District will furnish clarifications with reasonable promptness.

9.7 Drawings and Specifications are intended to comply with all laws, ordinances, rules, and regulations of constituted authorities having jurisdiction, and where referred to in the Contract Documents, the laws, ordinances, rules, and regulations shall be considered as a part of the Contract within the limits specified. Contractor shall bear all expense of correcting work done contrary to said laws, ordinances, rules, and regulations.

9.8 As required by Section 4-317(c), Part 1, Title 24, CCR: "Should any existing conditions such as deterioration or non-complying construction be discovered which is not covered by the DSA-approved documents wherein the finished work will not comply with Title 24, California Code of Regulations, a construction change document, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work."

9.9 Ownership of Drawings

All copies of Plans, Drawings, Designs, Specifications, and copies of other incidental architectural and engineering work, or copies of other Contract Documents furnished by District, are the property of District. They are not to be used by Contractor in other work and, with the exception of signed sets of Contract Documents, are to be returned to District on request at completion of Work, or may be used by District as it may require without any additional costs to District. Neither the Contractor nor any Subcontractor, or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications, and other documents prepared by the Architect. District hereby grants the Contractor, Subcontractors, sub-subcontractors, and material or equipment suppliers a limited license to use applicable portions of the Drawings prepared for the Project in the execution of their Work under the Contract Documents.

10. CONTRACTOR'S SUBMITTALS AND SCHEDULES

Contractor's submittals shall comply with the provisions and requirements of the Specifications including, without limitation Submittals.

10.1 Schedule of Work, Schedule of Submittals, and Schedule of Values

10.1.1 Within **TEN (10)** calendar days after the date of the Notice to Proceed (unless otherwise specified in the Specifications), the Contractor shall prepare and submit to the District for review, in a form supported by sufficient data to substantiate its accuracy as the District may require:

10.1.1.1 Preliminary Schedule. A preliminary schedule of construction indicating the starting and completion dates of the various stages of the Work, including any information and following any form as may be specified in the Specifications. Once approved by District, this shall become the Construction Schedule. This schedule shall include and identify all tasks that are on the Project's critical path with a specific determination of the start and completion of each critical path task as well as all Contract milestones and each milestone's completion date(s) as may be required by the District.

10.1.1.2 Preliminary Schedule of Values. A preliminary schedule of values for all of the Work, which must include quantities and prices of items aggregating the Contract Price and must subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Unless the Special Conditions contain different limits, this preliminary schedule of values shall include, at a minimum, the following information and the following structure:

10.1.1.2.1 Divided into at least the following categories:

- 10.1.1.2.1.1** Overhead and profit;
- 10.1.1.2.1.2** Supervision;
- 10.1.1.2.1.3** General conditions;
- 10.1.1.2.1.4** Layout;
- 10.1.1.2.1.5** Mobilization;
- 10.1.1.2.1.6** Submittals;
- 10.1.1.2.1.7** Bonds and insurance;
- 10.1.1.2.1.8** Close-out/Certification documentation;
- 10.1.1.2.1.9** Demolition;
- 10.1.1.2.1.10** Installation;
- 10.1.1.2.1.11** Rough-in;
- 10.1.1.2.1.12** Finishes;
- 10.1.1.2.1.13** Testing;
- 10.1.1.2.1.14** Punchlist and acceptance.

10.1.1.2.2 And also divided by each of the following areas:

- 10.1.1.2.2.1** Site work;
- 10.1.1.2.2.2** By each building;
- 10.1.1.2.2.3** By each floor.

10.1.1.2.3 The preliminary schedule of values shall not provide for values any greater than the following percentages of the Contract value:

- 10.1.1.2.3.1** Mobilization and layout combined to equal not more than 1%;
- 10.1.1.2.3.2** Submittals, samples and shop drawings combined to equal not more than 3%;
- 10.1.1.2.3.3** Bonds and insurance combined to equal not more than 2%.

10.1.1.2.4 Closeout documentation shall have a value in the preliminary schedule of not less than 5%.

10.1.1.2.5 Notwithstanding any provision of the Contract Documents to the contrary, payment of the Contractor's overhead, supervision, general conditions costs, and profit, as reflected in the Cost Breakdown, shall be paid based on percentage complete, with the disbursement of Progress Payments and the Final Payment.

10.1.1.2.6 Contractor shall certify that the preliminary schedule of values as submitted to the District is accurate and reflects the costs as developed in preparing Contractor's bid. The preliminary schedule of values shall be subject to the District's review and approval of the form and content thereof. In the event that the District objects to any portion of the preliminary schedule of values, the District shall notify the Contractor, in writing, of the District's objection(s) to the preliminary schedule of values. Within five (5) calendar days of the date of the District's written objection(s), Contractor shall submit a revised preliminary schedule of values to the District for review and approval. The foregoing procedure for the preparation, review and approval of the preliminary schedule of values shall continue until the District has approved the entirety of the preliminary schedule of values.

10.1.1.2.7 Once the preliminary schedule of values is approved by the District, this shall become the Schedule of Values. The Schedule of Values shall not be thereafter modified or amended by the Contractor without the prior consent and approval of the District, which may be granted or withheld in the sole discretion of the District.

10.1.1.3 Preliminary Schedule of Submittals. A preliminary schedule of submittals, including Shop Drawings, Product Data, and Samples submittals. Once approved by District, this shall become the Submittal Schedule. All submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those submittals shall be forwarded to the District so as not to delay the Construction Schedule. Upon request by the District, Contractor shall provide an electronic copy of all submittals to the District. All submittals shall be submitted no later than 90 days after the Notice to Proceed.

10.1.1.4 Safety Plan. Contractor's Safety Plan specifically adapted for the Project. Contractor's Safety Plan shall comply with the following requirements:

10.1.1.4.1 All applicable requirements of California Division of Occupational Safety and Health ("CalOSHA") and/or of the United States Occupational Safety and Health Administration ("OSHA").

10.1.1.4.2 All provisions regarding Project safety, including all applicable provisions in these General Conditions.

10.1.1.4.3 Contractor's Safety Plan shall be in English and in the language(s) of the Contractor's and its Subcontractors' employees.

10.1.1.5 Complete Registered Subcontractors List. The name, address, telephone number, facsimile number, California State Contractors License number, classification, DIR registration number and monetary value of all

Subcontracts of any tier for parties furnishing labor, material, or equipment for completion of the Project.

10.1.2 Contractor must provide all schedules both in hard copy and electronically, in a format (e.g., Microsoft Project or Primavera) approved in advance by the District.

10.1.3 The District will review the schedules submitted and the Contractor shall make changes and corrections in the schedules as requested by the District and resubmit the schedules until approved by the District.

10.1.4 The District shall have the right at any time to revise the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

10.1.5 All submittals and schedules must be approved by the District before Contractor can rely on them as a basis for payment.

10.2 Monthly Progress Schedule(s)

10.2.1 Contractor shall provide Monthly Progress Schedule(s) to the District. A Monthly Progress Schedule shall update the approved Construction Schedule or the last Monthly Progress Schedule, showing all work completed and to be completed as well as updating the Registered Subcontractors List. The monthly Progress Schedule shall be sent within the timeframe requested by the District and shall be in a format acceptable to the District and contain a written narrative of the progress of work that month and any changes, delays, or events that may affect the work. The process for District approval of the Monthly Progress Schedule shall be the same as the process for approval of the Construction Schedule.

10.2.2 Contractor shall submit Monthly Progress Schedule(s) with all payment applications.

10.2.3 Contractor must provide all schedules both in hard copy and electronically, in a format (e.g., Microsoft Project or Primavera) approved in advance by the District.

10.2.4 The District will review the schedules submitted and the Contractor shall make changes and corrections in the schedules as requested by the District and resubmit the schedules until approved by the District.

10.2.5 The District shall have the right at any time to revise the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

10.2.6 All submittals and schedules must be approved by the District before Contractor can rely on them as a basis for payment.

10.3 Material Safety Data Sheets (MSDS)

Contractor is required to ensure Material Safety Data Sheets are available in a readily accessible place at the Work Site for any material requiring a Material Safety Data Sheet

per the federal "Hazard Communication" standard, or employees' "right to know" law. The Contractor is also required to ensure proper labeling on substances brought onto the job site and that any person working with the material or within the general area of the material is informed of the hazards of the substance and follows proper handling and protection procedures. Two additional copies of the Material Safety Data Sheets shall also be submitted directly to the District.

11. SITE ACCESS, CONDITIONS, AND REQUIREMENTS

11.1 Site Investigation

Before bidding on this Work, Contractor shall make a careful investigation of the Site and thoroughly familiarize itself with the requirements of the Contract. By the act of submitting a bid for the Work included in this Contract, Contractor shall be deemed to have made a complete study and investigation, and to be familiar with and accepted the existing conditions of the Site.

Prior to commencing the Work, Contractor and the District's representative shall survey the Site to document the condition of the Site. Contractor will record the survey in digital videotape format and provide an electronic copy to the District within fourteen (14) days of the survey. This electronic record shall serve as a basis for determining any damages caused by the Contractor during the Project. The Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.

11.2 Soils Investigation Report

11.2.1 When a soils investigation report obtained from test holes at Site or for the Project is available, that report may be available to the Contractor but shall not be a part of this Contract and shall not alleviate or excuse the Contractor's obligation to perform its own investigation. Any information obtained from that report or any information given on Drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only, is not guaranteed, does not form a part of this Contract, and Contractor may not rely thereon. By submitting its bid, Contractor acknowledges that it has made visual examination of Site and has made whatever tests Contractor deems appropriate to determine underground condition of soil.

11.2.2 Contractor agrees that no claim against District will be made by Contractor for damages and hereby waives any rights to damages if, during progress of Work, Contractor encounters subsurface or latent conditions at Site materially differing from those shown on Drawings or indicated in Specifications, or for unknown conditions of an unusual nature that differ materially from those ordinarily encountered in the work of the character provided for in Plans and Specifications, except as indicated in the provisions of these General Conditions regarding trenches, trenching, and/or existing utility lines.

11.3 Access to Work

District and its representatives shall at all times have access to Work wherever it is in preparation or progress, including storage and fabrication. Contractor shall provide safe

and proper facilities for such access so that District's representatives may perform their functions.

11.4 Layout and Field Engineering

11.4.1 All field engineering required for layout of this Work and establishing grades for earthwork operations shall be furnished by Contractor at its expense. This Work shall be done by a qualified, California-registered civil engineer approved in writing by District and Architect. Any required Record and/or As-Built Drawings of Site development shall be prepared by the approved civil engineer.

11.4.2 The Contractor shall be responsible for having ascertained pertinent local conditions such as location, accessibility, and general character of the Site and for having satisfied itself as to the conditions under which the Work is to be performed. Contractor shall follow best practices, including but not limited to potholing to avoid utilities. District shall not be liable for any claim for allowances because of Contractor's error, failure to follow best practices, or negligence in acquainting itself with the conditions at the Site.

11.4.3 Contractor shall protect and preserve established benchmarks and monuments and shall make no changes in locations without the prior written approval of District. Contractor shall replace any benchmarks or monuments that are lost or destroyed subsequent to proper notification of District and with District's approval.

11.5 Utilities

Utilities shall be provided as indicated in the Specifications.

11.6 Sanitary Facilities

Sanitary facilities shall be provided as indicated in the Specifications.

11.7 Surveys

Contractor shall provide surveys done by a California-licensed civil engineer surveyor to determine locations of construction, grading, and site work as required to perform the Work.

11.8 Regional Notification Center

The Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) days prior to commencing any excavation if the excavation will be conducted in an area or in a private easement that is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. No excavation shall be commenced and/or carried out by the Contractor unless an inquiry identification number has been assigned to the Contractor or any Subcontractor and the Contractor has given the District the identification number. Any damages arising from Contractor's failure to make appropriate notification shall be at the sole risk and expense of the Contractor.

Any delays caused by failure to make appropriate notification shall be at the sole risk of the Contractor and shall not be considered for an extension of the Contract Time.

11.9 Existing Utility Lines

11.9.1 Pursuant to Government Code section 4215, District assumes the responsibility for removal, relocation, and protection of main or trunk utility lines and facilities located on the construction Site at the time of commencement of construction under this Contract with respect to any such utility facilities that are not identified in the Plans and Specifications. Contractor shall not be assessed for liquidated damages for delay in completion of the Project caused by failure of District or the owner of a utility to provide for removal or relocation of such utility facilities.

11.9.2 Locations of existing utilities provided by District shall not be considered exact, but approximate within a reasonable margin and shall not relieve Contractor of responsibilities to exercise reasonable care or costs of repair due to Contractor's failure to do so. District shall compensate Contractor for the costs of locating, repairing damage not due to the failure of Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment necessarily idle during such work.

11.9.3 No provision herein shall be construed to preclude assessment against Contractor for any other delays in completion of the Work. Nothing in this Article shall be deemed to require District to indicate the presence of existing service laterals, appurtenances, or other utility lines, within the exception of main or trunk utility lines or whenever the presence of these utilities on the Site of the construction Project can be inferred from the presence of other visible facilities, such as buildings, meter junction boxes, on or adjacent to the Site of the construction.

11.9.4 If Contractor, while performing Work under this Contract, discovers utility facilities not identified by District in Contract Plans and Specifications, Contractor shall immediately notify the District and the utility in writing. The cost of repair for damage to above-mentioned visible facilities without prior written notification to the District shall be borne by the Contractor.

11.10 Notification

Contractor understands, acknowledges and agrees that the purpose for prompt notification to the District pursuant to these provisions is to allow the District to investigate the condition(s) so that the District shall have the opportunity to decide how the District desires to proceed as a result of the condition(s). Accordingly, failure of Contractor to promptly notify the District in writing, pursuant to these provisions, shall constitute Contractor's waiver of any claim for damages or delay incurred as a result of the condition(s).

11.11 Hazardous Materials

Contractor shall comply with all provisions and requirements of the Contract Documents related to hazardous materials including, without limitation, Hazardous Materials Procedures and Requirements.

11.12 No Signs

Neither the Contractor nor any other person or entity shall display any signs not required by law or the Contract Documents at the Site, fences trailers, offices, or elsewhere on the Site without specific prior written approval of the District.

12. TRENCHES

12.1 Trenches Greater Than Five Feet

Pursuant to Labor Code section 6705, if the Contract Price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of excavation, promptly submit to the District and/or a registered civil or structural engineer employed by the District or Architect, a detailed plan, stamped by a licensed engineer retained by the Contractor, showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

12.2 Excavation Safety

If such plan varies from the Shoring System Standards established by the Construction Safety Orders, the plan shall be prepared by a registered civil or structural engineer, but in no case shall such plan be less effective than that required by the Construction Safety Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by the District or by the person to whom authority to accept has been delegated by the District.

12.3 No Tort Liability of District

Pursuant to Labor Code section 6705, nothing in this Article shall impose tort liability upon the District or any of its employees.

12.4 No Excavation without Permits

The Contractor shall not commence any excavation Work until it has secured all necessary permits including the required CalOSHA excavation/shoring permit. Any permits shall be prominently displayed on the Site prior to the commencement of any excavation.

12.5 Discovery of Hazardous Waste and/or Unusual Conditions

12.5.1 Pursuant to Public Contract Code section 7104, if the Work involves digging trenches or other excavations that extend deeper than four feet below the Surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:

12.5.1.1 Material that the Contractor believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code, is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

12.5.1.2 Subsurface or latent physical conditions at the Site differing from those indicated.

12.5.1.3 Unknown physical conditions at the Site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

12.5.2 The District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a Change Order under the procedures described herein.

12.5.3 In the event that a dispute arises between District and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by Contract or by law that pertain to the resolution of disputes and protests.

13. INSURANCE AND BONDS

13.1 Insurance

Unless different provisions and/or limits are indicated in the Special Conditions, all insurance required of Contractor and/or its Subcontractor(s) shall be in the amounts and include the provisions set forth herein.

13.1.1 Commercial General Liability and Automobile Liability Insurance

13.1.1.1 Contractor shall procure and maintain, during the life of this Contract, Commercial General Liability Insurance and Automobile Liability Insurance that shall protect Contractor, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, personal injury, death, advertising injury, and medical payments arising from operations under this Contract. This coverage shall be provided in a form at least as broad as Insurance Services (ISO) Form CG 0001 11188. Contractor shall ensure that Products Liability and Completed Operations coverage, Fire Damage Liability, and Any Auto including owned, non-owned, and hired, are included within the above policies and at the required limits, or Contractor shall procure and maintain these coverages separately.

13.1.1.2 Contractor's deductible or self-insured retention for its Commercial General Liability Insurance policy shall not exceed \$25,000 unless approved in writing by District.

13.1.1.3 All such policies shall be written on an occurrence form.

13.1.2 Excess Liability Insurance

13.1.2.1 Contractor may procure and maintain, during the life of this Contract, an Excess Liability Insurance Policy to meet the policy limit requirements of the required policies if Contractor's underlying policy limits are less than required.

13.1.2.2 There shall be no gap between the per occurrence amount of any underlying policy and the start of the coverage under the Excess Liability Insurance Policy. Any Excess Liability Insurance Policy shall be written on a following form and shall protect Contractor, District, State, Construction Manager(s), Project Manager(s), and Architect(s) in amounts and including the provisions as set forth in the Supplementary Conditions (if any) and/or Special Conditions, and that complies with all requirements for Commercial General Liability and Automobile Liability and Employers' Liability Insurance.

13.1.2.3 The District, in its sole discretion, may accept the Excess Liability Insurance Policy that bring Contractor's primary limits to the minimum requirements herein.

13.1.3 Subcontractor(s): Contractor shall require its Subcontractor(s), if any, to procure and maintain Commercial General Liability Insurance, Automobile Liability Insurance, and Excess Liability Insurance (if Subcontractor elects to satisfy, in part the insurance required herein by procuring and maintaining an Excess Liability Insurance Policy) with forms of coverage and limits equal to the amounts required of the Contractor.

13.1.4 Workers' Compensation and Employers' Liability Insurance

13.1.4.1 In accordance with provisions of section 3700 of the California Labor Code, the Contractor and every Subcontractor shall be required to secure the payment of compensation to its employees.

13.1.4.2 Contractor shall procure and maintain, during the life of this Contract, Workers' Compensation Insurance and Employers' Liability Insurance for all of its employees engaged in work under this Contract, on/or at the Site of the Project. This coverage shall cover, at a minimum, medical and surgical treatment, disability benefits, rehabilitation therapy, and survivors' death benefits. Contractor shall require its Subcontractor(s), if any, to procure and maintain Workers' Compensation Insurance and Employers' Liability Insurance for all employees of Subcontractor(s). Any class of employee or employees not covered by a Subcontractor's insurance shall be covered by Contractor's insurance. If any class of employee or employee engaged in Work under this Contract, on or at the Site of the Project, is not protected under the Workers' Compensation Insurance, Contractor shall provide, or shall cause a Subcontractor to provide, adequate insurance coverage for the protection of any employee(s) not otherwise protected before any of those employee(s) commence work.

13.1.5 Builder's Risk Insurance: Builder's Risk "All Risk" Insurance

Contractor shall procure and maintain, during the life of this Contract, Builder's Risk (Course of Construction), or similar first party property coverage acceptable to the District, issued on a replacement cost value basis. The cost shall be consistent with the total replacement cost of all insurable Work of the Project included within the Contract Documents. Coverage is to insure against all risks of accidental physical

loss and shall include without limitation the perils of vandalism and/or malicious mischief (both without any limitation regarding vacancy or occupancy), sprinkler leakage, civil authority, theft, sonic disturbance, earthquake, flood, collapse, wind, rain, dust, fire, war, terrorism, lightning, smoke, and rioting. Coverage shall include debris removal, demolition, increased costs due to enforcement of all applicable ordinances and/or laws in the repair and replacement of damaged and undamaged portions of the property, and reasonable costs for the Architect's and engineering services and expenses required as a result of any insured loss upon the Work and Project, including completed Work and Work in progress, to the full insurable value thereof.

13.1.6 Pollution Liability Insurance

13.1.6.1 Contractor shall procure and maintain Pollution Liability Insurance that shall protect Contractor, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, including natural resource damage, cleanup costs, removal, storage, disposal, and/or use of the pollutant arising from operations under this Contract, and defense, including costs and expenses incurred in the investigation, defense, or settlement of claims. Coverage shall apply to sudden and/or gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants, including asbestos. This coverage shall be provided in a form at least as broad as Insurance Services Offices, Inc. (ISO) Form CG 2415, or Contractor shall procure and maintain these coverages separately.

13.1.6.2 Contractor shall warrant that any retroactive date applicable to coverage under the policy predates the effective date of the Contract and that continuous coverage will be maintained or an extended reporting or discovery period will be exercised for a period of three (3) years, beginning from the time that the Work under the Contract is completed.

13.1.6.3 If Contractor is responsible for removing any pollutants from a site, then Contractor shall ensure that Any Auto, including owned, non-owned, and hired, is included within the above policies and at the required limits, to cover its automobile exposure from transporting the pollutants from the site to an approved disposal site. This coverage shall include the Motor Carrier Act Endorsement, MCS 90.

13.1.7 Proof of Insurance and Other Requirements: Endorsements and Certificates

13.1.7.1 Contractor shall not commence Work nor shall it allow any Subcontractor to commence Work under this Contract, until Contractor and its Subcontractor(s) have procured all required insurance and Contractor has delivered in duplicate to the District complete endorsements (or entire insurance policies) and certificates indicating the required coverages have been obtained, and the District has approved these documents.

13.1.7.2 Endorsements, certificates, and insurance policies shall include the following:

13.1.7.2.1 A clause stating:

"This policy shall not be canceled and the coverage amounts shall not be reduced until written notice to District, Architect, and Construction Manager stating date of the cancellation by the insurance carrier. Date of cancellation may not be less than thirty (30) days after date of mailing notice."

13.1.7.2.2 Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation and reduction notice will be sent, and length of notice period.

13.1.7.2.3 All endorsements, certificates and insurance policies shall state that District, its trustees, employees and agents, the State of California, Construction Manager(s), Project Manager(s), Inspector(s) and Architect(s) are named additional insureds under all policies except Workers' Compensation Insurance and Employers' Liability Insurance.

13.1.7.3 No policy shall be amended, canceled or modified, and the coverage amounts shall not be reduced, until Contractor or Contractor's broker has provided written notice to District, Architect, and Construction Manager stating date of the amendment, modification, cancellation or reduction, and a description of the change. Date of amendment, modification, cancellation or reduction may not be less than thirty (30) days after date of mailing notice.

13.1.7.4 Insurance written on a "claims made" basis shall be retroactive to a date that coincides with or precedes Contractor's commencement of Work, including subsequent policies purchased as renewals or replacements. Said policy is to be renewed by the Contractor and all Subcontractors for a period of five (5) years following completion of the Work or termination of this Agreement. Such insurance must have the same coverage and limits as the policy that was in effect during the term of this Agreement, and will cover the Contractor and all Subcontractors for all claims made.

13.1.7.5 Contractor's and Subcontractors' insurance policy(s) shall be primary and non-contributory to any insurance or self-insurance maintained by District, its trustees, employees and/or agents, the State of California, Construction Manager(s), Project Manager(s), Inspector(s), and/or Architect(s).

13.1.7.6 All endorsements shall waive any right to subrogation against any of the named additional insureds.

13.1.7.7 Unless otherwise stated in the Special Conditions, all of Contractor's insurance shall be with insurance companies with an A.M. Best rating of no less than **A: VII**.

13.1.7.8 The insurance requirements set forth herein shall in no way limit the Contractor's liability arising out of or relating to the performance of the Work or related activities.

13.1.7.9 Failure of Contractor and/or its Subcontractor(s) to comply with the insurance requirements herein shall be deemed a material breach of the Agreement.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

13.1.8 Insurance Policy Limits

Unless different limits are indicated in the Special Conditions, the limits of insurance shall not be less than the following amounts:

Commercial General Liability	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	\$2,000,000 per occurrence; \$4,000,000 aggregate
Automobile Liability – Any Auto	Combined Single Limit	\$1,000,000
Workers’ Compensation		Statutory limits pursuant to State law
Employers’ Liability		\$1,000,000
Builder’s Risk (Course of Construction)		Issued for the value and scope of Work indicated herein.
Pollution Liability		\$1,000,000 per claim; \$2,000,000 aggregate

13.2 Contract Security - Bonds

13.2.1 Contractor shall furnish two surety bonds issued by a California admitted surety insurer as follows:

13.2.1.1 Performance Bond: A bond in an amount at least equal to one hundred percent (100%) of Contract Price as security for faithful performance of this Contract.

13.2.1.2 Payment Bond: A bond in an amount at least equal to one hundred percent (100%) of the Contract Price as security for payment of persons performing labor and/or furnishing materials in connection with this Contract.

13.2.2 Cost of bonds shall be included in the Bid and Contract Price.

13.2.3 All bonds related to this Project shall be in the forms set forth in these Contract Documents and shall comply with all requirements of the Contract Documents, including, without limitation, the bond forms.

14. WARRANTY/GUARANTEE/INDEMNITY

14.1 Warranty/Guarantee

14.1.1 The Contractor shall obtain and preserve for the benefit of the District, manufacturer's warranties on materials, fixtures, and equipment incorporated into the Work.

14.1.2 In addition to guarantees required elsewhere, Contractor shall, and hereby does guarantee and warrant all Work furnished on the job against all defects for a period of **ONE (1)** year after the later of the following dates, unless a longer period is provided for in the Contract Documents:

14.1.2.1 The acceptance by the District, or its agent, of the Work, subject to these General Conditions, or

14.1.2.2 The date that commissioning for the Project, if any, was completed.

At the District's sole option, Contractor shall repair or replace any and all of that Work, together with any other Work that may be displaced in so doing, that may prove defective in workmanship and/or materials within a **TWO (2)** year period from date of completion as defined above, unless a longer period is provided for in the Contract Documents, without expense whatsoever to District. In the event of failure of Contractor and/or Surety to commence and pursue with diligence said replacements or repairs within ten (10) days after being notified in writing, Contractor and Surety hereby acknowledge and agree that District is authorized to proceed to have defects repaired and made good at expense of Contractor and/or Surety who hereby agree to pay costs and charges therefore immediately on demand.

14.1.3 If, in the opinion of District, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to District or to prevent interruption of operations of District, District will attempt to give the notice required above. If Contractor or Surety cannot be contacted or neither complies with District's request for correction within a reasonable time as determined by District, District may, notwithstanding the above provision, proceed to make any and all corrections and/or provide attentions the District believes are necessary. The costs of correction or attention shall be charged against Contractor and Surety of the guarantees provided in this Article or elsewhere in this Contract.

14.1.4 The above provisions do not in any way limit the guarantees on any items for which a longer guarantee is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish to District all appropriate guarantee or warranty certificates as indicated in the Specifications or upon request by District.

14.1.5 Nothing herein shall limit any other rights or remedies available to District.

14.2 Indemnity and Defense

14.2.1 To the furthest extent permitted by California law, the Contractor shall indemnify, keep and hold harmless the District, the Architect, and the Construction Manager, their consultants and separate contractors, and their respective board members, officers, representatives, contractors, agents, and employees, in both individual and official capacities ("Indemnitees"), against all suits, claims, damages, losses, and expenses, including but not limited to attorney's fees, caused by, arising out of, resulting from, or incidental to, the performance of the Work under this Contract by the Contractor, its Subcontractors, vendors, or suppliers, except to the extent caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction, in which case the Contractor's indemnification and hold harmless obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability, and/or to any extent that would render these provisions void or unenforceable. This agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or obligation of indemnity that would otherwise exist as to any party or person described herein. This indemnification, and hold harmless obligation includes, but is not limited to, any failure or alleged failure by Contractor to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Contractor's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the California Department of Industrial Relations.

14.2.2 Contractor shall also defend, at its own expense, Indemnitees against all suits, claims, allegations, damages, losses, and expenses, including but not limited to attorneys' fees, caused by, arising out of, resulting from, or incidental to, the performance of the Work under this Contract by the Contractor, its Subcontractors, vendors, or suppliers, except to the extent caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction, in which case the Contractor's defense obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability, and/or to any extent that would render these provisions void or unenforceable. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the Indemnitees. This obligation of defense is inclusive of fees and costs. If the Indemnitees provide their own defense due to failure to timely respond to tender of defense, rejection of tender of defense, or conflict of interest of proposed counsel, Contractor shall reimburse Indemnitees for any expenditures, including reasonable attorney's fees and costs. This agreement and obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or obligation of defense that would otherwise exist as to any party or person described herein. This defense obligation includes, but is not limited to, any failure or alleged failure by Contractor to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Contractor's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the California Department of Industrial Relations. The Contractor shall give prompt notice to the District in the event of any injury (including death), loss, or damage included herein.

14.2.3 Without limitation of the provisions herein, if the Contractor's agreement to indemnify and hold harmless the Indemnitees or its agreement to defend Indemnitees as provided herein shall be determined to be void or unenforceable, in whole or in part, it is the intention of the parties that these circumstances shall not otherwise affect the validity or enforceability of the Contractor's agreement to indemnify, defend, and hold harmless the rest of the Indemnitees, as provided herein. Further, the Contractor shall be and remain fully liable on its agreements and obligations herein to the fullest extent permitted by law.

14.2.4 Pursuant to Public Contract Code section 9201, the District shall provide timely notification to Contractor of the receipt of any third-party claim relating to this Contract. The District shall be entitled to recover its reasonable costs incurred in providing said notification.

14.2.5 In any and all claims against any of the Indemnitees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the Contractor's indemnification obligation herein shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

14.2.6 The District may retain so much of the moneys due the Contractor as shall be considered necessary, until disposition of any such suit, claims or actions for damages or until the District, Architect and Construction Manager have received written agreement from the Contractor that they will unconditionally defend the District, Architect and Construction Manager, their officers, agents and employees, and pay any damages due by reason of settlement or judgment.

14.2.7 The defense and indemnification obligations hereunder shall survive the completion of Work, including the warranty/guarantee period, and/or the termination of the Agreement.

15. TIME

15.1 Notice to Proceed

15.1.1 District may issue a Notice to Proceed within ninety (90) days from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.

15.1.2 In the event that the District desires to postpone issuing the Notice to Proceed beyond ninety (90) days from the date of the Notice of Award, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed.

15.1.3 If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to Contractor, Contractor may terminate the Contract. Contractor's termination due to a postponement shall be by written notice to District

within ten (10) days after receipt by Contractor of District's notice of postponement. It is further understood by Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement. Should Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.

15.2 Computation of Time / Adverse Weather

15.2.1 The Contractor will only be allowed a time extension for Adverse Weather conditions if requested by Contractor in compliance with the time extension request procedures and only if all of the following conditions are met:

15.2.1.1 The weather conditions constitute Adverse Weather, as defined herein and further specified in the Special Conditions;

15.2.1.2 Contractor can verify that the Adverse Weather caused delays in excess of five (5) hours of the indicated labor required to complete the scheduled tasks of Work on the day affected by the Adverse Weather;

15.2.1.3 The Contractor's crew is dismissed as a result of the Adverse Weather;

15.2.1.4 Said delay adversely affects the critical path in the Construction Schedule; and

15.2.2 If the aforementioned conditions are met, a non-compensable day-for-day extension will only be allowed for those days in excess of those indicated in the Special Conditions.

15.2.3 The Contractor shall work seven (7) days per week, if necessary, irrespective of inclement weather, to maintain access and the Construction Schedule, and to protect the Work under construction from the effects of Adverse Weather, all at no further cost to the District.

15.2.4 The Contract Time has been determined with consideration given to the average climate weather conditions prevailing in the County in which the Project is located.

15.3 Hours of Work

15.3.1 Sufficient Forces

Contractor and Subcontractors shall continuously furnish sufficient and competent work forces with the required levels of familiarity with the Project and skill, training and experience to ensure the prosecution of the Work in accordance with the Construction Schedule.

15.3.2 Performance During Working Hours

Work shall be performed during regular working hours as permitted by the appropriate governmental agency except that in the event of an emergency, or when

required to complete the Work in accordance with job progress, Work may be performed outside of regular working hours with the advance written consent of the District and approval of any required governmental agencies.

15.3.3 No Work during State Testing

Contractor shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests. The District or District's Representative will provide Contractor with a schedule of test dates concurrent with the District's issuance of the Notice to Proceed, or as soon as test dates are made available to the District.

15.4 Progress and Completion

15.4.1 Time of the Essence

Time limits stated in the Contract Documents are of the essence to the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

15.4.2 No Commencement Without Insurance or Bonds

The Contractor shall not commence operations on the Project or elsewhere prior to the effective date of insurance and bonds. The date of commencement of the Work shall not be changed by the effective date of such insurance or bonds. If Contractor commences Work without insurance and bonds, all Work is performed at Contractor's peril and shall not be compensable until and unless Contractor secures bonds and insurance pursuant to the terms of the Contract Documents and subject to District claim for damages.

15.5 Schedule

Contractor shall provide to District, Construction Manager, and Architect a schedule in conformance with the Contract Documents and as required in the Notice to Proceed and the Contractor's Submittals and Schedules section of these General Conditions.

15.6 Expeditious Completion

The Contractor shall proceed expeditiously with adequate forces and shall achieve Completion within the Contract Time.

16. EXTENSIONS OF TIME – LIQUIDATED DAMAGES

16.1 Liquidated Damages

Contractor and District hereby agree that the exact amount of damages for failure to complete the Work within the time specified is extremely difficult or impossible to determine. If the Work is not completed within the time specified in the Contract Documents, it is understood that the District will suffer damage. It being impractical and unfeasible to determine the amount of actual damage, it is agreed the Contractor shall pay to District as fixed and liquidated damages, and not as a penalty, the amount

set forth in the Agreement for each calendar day of delay in completion. Contractor and its Surety shall be liable for the amount thereof pursuant to Government Code section 53069.85.

16.2 Excusable Delay

16.2.1 Contractor shall not be charged for liquidated damages because of any delays in completion of Work which are not the fault of Contractor or its Subcontractors, including acts of God as defined in Public Contract Code section 7105, acts of enemy, epidemics, and quarantine restrictions. Contractor shall, within five (5) calendar days of beginning of any delay, notify District in writing of causes of delay including documentation and facts explaining the delay and the direct correlation between the cause and effect. District shall review the facts and extent of any delay and shall grant extension(s) of time for completing Work when, in its judgment, the findings of fact justify an extension. Extension(s) of time shall apply only to that portion of Work affected by delay, and shall not apply to other portions of Work not so affected. An extension of time may only be granted if Contractor has timely submitted the Construction Schedule as required herein.

16.2.2 Contractor shall notify the District pursuant to the claims provisions in these General Conditions of any anticipated delay and its cause. Following submission of a claim, the District may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the Work might be delayed thereby.

16.2.3 In the event the Contractor requests an extension of Contract Time for unavoidable delay, such request shall be submitted in accordance with the provisions in the Contract Documents governing changes in Work. When requesting time, requests must be submitted with full justification and documentation. If the Contractor fails to submit justification, it waives its right to a time extension at a later date. Such justification must be based on the official Construction Schedule as updated at the time of occurrence of the delay or execution of Work related to any changes to the Scope of Work. Any claim for delay must include the following information as support, without limitation:

16.2.3.1 The duration of the activity relating to the changes in the Work and the resources (manpower, equipment, material, etc.) required to perform the activities within the stated duration.

16.2.3.2 Specific logical ties to the Contract Schedule for the proposed changes and/or delay showing the activity/activities in the Construction Schedule that are affected by the change and/or delay. In particular, Contractor must show an actual impact to the schedule, after making a good faith effort to mitigate the delay by rescheduling the work, by providing an analysis of the schedule ("Schedule Analysis"). Such Schedule Analysis shall describe in detail the cause and effect of the delay and the impact on the critical dates in the Project schedule. (A portion of any delay of seven (7) days or more must be provided.)

16.2.3.3 A recovery schedule must be submitted within twenty (20) calendar days of written notification to the District of causes of delay.

16.3 No Additional Compensation for Delays Within Contractor's Control

16.3.1 Contractor is aware that governmental agencies, including, without limitation, the Division of the State Architect, the Department of General Services, gas companies, electrical utility companies, water districts, and other agencies may have to approve Contractor-prepared drawings or approve a proposed installation. Accordingly, Contractor shall include in its bid, time for possible review of its drawings and for reasonable delays and damages that may be caused by such agencies. Thus, Contractor is not entitled to make a claim for damages or delays arising from the review of Contractor's drawings.

16.3.2 Contractor shall only be entitled to compensation for delay when all of the following conditions are met:

16.3.2.1 The District is responsible for the delay;

16.3.2.2 The delay is unreasonable under the circumstances involved;

16.3.2.3 The delay was not within the contemplation of the District and Contractor; and

16.3.2.4 Contractor timely complies with the claims procedure of the Contract Documents.

16.4 Float or Slack in the Schedule

Float or slack is the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any of the activities in the schedule. Float or slack is not for the exclusive use of or benefit of either the District or the Contractor, but its use shall be determined solely by the District.

17. CHANGES IN THE WORK

17.1 No Changes Without Authorization

17.1.1 There shall be no change whatsoever in the Drawings, Specifications, or in the Work without an executed Change Order or a written Construction Change Directive authorized by the District as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the District's governing board has authorized the same and the cost thereof has been approved in writing by Change Order or Construction Change Directive in advance of the changed Work being performed. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted and approved in writing in the Change Order or Construction Change Directive. Contractor shall be responsible for any costs incurred by the District for professional services and DSA fees and/or delay to the Project Schedule, if any, for DSA to review any request for changes to the DSA approved plans and specifications for the convenience of the Contractor and/or to accommodate the Contractor's means and methods. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications.

17.1.2 Contractor shall perform immediately all work that has been authorized by a fully executed Change Order or Construction Change Directive. Contractor shall be fully responsible for any and all delays and/or expenses caused by Contractor's failure to expeditiously perform this Work.

17.1.3 Should any Change Order result in an increase in the Contract Price or extend the Contract Time, the cost of or length of extension in that Change Order shall be agreed to, in writing, by the District in advance of the Work by Contractor, and shall be subject to the monetary limitations set forth in Public Contract Code section 20118.4. In the event that Contractor proceeds with any change in Work without a Change Order executed by the District or Construction Change Directive, Contractor waives any claim of additional compensation or time for that additional work. Under no circumstances shall Contractor be entitled to any claim of additional compensation or time not expressly requested by Contractor in a Proposed Change Order or approved by District in an executed Change Order.

17.1.4 Contractor understands, acknowledges, and agrees that the reason for District authorization is so that District may have an opportunity to analyze the Work and decide whether the District shall proceed with the Change Order or alter the Project so that a change in Work becomes unnecessary.

17.2 Architect Authority

The Architect will have authority to order minor changes in the Work not involving any adjustment in the Contract Price, or an extension of the Contract Time, or a change that is inconsistent with the intent of the Contract Documents. These changes shall be effected by written Change Order, Construction Change Directive, by Architect's response(s) to RFI(s), or by Architect's Supplemental Instructions ("ASI").

17.3 Change Orders

17.3.1 A Change Order is a written instrument prepared and issued by the District and/or the Architect and signed by the District (as authorized by the District's Governing Board), the Contractor, the Architect, and approved by the Project Inspector (if necessary) and DSA (if necessary), stating their agreement regarding all of the following:

17.3.1.1 A description of a change in the Work;

17.3.1.2 The amount of the adjustment in the Contract Price, if any; and

17.3.1.3 The extent of the adjustment in the Contract Time, if any.

17.4 Construction Change Directives

17.4.1 A Construction Change Directive is a written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work. The District may, as provided by law, by Construction Change Directive and without invalidating the Contract, order changes in the Work consisting of additions, deletions, or other revisions. The adjustment to the Contract Price or Time, if any, is subject to the provisions of this section regarding Changes in the Work. If all or a portion of the

Project is being funded by funds requiring approval by the State Allocation Board ("SAB"), these revisions may be subject to compensation once approval of same is received and funded by the SAB, and funds are released by the Office of Public School Construction ("OPSC"). Any dispute as to the adjustment in the Contract Price, if any, of the Construction Change Directive or timing of payment shall be resolved pursuant to the Payment and Claims and Disputes provisions herein.

17.4.2 The District may issue a Construction Change Directive in the absence of agreement on the terms of a Change Order.

17.5 Force Account Directives

17.5.1 When work, for which a definite price has not been agreed upon in advance, is to be paid for on a force account basis, all direct costs necessarily incurred and paid by the Contractor for labor, material, and equipment used in the performance of that Work, shall be subject to the approval of the District and compensation will be determined as set forth herein.

17.5.2 The District will issue a Force Account Directive to proceed with the Work on a force account basis, and a not-to-exceed budget will be established by the District.

17.5.3 All requirements regarding direct cost for labor, labor burden, material, equipment, and markups on direct costs for overhead and profit described in this section shall apply to Force Account Directives. However, the District will only pay for actual costs verified in the field by the District or its authorized representative(s) on a daily basis.

17.5.4 The Contractor shall be responsible for all cost related to the administration of Force Account Directive. The markup for overhead and profit for Contractor modifications shall be full compensation to the Contractor to administer Force Account Directive, and Contractor shall not be entitled to separately recover additional amounts for overhead and/or profit.

17.5.5 The Contractor shall notify the District or its authorized representative(s) at least twenty-four (24) hours prior to proceeding with any of the force account work. Furthermore, the Contractor shall notify the District when it has consumed eighty percent (80%) of the budget, and shall not exceed the budget unless specifically authorized in writing by the District. The Contractor will not be compensated for force account work in the event that the Contractor fails to timely notify the District regarding the commencement of force account work, or exceeding the force account budget.

17.5.6 The Contractor shall diligently proceed with the work, and on a daily basis, submit a daily force account report on a form supplied by the District no later than 5:00 p.m. each day. The report shall contain a detailed itemization of the daily labor, material, and equipment used on the force account work only. The names of the individuals performing the force account work shall be included on the daily force account reports. The type and model of equipment shall be identified and listed. The District will review the information contained in the reports, and sign the reports no later than the next work day, and return a copy of the report to the Contractor for their records. The District will not sign, nor will the Contractor receive compensation

for work the District cannot verify. The Contractor will provide a weekly force account summary indicating the status of each Force Account Directive in terms of percent complete of the not-to-exceed budget and the estimated percent complete of the work.

17.5.7 In the event the Contractor and the District reach a written agreement on a set cost for the work while the work is proceeding based on a Force Account Directive, the Contractor's signed daily force account reports shall be discontinued and all previously signed reports shall be invalid.

17.6 Price Request

17.6.1 Definition of Price Request

A Price Request ("PR") is a written request prepared by the Architect requesting the Contractor to submit to the District and the Architect an estimate of the effect of a proposed change in the Work on the Contract Price and the Contract Time.

17.6.2 Scope of Price Request

A Price Request shall contain adequate information, including any necessary Drawings and Specifications, to enable Contractor to provide the cost breakdowns required herein. The Contractor shall not be entitled to any additional compensation for preparing a response to a Price Request, whether ultimately accepted or not.

17.7 Proposed Change Order

17.7.1 Definition of Proposed Change Order

A Proposed Change Order ("PCO") is a written request prepared by the Contractor requesting that the District and the Architect issue a Change Order based upon a proposed change to the Work.

17.7.2 Changes in Contract Price

A PCO shall include breakdowns and backup documentation pursuant to the revisions herein and sufficient, in the District's judgment, to validate any change in Contract Price. In no case shall Contractor or any of its Subcontractors be permitted to reserve rights for additional compensation for Change Order Work.

17.7.3 Changes in Time

A PCO shall also include any changes in time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Construction Schedule as defined in the Contract Documents. If Contractor fails to request a time extension in a PCO, then the Contractor is thereafter precluded from requesting, and waives any right to request, additional time and/or claim a delay. In no case shall Contractor or any of its Subcontractors be permitted to reserve rights for additional time for Change Order Work. A PCO that leaves the amount of time requested blank, or states that such time requested is "to be determined", is not permitted and shall also constitute a waiver of any right to request additional time and/or claim a delay.

17.7.4 Unknown and/or Unforeseen Conditions

If there is an Allowance, then Contractor must submit a Request for Allowance Expenditure Directive, including supporting documentation as described below, to receive authorization for the release of funds from the Allowance. If cost of the unforeseen condition(s) exceed the Allowance, Contractor must submit a PCO requesting an increase in Contract Price and/or Contract Time that is based at least partially on Contractor's assertion that Contractor has encountered unknown and/or unforeseen condition(s) on the Project, then Contractor shall base the PCO on provable information that, beyond a reasonable doubt and to the District's satisfaction, demonstrates that the unknown and/or unforeseen condition(s) were actually unknown and/or unforeseen and that the condition(s) were reasonably unknown and/or unforeseen. If not, the District shall deny the PCO as unsubstantiated, and the Contractor shall complete the Project without any increase in Contract Price and/or Contract Time based on that PCO.

17.7.5 Proposed Change Order Certification

In submitting a PCO, Contractor certifies and affirms that the cost and/or time request is submitted in good faith, that the cost and/or time request is accurate and in accordance with the provisions of the Contract Documents, and the Contractor submits the cost and/or request for extension of time recognizing the significant civil penalties and treble damages which follow from making a false claim or presenting a false claim under Government Code section 12650 et seq.

[THE REMAINDER OF THIS PAGE LEFT BLANK INTENTIONALLY]

17.8 Format for Proposed Change Order

17.8.1 The following format shall be used as applicable by the District and the Contractor (e.g. Change Orders, PCO's) to communicate proposed additions and deductions to the Contract, supported by attached documentation. Any spaces left blank will be deemed no change to cost or time.

	<u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u>	<u>ADD</u>	<u>DEDUCT</u>
(a)	<u>Material</u> (attach suppliers' invoice or itemized quantity and unit cost plus sales tax)		
(b)	<u>Add Labor</u> (attach itemized hours and rates, fully encumbered)		
(c)	<u>Add Equipment</u> (attach suppliers' invoice)		
(d)	<u>Subtotal</u>		
(e)	<u>Add overhead and profit for any and all tiers of Subcontractor</u> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<u>Subtotal</u>		
(g)	<u>Add Overhead and Profit for Contractor</u> , not to exceed five percent (5%) of Item (f)		
(h)	<u>Subtotal</u>		
(i)	<u>Add Bond and Insurance</u> , not to exceed one and a half percent (1.5%) of Item (h)		
(j)	<u>TOTAL</u>		
(k)	<u>Time</u> (zero unless indicated; "TBD" not permitted)	____ Calendar Days	

	<u>WORK PERFORMED BY CONTRACTOR</u>	<u>ADD</u>	<u>DEDUCT</u>
(a)	<u>Material</u> (attach itemized quantity and unit cost plus sales tax)		
(b)	<u>Add Labor</u> (attach itemized hours and rates, fully encumbered)		
(c)	<u>Add Equipment</u> (attach suppliers' invoice)		
(d)	<u>Subtotal</u>		
(e)	<u>Add Overhead and Profit for Contractor</u> , not to exceed fifteen percent (15%) of Item (d)		
(f)	<u>Subtotal</u>		
(g)	<u>Add Bond and Insurance</u> , not to exceed one and a half percent (1.5%) of Item (f)		
(h)	<u>TOTAL</u>		
(i)	<u>Time</u> (zero unless indicated; "TBD" not permitted)	____ Calendar Days	

17.8.2 Labor. Contractor shall be compensated for the costs of labor actually and directly utilized in the performance of the Work. Such labor costs shall be limited to field labor for which there is a prevailing wage rate classification. Wage rates for labor shall not exceed the prevailing wage rates in the locality of the Site and shall be in the labor classification(s) necessary for the performance of the Work.

Labor costs shall exclude costs incurred by the Contractor in preparing estimate(s) of the costs of the change in the Work, in the maintenance of records relating to the costs of the change in the Work, coordination and assembly of materials and information relating to the change in the Work or performance thereof, or the supervision and other overhead and general conditions costs associated with the change in the Work or performance thereof, including but not limited to the cost for the job superintendent.

17.8.3 Materials. Contractor shall be compensated for the costs of materials necessarily and actually used or consumed in connection with the performance of the change in the Work. Costs of materials may include reasonable costs of transportation from a source closest to the Site of the Work and delivery to the Site. If discounts by material suppliers are available for materials necessarily used in the performance of the change in the Work, they shall be credited to the District. If materials necessarily used in the performance of the change in the Work are obtained from a supplier or source owned in whole or in part by the Contractor, compensation therefor shall not exceed the current wholesale price for such materials. If, in the reasonable opinion of the District, the costs asserted by the Contractor for materials in connection with any change in the Work are excessive, or if the Contractor fails to provide satisfactory evidence of the actual costs of such materials from its supplier or vendor of the same, the costs of such materials and the District's obligation to pay for the same shall be limited to the then lowest wholesale price at which similar materials are available in the quantities required to perform the change in the Work. The District may elect to furnish materials for the change in the Work, in which event the Contractor shall not be compensated for the costs of furnishing such materials or any mark-up thereon.

17.8.4 Equipment. As a precondition to the District's duty to pay for Equipment rental or loading and transportation, Contractor shall provide satisfactory evidence of the actual costs of Equipment from the supplier, vendor or rental agency of same. Contractor shall be compensated for the actual cost of the necessary and direct use of Equipment in the performance of the change in the Work. Use of such Equipment in the performance of the change in the Work shall be compensated in increments of fifteen (15) minutes. Rental time for Equipment moved by its own power shall include time required to move such Equipment to the site of the Work from the nearest available rental source of the same. If Equipment is not moved to the Site by its own power, Contractor will be compensated for the loading and transportation costs in lieu of rental time. The foregoing notwithstanding, neither moving time or loading and transportation time shall be allowed if the Equipment is used for performance of any portion of the Work other than the change in the Work. Unless prior approval in writing is obtained by the Contractor from the Architect, the Project Inspector and the District, no costs or compensation shall be allowed for time while Construction Equipment is inoperative, idle or on standby, for any reason. Contractor shall not be entitled to an allowance or any other compensation for Equipment or tools used in the performance of change in the Work where such Equipment or tools have a replacement value of \$500.00 or less. Equipment costs claimed by the Contractor in connection with the performance of any Work shall not exceed rental rates established by distributors or construction equipment rental agencies in the locality of the Site; any costs asserted which exceed such rental rates shall not be allowed or paid. Unless otherwise specifically approved in writing by the Architect, the Project Inspector and the District, the allowable rate for the use of Equipment in connection with the Work shall constitute full compensation to the

Contractor for the cost of rental, fuel, power, oil, lubrication, supplies, necessary attachments, repairs or maintenance of any kind, depreciation, storage, insurance, labor (exclusive of labor costs of the Equipment operator), and any and all other costs incurred by the Contractor incidental to the use of such Equipment.

17.8.5 Overhead and Profit. The phrase "Overhead and Profit" shall include field and office supervisors and assistants, watchperson, use of small tools, consumable, insurance other than construction bonds and insurance required herein, and general field and home office expenses.

17.9 Change Order Certification

17.9.1 All Change Orders and PCOs must include the following certification by the Contractor:

17.9.1.1 The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq. It is understood that the changes herein to the Contract shall only be effective when approved by the governing board of the District.

17.9.1.2 It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

17.10 Determination of Change Order Cost

17.10.1 The amount of the increase or decrease in the Contract Price from a Change Order, if any, shall be determined in one or more of the following ways as applicable to a specific situation and at the District's discretion:

17.10.1.1 District acceptance of a PCO;

17.10.1.2 By unit prices contained in Contractor's original bid;

17.10.1.3 By agreement between District and Contractor.

17.11 Deductive Change Orders

All deductive Change Order(s) must be prepared pursuant to the provisions herein. Where a portion of the Work is deleted from the Contract, the reasonable value of the deducted work less the value of work performed shall be considered the appropriate deduction. The value submitted on the Schedule of Values shall be used to calculate the credit amount unless the bid documentation is being held in escrow as part of the

Contract Documents. Unit Prices, if any, may be used in District's discretion in calculating reasonable value. If Contractor offers a proposed amount for a deductive Change Order(s), Contractor shall include a minimum of five percent (5%) total profit and overhead to be deducted with the amount of the work of the Change Order(s). If Subcontractor work is involved, Subcontractors shall also include a minimum of five percent (5%) profit and overhead to be deducted with the amount of its deducted work. Any deviation from this provision shall not be allowed.

17.12 Addition or Deletion of Alternate Bid Item(s)

If the Bid Form and Proposal includes proposal(s) for Alternate Bid Item(s), during Contractor's performance of the Work, the District may elect to add or delete any such Alternate Bid Item(s) if not included in the Contract at the time of award. If the District elects to add or delete Alternate Bid Item(s) after Contract award, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Bid Form and Proposal unless the parties agree to a different price and the Contract Time shall be adjusted by the number of days allocated in the Contract Documents. If days are not allocated in the Contract Documents, the Contract Time shall be equitably adjusted.

17.13 Discounts, Rebates, and Refunds

For purposes of determining the cost, if any, of any change, addition, or omission to the Work hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to the Contractor, and the Contractor shall make provisions so that such discounts, rebates, refunds, and returns may be secured, and the amount thereof shall be allowed as a reduction of the Contractor's cost in determining the actual cost of construction for purposes of any change, addition, or omission in the Work as provided herein.

17.14 Accounting Records

With respect to portions of the Work performed by Change Orders and Construction Change Directives, the Contractor shall keep and maintain cost-accounting records satisfactory to the District, including, without limitation, Job Cost Reports as provided in these General Conditions, which shall be available to the District on the same terms as any other books and records the Contractor is required to maintain under the Contract Documents. Such records shall include without limitation hourly records for Labor and Equipment and itemized records of materials and Equipment used that day in connection with the performance of any Work. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Architect or the Project Inspector upon request. In the event that the Contractor fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records, the District's reasonable good faith determination of the extent of adjustment to the Contract Price shall be final, conclusive, dispositive and binding upon Contractor.

17.15 Notice Required

If the Contractor desires to make a claim for an increase in the Contract Price, or any extension in the Contract Time for completion, it shall notify the District pursuant to the provisions herein, including the Article on Claims and Disputes. No claim shall be considered unless made in accordance with this subparagraph. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any

change in the Contract Price or extension of the Contract Time resulting from such claim shall be authorized by a Change Order.

17.16 Applicability to Subcontractors

Any requirements under this Article shall be equally applicable to Change Orders or Construction Change Directives issued to Subcontractors by the Contractor to the extent as required by the Contract Documents.

17.17 Alteration to Change Order Language

Contractor shall not alter Change Orders or reserve time in Change Orders. Change Orders altered in violation of this provision, if in conflict with the terms set forth herein, shall be construed in accordance with the terms set forth herein. Contractor shall execute finalized Change Orders and proceed under the provisions herein with proper notice.

17.18 Failure of Contractor to Execute Change Order

Contractor shall be in default of the Contract if Contractor fails to execute a Change Order when the Contractor agrees with the addition and/or deletion of the Work in that Change Order.

18. REQUEST FOR INFORMATION

18.1 Any Request for Information shall reference all applicable Contract Document(s), including Specification section(s), detail(s), page number(s), drawing number(s), and sheet number(s), etc. The Contractor shall make suggestions and interpretations of the issue raised by each Request for Information. A Request for Information cannot modify the Contract Price, Contract Time, or the Contract Documents. Upon request by the District, Contractor shall provide an electronic copy of the Request for Information in addition to the hard copy.

18.2 The Contractor shall be responsible for any costs incurred for professional services that District may deduct from any amounts owing to the Contractor, if a Request for Information requests an interpretation or decision of a matter where the information sought is equally available to the party making the request. District, at its sole discretion, shall deduct from and/or invoice Contractor for all the professional services arising herein.

19. PAYMENTS

19.1 Contract Price

The Contract Price is stated in the Agreement and, including authorized adjustments, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents.

19.2 Applications for Progress Payments

19.2.1 Procedure for Applications for Progress Payments

19.2.1.1 Application for Progress Payment

19.2.1.1.1 Not before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the District and the Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized, if required, and supported by the following or each portion thereof unless waived by the District in writing:

19.2.1.1.1.1 The amount paid to the date of the Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;

19.2.1.1.1.2 The amount being requested under the Application for Payment by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;

19.2.1.1.1.3 The balance that will be due to each of such entities after said payment is made;

19.2.1.1.1.4 A certification that the As-Built Drawings and annotated Specifications are current;

19.2.1.1.1.5 Itemized breakdown of work done for the purpose of requesting partial payment;

19.2.1.1.1.6 An updated and acceptable construction schedule in conformance with the provisions herein;

19.2.1.1.1.7 The additions to and subtractions from the Contract Price and Contract Time;

19.2.1.1.1.8 A total of the retentions held;

19.2.1.1.1.9 Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time;

19.2.1.1.1.10 The percentage of completion of the Contractor's Work by line item;

19.2.1.1.1.11 Schedule of Values updated from the preceding Application for Payment;

19.2.1.1.1.12 A duly completed and executed conditional waiver and release upon progress payment compliant with Civil Code section 8132 from the Contractor and each subcontractor of any tier and supplier to be paid from the current progress payment;

19.2.1.1.1.13 A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134

from the Contractor and each subcontractor of any tier and supplier that was paid from the previous progress payment(s); and

19.2.1.1.1.14 A certification by the Contractor of the following:

The Contractor warrants title to all Work performed as of the date of this payment application has been completed in accordance with the Contract Documents for the Project. The Contractor further warrants that all amounts have been paid for work which previous Certificates for Payment were issued and payments received and all Work performed as of the date of this payment application is free and clear of liens, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, workers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work, except those of which the District has been informed. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

19.2.1.1.1.15 The Contractor shall be subject to the False Claims Act set forth in Government Code section 12650 et seq. for information provided with any Application for Progress Payment.

19.2.1.1.1.16 All remaining certified payroll records ("CPR(s)") for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work for the period of the Application for Payment. As indicated herein, the District shall not make any payment to Contractor until:

19.2.1.1.1.16.1 Contractor and/or its Subcontractor(s) provide electronic CPRs weekly for all weeks any journeyman, apprentice, worker or other employee was employed in connection with the Work directly to the DIR, or within ten (10) days of any request by the District or the DIR, and

19.2.1.1.1.16.2 Any delay in Contractor and/or its Subcontractor(s) providing CPRs in a timely manner may directly delay the Contractor's payment.

19.2.1.1.2 Applications received after June 20th will not be paid until the second week of July and applications received after December 12th will not be paid until the first week of January.

19.2.2 Prerequisites for Progress Payments

19.2.2.1 First Payment Request: The following items, if applicable, must be completed before the District will accept and/or process the Contractor's first payment request:

19.2.2.1.1 Installation of the Project sign;

- 19.2.2.1.2** Installation of field office;
- 19.2.2.1.3** Installation of temporary facilities and fencing;
- 19.2.2.1.4** Schedule of Values;
- 19.2.2.1.5** Contractor's Construction Schedule;
- 19.2.2.1.6** Schedule of unit prices, if applicable;
- 19.2.2.1.7** Submittal Schedule;
- 19.2.2.1.8** Receipt by Architect of all submittals due as of the date of the payment application;
- 19.2.2.1.9** Copies of necessary permits;
- 19.2.2.1.10** Copies of authorizations and licenses from governing authorities;
- 19.2.2.1.11** Initial progress report;
- 19.2.2.1.12** Surveyor qualifications;
- 19.2.2.1.13** Written acceptance of District's survey of rough grading, if applicable;
- 19.2.2.1.14** List of all Subcontractors, with names, license numbers, telephone numbers, and Scope of Work;
- 19.2.2.1.15** All bonds and insurance endorsements; and
- 19.2.2.1.16** Resumes of Contractor's project manager, and if applicable, job site secretary, record documents recorder, and job site superintendent.

19.2.2.2 Second Payment Request: The District will not process the second payment request until and unless all submittals and Shop Drawings have been accepted for review by the Architect.

19.2.2.3 No Waiver of Criteria: Any payments made to Contractor where criteria set forth herein have not been met shall not constitute a waiver of said criteria by District. Instead, such payment shall be construed as a good faith effort by District to resolve differences so Contractor may pay its Subcontractors and suppliers. Contractor agrees that failure to submit such items may constitute a breach of contract by Contractor and may subject Contractor to termination.

19.3 Progress Payments

19.3.1 District's Approval of Application for Payment

19.3.1.1 Upon receipt of an Application for Payment, The District shall act in accordance with both of the following:

19.3.1.1.1 Each Application for Payment shall be reviewed by the District as soon as practicable after receipt for the purpose of determining that the Application for Payment is a proper Application for Payment.

19.3.1.1.2 Any Application for Payment determined not to be a proper Application for Payment suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days, after receipt. An Application for Payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the Application for Payment is not proper. The number of days available to the District to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the District exceeds this seven-day return requirement.

19.3.1.1.3 An Application for Payment shall be considered properly executed if funds are available for payment of the Application for Payment, and payment is not delayed due to an audit inquiry by the financial officer of the District.

19.3.1.2 The District's review of the Contractor's Application for Payment will be based on the District's and the Architect's observations at the Site and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the District's and the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to:

19.3.1.2.1 Observation of the Work for general conformance with the Contract Documents,

19.3.1.2.2 Results of subsequent tests and inspections,

19.3.1.2.3 Minor deviations from the Contract Documents correctable prior to completion, and

19.3.1.2.4 Specific qualifications expressed by the Architect.

19.3.1.3 District's approval of the certified Application for Payment shall be based on Contractor complying with all requirements for a fully complete and valid certified Application for Payment.

19.3.2 Payments to Contractor

19.3.2.1 Within thirty (30) days after approval of the Application for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as verified by Architect and Inspector and certified by Contractor) up to the last day of the previous month, less the aggregate of previous payments and amount to be withheld. The value of the Work completed shall be Contractor's best estimate. No inaccuracy or error in said estimate shall operate to release the Contractor, or any Surety upon any bond, from damages arising from such Work, or from the District's right to enforce each and every provision of this Contract, and the District shall have the right subsequently to correct any error made in any estimate for payment.

19.3.2.2 The Contractor shall not be entitled to have any payment requests processed, or be entitled to have any payment made for Work performed, so long as any lawful or proper direction given by the District concerning the Work, or any portion thereof, remains incomplete.

19.3.2.3 If the District fails to make any progress payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Payment from the Contractor, the District shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

19.3.3 No Waiver

No payment by District hereunder shall be interpreted so as to imply that District has inspected, approved, or accepted any part of the Work. Notwithstanding any payment, the District may enforce each and every provision of this Contract. The District may correct or require correction of any error subsequent to any payment.

19.4 Decisions to Withhold Payment

19.4.1 Reasons to Withhold Payment

The District may withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required herein cannot be made. The District may withhold payment, in whole, or in part, to such extent as may be necessary to protect the District from loss because of, but not limited to any of the following:

19.4.1.1 Defective Work not remedied within **FORTY-EIGHT (48)** hours of written notice to Contractor.

19.4.1.2 Stop Payment Notices or other liens served upon the District as a result of the Contract. Contractor agrees that the District may withhold up to 125% of the amount claimed in the Stop Payment Notice to answer the claim and to provide for the District's reasonable cost of any litigation pursuant to the stop payment notice.

19.4.1.3 Liquidated damages assessed against the Contractor.

19.4.1.4 The cost of completion of the Contract if there exists a reasonable doubt that the Work can be completed for the unpaid balance of the Contract Price or by the completion date.

19.4.1.5 Damage to the District or other contractor(s).

19.4.1.6 Unsatisfactory prosecution of the Work by the Contractor.

19.4.1.7 Failure to store and properly secure materials.

19.4.1.8 Failure of the Contractor to submit, on a timely basis, proper, sufficient, and acceptable documentation required by the Contract Documents, including, without limitation, a Construction Schedule, Schedule of Submittals,

Schedule of Values, Monthly Progress Schedules, Shop Drawings, Product Data and samples, Proposed product lists, executed Change Orders, and/or verified reports.

19.4.1.9 Failure of the Contractor to maintain As-Built Drawings.

19.4.1.10 Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Application for Payment.

19.4.1.11 Unauthorized deviations from the Contract Documents.

19.4.1.12 Failure of the Contractor to prosecute the Work in a timely manner in compliance with the Construction Schedule, established progress schedules, and/or completion dates.

19.4.1.13 Failure to provide acceptable electronic certified payroll records, as required by the Labor Code, by these Contract Documents, or by written request; for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or by each Subcontractor in connection with the Work for the period of the Application for Payment or if payroll records are delinquent or inadequate.

19.4.1.14 Failure to properly pay prevailing wages as required in Labor Code section 1720 et seq., failure to comply with any other Labor Code requirements, and/or failure to comply with labor compliance monitoring and enforcement by the DIR.

19.4.1.15 Allowing an unregistered subcontractor, as described in Labor Code section 1725.5, to engage in the performance of any work under this Contract.

19.4.1.16 Failure to comply with any applicable federal statutes and regulations regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon Act and related requirements, Contract Work Hours and Safety Standards Act requirements, if applicable.

19.4.1.17 Failure to properly maintain or clean up the Site.

19.4.1.18 Failure to timely indemnify, defend, or hold harmless the District.

19.4.1.19 Any payments due to the District, including but not limited to payments for failed tests, utilities changes, or permits.

19.4.1.20 Failure to pay Subcontractor(s) or supplier(s) as required by law and by the Contract Documents.

19.4.1.21 Failure to pay any royalty, license or similar fees.

19.4.1.22 Contractor is otherwise in breach, default, or in substantial violation of any provision of this Contract.

19.4.1.23 Failure to perform any implementation and/or monitoring required by any SWPPP for the Project and/or the imposition of any penalties or fines therefore whether imposed on the District or Contractor.

19.4.2 Reallocation of Withheld Amounts

19.4.2.1 District may, in its discretion, apply any withheld amount to pay outstanding claims or obligations as defined herein. In so doing, District shall make such payments on behalf of Contractor. If any payment is so made by District, then that amount shall be considered a payment made under Contract by District to Contractor and District shall not be liable to Contractor for any payment made in good faith. These payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of funds disbursed on behalf of Contractor.

19.4.2.2 If Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision thereof, District may, after **FORTY-EIGHT (48)** hours' written notice to the Contractor and, without prejudice to any other remedy, make good such deficiencies. The District shall adjust the total Contract Price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work that is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract Price (of at least one hundred fifty percent (150%) of the estimated reasonable value of the nonconforming Work) shall be made therefor.

19.4.3 Payment After Cure

When Contractor removes the grounds for declining approval, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.

19.5 Subcontractor Payments

19.5.1 Payments to Subcontractors

No later than seven (7) days after receipt, or pursuant to Business and Professions Code section 7108.5 and Public Contract Code section 7107, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to its Sub-subcontractors in a similar manner.

19.5.2 No Obligation of District for Subcontractor Payment

The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

19.5.3 Joint Checks

District shall have the right in its sole discretion, if necessary for the protection of the District, to issue joint checks made payable to the Contractor and Subcontractors and/or material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the District and a Subcontractor of any tier, or a material or equipment supplier, any obligation from the District to such Subcontractor or a material or equipment supplier, or rights in such Subcontractor or a material or equipment supplier against the District.

20. COMPLETION OF THE WORK

20.1 Completion

20.1.1 District will accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District.

20.1.2 The Work may only be accepted as complete by action of the governing board of the District.

20.1.3 District, at its sole option, may accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District, except for minor corrective items, as distinguished from incomplete items. If Contractor fails to complete all minor corrective items within fifteen (15) days after the date of the District's acceptance of completion, District shall withhold from the final payment one hundred fifty percent (150%) of an estimate of the amount sufficient to complete the corrective items, as determined by District, until the item(s) are completed.

20.1.4 At the end of the 15-day period, if there are any items remaining to be corrected, District may elect to proceed as provided herein related to adjustments to Contract Price, and/or District's right to perform the Work of the Contractor.

20.2 Close-Out/Certification Procedures

20.2.1 Punch List

The Contractor shall notify the Architect when Contractor considers the Work complete. Upon notification, Architect will prepare a list of minor items to be completed or corrected ("Punch List"). The 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.

20.2.2 Close-Out/Certification Requirements

20.2.2.1 Utility Connections

Buildings shall be connected to water, gas, sewer, and electric services, complete and ready for use. Service connections shall be made and existing services reconnected.

20.2.2.2 Record Drawings and Record Specifications

20.2.2.2.1 Contractor shall provide exact Record Drawings of the Work ("As-BUILTS") and Record Specifications upon completion of the Project and as a condition precedent to approval of final payment.

20.2.2.2.2 Contractor shall obtain the Inspector's approval of the corrected prints and employ a competent draftsman to transfer the Record Drawings information to the most current version of AutoCAD that is, at that time, currently utilized for plan check submission by either the District, the Architect, OPSC, and/or DSA, and print a complete set of transparent sepias. When completed, Contractor shall deliver corrected sepias and diskette/CD/other data storage device acceptable to District with AutoCAD file to the District.

20.2.2.2.3 Contractor is liable and responsible for any and all inaccuracies in the Record Drawings and Record Specifications, even if inaccuracies become evident at a future date.

20.2.2.3 Maintenance Manuals: Contractor shall prepare all operation and maintenance manuals and date as indicated in the Specifications.

20.2.2.4 Source Programming: Contractor shall provide all source programming for all items in the Project.

20.2.2.5 Verified Reports: Contractor shall completely and accurately fill out and file forms DSA 6-C or DSA 152 (or current form), as appropriate. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

20.3 Final Inspection

20.3.1 Contractor shall comply with Punch List procedures as provided herein, 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 without District's prior written approval. 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, Architect and Project Inspector will inspect the Work and shall submit to Contractor and District a final inspection report noting the Work, if any, required in order to complete in accordance with the Contract Documents. Absent unusual circumstances, this report shall consist of the Punch List items not yet satisfactorily completed.

20.3.2 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 Architect finds the Work complete and acceptable under the Contract Documents, the Architect will notify Contractor, who shall then jointly submit to the Architect and the District its final Application for Payment.

20.3.3 Final Inspection Requirements

20.3.3.1 Before calling for final inspection, Contractor shall determine that the following have been performed:

20.3.3.1.1 The Work has been completed.

20.3.3.1.2 All life safety items are completed and in working order.

20.3.3.1.3 Mechanical and electrical Work are complete and tested, fixtures are in place, connected, and ready for tryout.

20.3.3.1.4 Electrical circuits scheduled in panels and disconnect switches labeled.

20.3.3.1.5 Painting and special finishes complete.

20.3.3.1.6 Doors complete with hardware, cleaned of protective film, relieved of sticking or binding, and in working order.

20.3.3.1.7 Tops and bottoms of doors sealed.

20.3.3.1.8 Floors waxed and polished as specified.

20.3.3.1.9 Broken glass replaced and glass cleaned.

20.3.3.1.10 Grounds cleared of Contractor's equipment, raked clean of debris, and trash removed from Site.

20.3.3.1.11 Work cleaned, free of stains, scratches, and other foreign matter, and damaged and broken material replaced.

20.3.3.1.12 Finished and decorative work shall have marks, dirt, and superfluous labels removed.

20.3.3.1.13 Final cleanup, as provided herein.

20.4 Costs of Multiple Inspections

More than two (2) requests of the District to make a final inspection shall be considered an additional service of District, Architect, Construction Manager, and/or Project Inspector, and all subsequent costs will be invoiced to Contractor and if funds are available, withheld from remaining payments.

20.5 Partial Occupancy or Use Prior to Completion

20.5.1 District's Rights to Occupancy

The District may occupy or use any completed or partially completed portion of the Work at any stage, and such occupancy shall not constitute the District's Final Acceptance of any part of the Work. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve the Contractor or

the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein. In the event that the District occupies or uses any completed or partially completed portion of the Work, the Contractor shall remain responsible for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents unless the Contractor requests in writing, and the District agrees, to otherwise divide those responsibilities. Any dispute as to responsibilities shall be resolved pursuant to the Claims and Disputes provisions herein, with the added provision that during the dispute process, the District shall have the right to occupy or use any portion of the Work that it needs or desires to use.

20.5.2 Inspection Prior to Occupancy or Use

Immediately prior to partial occupancy or use, the District, the Contractor, and the Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

20.5.3 No Waiver

Unless otherwise agreed upon, partial or entire occupancy or use of a portion or portions of the Work shall not constitute beneficial occupancy or acceptance of the Work not complying with the requirements of the Contract Documents.

21. FINAL PAYMENT AND RETENTION

21.1 Final Payment

Upon receipt and approval of a valid and final Application for Payment, the Architect will issue a final Certificate of Payment. The District shall thereupon jointly inspect the Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon acceptance of the Work of the Contractor as fully complete by the Governing Board of the District (that, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of final payment from the District, pay the amount due Subcontractors.

21.2 Prerequisites for Final Payment

The following conditions must be fulfilled prior to Final Payment:

21.2.1 A full release of all Stop Payment Notices served in connection with the Work shall be submitted by Contractor.

21.2.2 A duly completed and executed conditional waiver and release upon final payment compliant with Civil Code section 8136, from the Contractor and each subcontractor of any tier and supplier to be paid from the final payment.

21.2.3 A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134, from the Contractor and

each subcontractor of any tier and supplier that was paid from the previous progress payments.

21.2.4 A duly completed and executed Document 00 65 19.26, "AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS" from the Contractor.

21.2.5 The Contractor shall have made all corrections to the Work that are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District required under the Contract Documents.

21.2.6 Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, and bonds required by the Contract Documents for its portion of the Work.

21.2.7 Contractor must have completed all requirements set forth under "Close-Out/Certification Procedures," including, without limitation, submission of an approved set of complete Record Drawings.

21.2.8 Architect shall have issued its written approval that final payment can be made.

21.2.9 The Contractor shall have delivered to the District all manuals and materials required by the Contract Documents, which must be approved by the District.

21.2.10 The Contractor shall have completed final clean-up as provided herein.

21.3 Retention

21.3.1 The retention, less any amounts disputed by the District or that the District has the right to withhold pursuant to provisions herein, shall be paid:

21.3.1.1 After approval by the Architect of the Application and Certificate of Payment,

21.3.1.2 After the satisfaction of the conditions set forth herein, and

21.3.1.3 After forty-five (45) days after the recording of the Notice of Completion by District.

21.3.2 No interest shall be paid on any retention, or on any amounts withheld due to a failure of the Contractor to perform, in accordance with the terms and conditions of the Contract Documents, except as provided to the contrary in any Escrow Agreement between the District and the Contractor pursuant to Public Contract Code section 22300.

21.4 Substitution of Securities

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300.

22. UNCOVERING OF WORK

If a portion of the Work is covered without Inspector or Architect approval or not in compliance with the Contract Documents, it must, if required in writing by the District, the Project Inspector, or the Architect, be uncovered for the Project Inspector's or the Architect's observation and be corrected, replaced, and/or recovered at the Contractor's expense without change in the Contract Price or Contract Time.

23. NONCONFORMING WORK AND CORRECTION OF WORK

23.1 Nonconforming Work

23.1.1 Contractor shall promptly remove from Premises all Work identified by District as failing to conform to the Contract Documents whether incorporated or not. Contractor shall promptly replace and re-execute its own Work to comply with the Contract Documents without additional expense to the District and shall bear the expense of making good all work of other contractors destroyed or damaged by any removal or replacement pursuant hereto and/or any delays to the District or other Contractors caused thereby.

23.1.2 If Contractor does not remove Work that District has identified as failing to conform to the Contract Documents within a reasonable time, not to exceed **FORTY-EIGHT (48)** hours, District may remove it and may store any material at Contractor's expense. If Contractor does not pay expense(s) of that removal within ten (10) days' time thereafter, District may, upon ten (10) days' written notice, sell any material at auction or at private sale and shall deduct all costs and expenses incurred by the District and/or District may withhold those amounts from payment(s) to Contractor.

23.2 Correction of Work

23.2.1 Correction of Rejected Work

Pursuant to the notice provisions herein, the Contractor shall immediately correct the Work rejected by the District, the Architect, or the Project Inspector as failing to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not fabricated, installed, or completed. The Contractor shall bear costs of correcting the rejected Work, including additional testing, inspections, and compensation for the Inspector's or the Architect's services and expenses made necessary thereby.

23.2.2 Two-Year Warranty Corrections

If, within two (2) years after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties established hereunder, or by the terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the District to do so. This period of two (2) years shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation hereunder shall survive acceptance of the Work under the

Contract and termination of the Contract. The District shall give such notice promptly after discovery of the condition.

23.3 District's Right to Perform Work

23.3.1 If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this contract, the District, after **FORTY-EIGHT (48)** hours written notice to the Contractor, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

23.3.2 If it is found at any time, before or after completion of the Work, that Contractor has varied from the Drawings and/or Specifications, including, but not limited to, variation in material, quality, form, or finish, or in the amount or value of the materials and labor used, District may require at its option:

23.3.2.1 That all such improper Work be removed, remade or replaced, and all work disturbed by these changes be made good by Contractor at no additional cost to the District;

23.3.2.2 That the District deduct from any amount due Contractor the sum of money equivalent to the difference in value between the work performed and that called for by the Drawings and Specifications; or

23.3.2.3 That the District exercise any other remedy it may have at law or under the Contract Documents, including but not limited to the District hiring its own forces or another contractor to replace the Contractor's nonconforming Work, in which case the District shall either issue a deductive Change Order, a Construction Change Directive, or invoice the Contractor for the cost of that work. Contractor shall pay any invoices within thirty (30) days of receipt of same or District may withhold those amounts from payment(s) to Contractor.

24. TERMINATION AND SUSPENSION

24.1 District's Right to Terminate Contractor for Cause

24.1.1 Grounds for Termination: The District, in its sole discretion, may terminate the Contract and/or terminate the Contractor's right to perform the work of the Contract based upon any of the following:

24.1.1.1 Contractor refuses or fails to execute the Work or any separable part thereof with sufficient diligence as will ensure its completion within the time specified or any extension thereof, or

24.1.1.2 Contractor fails to complete said Work within the time specified or any extension thereof, or

24.1.1.3 Contractor persistently fails or refused to perform Work or provide material of sufficient quality as to be in compliance with Contract Documents; or

24.1.1.4 Contractor persistently or repeatedly refuses fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials to complete the Work in the time specified; or

24.1.1.5 Contractor fails to make prompt payment to Subcontractors, or for material, or for labor; or

24.1.1.6 Contractor persistently disregards laws, or ordinances, or instructions of District; or

24.1.1.7 Contractor fails to supply labor, including that of Subcontractors, that is sufficient to prosecute the Work or that can work in harmony with all other elements of labor employed or to be employed on the Work; or

24.1.1.8 Contractor or its Subcontractor(s) is/are otherwise in breach, default, or in substantial violation of any provision of this Contract, including but not limited to a lapse in licensing or registration.

24.1.2 Notification of Termination

24.1.2.1 Upon the occurrence at District's sole determination of any of the above conditions, District may, without prejudice to any other right or remedy, serve written notice upon Contractor and its Surety of District's termination of this Contract and/or the Contractor's right to perform the work of the Contract. This notice will contain the reasons for termination. Unless, within three (3) days after the service of the notice, any and all condition(s) shall cease, and any and all violation(s) shall cease, or arrangement satisfactory to District for the correction of the condition(s) and/or violation(s) be made, this Contract shall cease and terminate. Upon Termination, Contractor shall not be entitled to receive any further payment until the entire Work is finished.

24.1.2.2 Upon Termination, District may immediately serve written notice of tender upon Surety whereby Surety shall have the right to take over and perform this Contract only if Surety:

24.1.2.2.1 Within three (3) days after service upon it of the notice of tender, gives District written notice of Surety's intention to take over and perform this Contract; and

24.1.2.2.2 Commences performance of this Contract within three (3) days from date of serving of its notice to District.

24.1.2.3 Surety shall not utilize Contractor in completing the Project if the District notifies Surety of the District's objection to Contractor's further participation in the completion of the Project. Surety expressly agrees that any contractor which Surety proposes to fulfill Surety's obligations is subject to District's approval. District's approval shall not be unreasonably withheld, conditioned or delayed.

24.1.2.4 If Surety fails to notify District or begin performance as indicated herein, District may take over the Work and execute the Work to completion by any method it may deem advisable at the expense of Contractor and/or its

Surety. Contractor and/or its Surety shall be liable to District for any excess cost or other damages the District incurs thereby. Time is of the essence in this Contract. If the District takes over the Work as herein provided, District may, without liability for so doing, take possession of and utilize in completing the Work such materials, appliances, plan, and other property belonging to Contractor as may be on the Site of the Work, in bonded storage, or previously paid for.

24.1.3 Effect of Termination

24.1.3.1 Contractor shall, only if ordered to do so by the District, immediately remove from the Site all or any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The District retains the right, but not the obligation, to keep and use any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The Contractor and its Surety shall be liable upon the performance bond for all damages caused to the District by reason of the Contractor's failure to complete the Contract.

24.1.3.2 In the event that the District shall perform any portion of, or the whole of the Work, pursuant to the provisions of the General Conditions, the District shall not be liable nor account to the Contractor in any way for the time within which, or the manner in which, the Work is performed by the District or for any changes the District may make in the Work or for the money expended by the District in satisfying claims and/or suits and/or other obligations in connection with the Work.

24.1.3.3 In the event that the Contract is terminated for any reason, no allowances or compensation will be granted for the loss of any anticipated profit by the Contractor or any impact or impairment of Contractor's bonding capacity.

24.1.3.4 If the expense to the District to finish the Work exceeds the unpaid Contract Price, Contractor and Surety shall pay difference to District within twenty-one (21) days of District's request.

24.1.3.5 The District shall have the right (but shall have no obligation) to assume and/or assign to a general contractor or construction manager or other third party who is qualified and has sufficient resources to complete the Work, the rights of the Contractor under its subcontracts with any or all Subcontractors. In the event of an assumption or assignment by the District, no Subcontractor shall have any claim against the District or third party for Work performed by Subcontractor or other matters arising prior to termination of the Contract. The District or any third party, as the case may be, shall be liable only for obligations to the Subcontractor arising after assumption or assignment. Should the District so elect, the Contractor shall execute and deliver all documents and take all steps, including the legal assignment of its contractual rights, as the District may require, for the purpose of fully vesting in the District the rights and benefits of its Subcontractor under Subcontracts or other obligations or commitments. All payments due the Contractor hereunder shall be subject to a right of offset by the District for expenses and damages suffered by the District as a result of any

default, acts, or omissions of the Contractor. Contractor must include this assignment provision in all of its contracts with its Subcontractors.

24.1.3.6 The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to District.

24.1.4 Emergency Termination of Public Contracts Act of 1949

24.1.4.1 This Contract is subject to termination as provided by sections 4410 and 4411 of the Government Code of the State of California, being a portion of the Emergency Termination of Public Contracts Act of 1949.

24.1.4.1.1 Section 4410 of the Government Code states:

In the event a national emergency occurs, and public work, being performed by contract, is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor, as the result of an order or a proclamation of the President of the United States, or of an order of any federal authority, and the circumstances or conditions are such that it is impracticable within a reasonable time to proceed with a substantial portion of the work, then the public agency and the contractor may, by written agreement, terminate said contract.

24.1.4.1.2 Section 4411 of the Government Code states:

Such an agreement shall include the terms and conditions of the termination of the contract and provision for the payment of compensation or money, if any, which either party shall pay to the other or any other person, under the facts and circumstances in the case.

24.1.4.2 Compensation to the Contractor shall be determined at the sole discretion of District on the basis of the reasonable value of the Work done, including preparatory work. As an exception to the foregoing and at the District's discretion, in the case of any fully completed separate item or portion of the Work for which there is a separate previously submitted unit price or item on the accepted schedule of values, that price shall control. The District, at its sole discretion, may adopt the Contract Price as the reasonable value of the work done or any portion thereof.

24.2 Termination of Contractor for Convenience

24.2.1 District in its sole discretion may terminate the Contract upon three (3) days' written notice to the Contractor. Under a termination for convenience, the District retains the right to all the options available to the District if there is a termination for cause. In case of a termination for convenience, the Contractor shall have no claims against the District except:

24.2.1.1 The actual cost for labor, materials, and services performed that is unpaid and adequately documented through timesheets, invoices, receipts, or otherwise, and

24.2.1.2 Five percent (5%) of the total cost of work performed as of the date of termination, or five percent (5%) of the value of the Work yet to be performed, whichever is less. This five percent (5%) amount shall be full compensation for all Contractor's and Subcontractor(s)' mobilization and/or demobilization costs and any anticipated loss profits resulting from termination of the Contractor for convenience.

24.3 Suspension of Work

24.3.1 District in its sole discretion may suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine upon three (3) days written notice to the Contractor.

24.3.1.1 An adjustment may be made for changes in the cost of performance of the Work caused by any such suspension, delay or interruption. No adjustment shall be made to the extent:

24.3.1.1.1 That performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or

24.3.1.1.2 That an equitable adjustment is made or denied under another provision of the Contract; or

24.3.1.1.3 That the suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder.

24.3.1.2 Any adjustments in cost of performance may have a fixed or percentage fee as provided in the section on Format for Proposed Change Order herein. This amount shall be full compensation for all Contractor's and it's Subcontractor(s)' changes in the cost of performance of the Contract caused by any such suspension, delay or interruption.

25. CLAIMS PROCESS

25.1 Performance during Claim Process

Contractor and its subcontractors shall continue to perform its Work under the Contract and shall not cause a delay of the Work during any dispute, claim, negotiation, mediation, or arbitration proceeding, except by written agreement by the District.

25.2 Definition of Claim

25.2.1 Pursuant to Public Contract Code section 9204, the term "Claim" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

25.2.1.1 A time extension, including without limitation, for relief of damages or penalties for delay assessed by the District under the Contract;

25.2.1.2 Payment by the District of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the Contract and payment of

which is not otherwise expressly provided for or to which Contractor is not otherwise entitled to; or

25.2.1.3 An amount of payment disputed by the District.

25.3 Claims Presentation

25.3.1 If Contractor intends to apply for an increase in the Contract Price or Contract Time for any reason including, without limitation, the acts of District or its agents, Contractor shall, within thirty (30) days after the event giving rise to the Claim, give notice of the Claim in writing, including an itemized statement of the details and amounts of its Claim for any increase in the Contract Price of Contract Time, including a Schedule Analysis and any and all other documentation substantiating Contractor's claimed damages. Otherwise, Contractor shall have waived and relinquished its dispute against the District and Contractor's claims for compensation or an extension of time shall be forfeited and invalidated. Likewise, failure to timely submit a claim and the requisite supporting documentation shall constitute a waiver of such claim.

25.3.2 The Claim shall identify:

25.3.2.1 The issues, events, conditions, circumstances and/or causes giving rise to the dispute, and shall show, in detail, the cause and effect of same;

25.3.2.2 The pertinent dates and/or durations and actual and/or anticipated effects on the Contract Price, Contract Schedule milestones and/or Contract Time adjustments;

25.3.2.3 The line-item costs for labor, material, and/or equipment, if applicable; or

25.3.2.4 A request by Contractor, if any, to waive the claims procedure under Public Contract Code section 9204 and proceed directly to the commencement of a civil action or binding arbitration.

25.3.3 The Claim shall include the following certification by the Contractor:

25.3.3.1 The undersigned Contractor certifies under penalty of perjury that the attached dispute is made in good faith; that the supporting data is accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the adjustment for which Contractor believes the District is liable; and that I am duly authorized to certify the dispute on behalf of the Contractor.

25.3.3.2 Furthermore, Contractor understands that the value of the attached dispute expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from the Work performed on the Project, additional time required on the Project and/or resulting from delay to the Project. Contractor may not separately recover for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

25.4 Claim Resolution pursuant to Public Contract Code section 9204

25.4.1 STEP 1:

25.4.1.1 Upon receipt of a Claim by registered or certified mail, return receipt requested, including the documents necessary to substantiate it, the District shall conduct a reasonable review of the Claim and, within a period **not to exceed 45 days**, shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and Contractor may, **by mutual agreement, extend the time period** to provide a written statement. If the District needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of Claim sent by registered mail or certified mail, return receipt requested, the District shall have **up to three (3) days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension**, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

25.4.1.1.1 Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

25.4.1.2 Upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable. In this instance, District and Contractor must comply with the sections below regarding Public Contract Code section 20104 et seq. and Government Code Claim Act Claims.

25.4.1.3 If the District fails to issue a written statement, or to otherwise meet the time requirements of this section, this shall result in the Claim being deemed rejected in its entirety. A Claim that is denied by reason of the District's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of Contractor.

25.4.2 STEP 2:

25.4.2.1 If Contractor disputes the District's written response, or if the District fails to respond to a Claim within the time prescribed, Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute. Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed.

25.4.2.1.1.1 Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

25.4.3 STEP 3:

25.4.3.1 Any disputed portion of the Claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with the District and Contractor sharing the associated costs equally. The District and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this section.

25.4.3.1.1 For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

25.4.3.2 Unless otherwise agreed to by the District and Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code section 20104.4 to mediate after litigation has been commenced.

25.4.4 STEP 4:

25.4.4.1 If mediation under this section does not resolve the parties' dispute, the District may, but does not require arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program.

25.5 Subcontractor Pass-Through Claims

25.5.1 If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a District because privity of contract does not exist, the contractor may present to the District a Claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that Contractor present a Claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the Claim be presented to the District shall furnish reasonable documentation to support the Claim.

25.5.2 Within 45 days of receipt of this written request from a subcontractor, Contractor shall notify the subcontractor in writing as to whether the Contractor

presented the Claim to the District and, if Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

25.5.3 The Contractor shall bind all its Subcontractors to the provisions of this section and will hold the District harmless against Claims by Subcontractors.

25.6 Government Code Claim Act Claim

25.6.1 If a claim, or any portion thereof, remains in dispute upon satisfaction of all applicable Claim Resolution requirements, including those pursuant to Public Contract Code section 9204, the Contractor shall comply with all claims presentation requirements as provided in Chapter 1 (commencing with section 900) and Chapter 2 (commencing with section 910) of Part 3 of Division 3.6 of Title 1 of Government Code as a condition precedent to the Contractor's right to bring a civil action against the District. For purposes of those provisions, the running of the time within which a claim must be presented to the District shall be tolled from the time Contractor submits its written Claim until the time the Claim is denied, including any time utilized by any applicable meet and confer process.

25.7 Claim Resolution pursuant to Public Contract Code section 20104 et seq.

25.7.1 In the event of a disagreement between the parties as to performance of the Work, the interpretation of this Contract, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve all claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between Contractor and District by those procedures set forth in Public Contract Code section 20104, et seq., to the extent applicable.

25.7.1.1 Contractor shall file with the District any written Claim, including the documents necessary to substantiate it, upon the application for final payment.

25.7.1.2 For claims of less than fifty thousand dollars (\$50,000), the District shall respond in writing within forty-five (45) days of receipt of the Claim or may request in writing within thirty (30) days of receipt of the Claim any additional documentation supporting the Claim or relating to defenses or claims the District may have against the Contractor.

25.7.1.2.1 If additional information is required, it shall be requested and provided by mutual agreement of the parties.

25.7.1.2.2 District's written response to the documented Claim shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor to produce the additional information, whichever is greater.

25.7.1.3 For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the District shall respond in writing to all written Claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the Claim any additional documentation supporting the Claim or relating to defenses or claims the District may have against the Contractor.

25.7.1.3.1 If additional information is required, it shall be requested and provided upon mutual agreement of the District and the Contractor.

25.7.1.3.2 The District's written response to the Claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor to produce the additional information or requested documentation, whichever is greater.

25.7.1.4 If Contractor disputes the District's written response, or the District fails to respond within the time prescribed, Contractor may so notify the District, in writing, either within fifteen (15) days of receipt of the District's response or within fifteen (15) days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

25.7.1.5 Following the meet and confer conference, if the Claim or any portion of it remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions the running of the time within which a claim must be filed shall be tolled from the time the Contractor submits its written Claim until the time the Claim is denied, including any period of time utilized by the meet and confer process.

25.7.1.6 For any civil action filed to resolve claims filed pursuant to this section, within sixty (60) days, but no earlier than thirty (30) days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

25.7.1.7 If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of the Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986, (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

25.7.1.8 The District shall not fail to pay money as to any portion of a Claim which is undisputed except as otherwise provided in the Contract Documents. In any suit filed pursuant to this section, the District shall pay interest due at the legal rate on any arbitration award or judgment. Interest shall begin to accrue on the date the suit is filed in a court of law.

25.7.2 Contractor shall bind its Subcontractors to the provisions of this Section and will hold the District harmless against disputes by Subcontractors.

25.8 Claim Resolution Non-Applicability

25.8.1 The procedures for dispute and claim resolutions set forth in this Article shall not apply to the following:

25.8.1.1 Personal injury, wrongful death or property damage claims;

25.8.1.2 Latent defect or breach of warranty or guarantee to repair;

25.8.1.3 Stop payment notices;

25.8.1.4 District's rights set forth in the Article on Suspension and Termination;

25.8.1.5 Disputes arising out of labor compliance enforcement by the Department of Industrial Relations; or

25.8.1.6 District rights and obligations as a public entity set forth in applicable statutes; provided, however, that penalties imposed against a public entity by statutes, including, but not limited to, Public Contract Code sections 20104.50 and 7107, shall be subject to the Claim Resolution requirements provided in this Article.

25.9 Attorney's Fees

25.9.1 Should litigation be necessary to enforce any terms or provisions of this Agreement, then each party shall bear its own litigation and collection expenses, witness fees, court costs and attorney's fees.

26. STATE LABOR, WAGE & HOUR, APPRENTICE, AND RELATED PROVISIONS

26.1 Labor Compliance and Enforcement

Since this Project is subject to labor compliance and enforcement by the Department of Industrial Relations ("DIR"), Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code and Title 8 of the California Code of Regulations, including, without limitation, the requirement that the Contractor and all Subcontractors shall timely furnish complete and accurate electronic certified payroll records directly to the DIR. The District may not issue payment if this requirement is not met.

26.2 Wage Rates, Travel, and Subsistence

26.2.1 Pursuant to the provisions of Article 2 (commencing at section 1770), Chapter 1, Part 7, Division 2, of the Labor Code, the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification, or type of worker needed to execute this Contract are on file at the District's principal

office and copies will be made available to any interested party on request. Contractor shall obtain and post a copy of these wage rates at the job site.

26.2.2 Holiday and overtime work, when permitted by law, shall be paid for at the general prevailing rate of per diem wages for holiday and overtime work on file with the Director of the Department of Industrial Relations, unless otherwise specified. The holidays upon which those rates shall be paid need not be specified by the District, but shall be all holidays recognized in the applicable collective bargaining agreement. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code.

26.2.3 Contractor shall pay and shall cause to be paid each worker engaged in Work on the Project the general prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between Contractor or any Subcontractor and such workers.

26.2.4 If during the period this bid is required to remain open, the Director of the Department of Industrial Relations determines that there has been a change in any prevailing rate of per diem wages in the locality in which the Work under the Contract is to be performed, such change shall not alter the wage rates in the Notice to Bidders or the Contract subsequently awarded.

26.2.5 Pursuant to Labor Code section 1775, Contractor shall, as a penalty to District, forfeit the statutory amount (believed by the District to be currently up to two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates, determined by the District and/or the Director, for the work or craft in which that worker is employed for any public work done under Contract by Contractor or by any Subcontractor under it. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by Contractor.

26.2.6 Any worker employed to perform Work on the Project, which Work is not covered by any classification listed in the general prevailing wage rate of per diem wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by him, and such minimum wage rate shall be retroactive to time of initial employment of such person in such classification.

26.2.7 Pursuant to Labor Code section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, subsistence pay, and apprenticeship or other training programs authorized by Labor Code section 3093, and similar purposes.

26.2.8 Contractor shall post at appropriate conspicuous points on the Site of Project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned. In addition, Contractor shall post a sign-in log for all workers and visitors to the Site, a list of all subcontractors of any tier on the Site, and the required Equal Employment Opportunity poster(s).

26.3 Hours of Work

26.3.1 As provided in article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by Contractor or by any Subcontractor on any subcontract under this Contract upon the Work or upon any part of the Work contemplated by this Contract shall be limited and restricted by Contractor to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, Work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

26.3.2 Contractor shall keep and shall cause each Subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by Contractor in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of District and to the Division of Labor Standards Enforcement of the DIR.

26.3.3 Pursuant to Labor Code section 1813, Contractor shall as a penalty to the District forfeit the statutory amount (believed by the District to be currently twenty-five dollars (\$25)) for each worker employed in the execution of this Contract by Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code.

26.3.4 Any Work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to the District.

26.4 Payroll Records

26.4.1 Contractor shall upload, and shall cause each Subcontractor performing any portion of the Work under this Contract to upload, an accurate and complete certified payroll record ("CPR") electronically using DIR's eCPR System by uploading the CPRs by electronic XML file or entering each record manually using the DIR's iform (or current form) online on a weekly basis and within ten (10) days of any request by the District or Labor Commissioner at <http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html> or current application and URL, showing the name, address, social security number, work classification, straight-time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work.

26.4.1.1 The CPRs enumerated hereunder shall be filed directly with the DIR on a weekly basis or to the requesting party, whether the District or DIR, within ten (10) days after receipt of each written request. The CPRs from the Contractor and each Subcontractor for each week shall be provided on or before Wednesday

of the week following the week covered by the CPRs. District may not make any payment to Contractor until:

26.4.1.1.1 Contractor and/or its Subcontractor(s) provide CPRs acceptable to the DIR; and

26.4.1.1.2 Any delay in Contractor and/or its Subcontractor(s) providing CPRs to the DIR in a timely manner may directly delay Contractor's payment.

26.4.2 All CPRs shall be available for inspection at all reasonable hours at the principal office of Contractor on the following basis:

26.4.2.1 A certified copy of an employee's CPR shall be made available for inspection or furnished to the employee or his/her authorized representative on request.

26.4.2.2 CPRs shall be made available for inspection or furnished upon request to a representative of District, Division of Labor Standards Enforcement, Division of Apprenticeship Standards, and/or the DIR.

26.4.2.3 CPRs shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through the District, Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested CPRs have not been provided pursuant to the provisions herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Contractor.

26.4.3 Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by District, Division of Apprenticeship Standards, or Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of Contractor awarded Contract or performing Contract shall not be marked or obliterated.

26.4.4 Contractor shall inform District of the location of the records enumerated hereunder, including the street address, city, and county, and shall, within five (5) working days, provide a notice of change of location and address.

26.4.5 In the event of noncompliance with the requirements of this section, Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects Contractor must comply with this section. Should noncompliance still be evident after the ten (10) day period, Contractor shall, as a penalty to District, forfeit up to one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Labor Commissioner, these penalties shall be withheld from progress payments then due.

26.4.6 **[RESERVED]**

26.5 [RESERVED]

26.6 Apprentices

26.6.1 Contractor acknowledges and agrees that, if this Contract involves a dollar amount greater than or a number of working days greater than that specified in Labor Code section 1777.5, then this Contract is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of Contractor to ensure compliance with this Article and with Labor Code section 1777.5 for all apprenticeship occupations.

26.6.2 Apprentices of any crafts or trades may be employed and, when required by Labor Code section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.

26.6.3 Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which she/he is registered.

26.6.4 Only apprentices, as defined in section 3077 of the Labor Code, who are in training under apprenticeship standards and written apprentice agreements under chapter 4 (commencing at section 3070), division 3, of the Labor Code, are eligible to be employed. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.

26.6.5 Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractors employing workers in any apprenticeable craft or trade in performing any Work under this Contract shall apply to the applicable joint apprenticeship committee for a certificate approving the Contractor or Subcontractor under the applicable apprenticeship standards and fixing the ratio of apprentices to journeymen employed in performing the Work.

26.6.6 Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractor may be required to make contributions to the apprenticeship program.

26.6.7 If Contractor or Subcontractor willfully fails to comply with Labor Code section 1777.5, then, upon a determination of noncompliance by the Administrator of Apprenticeship, it shall:

26.6.7.1 Be denied the right to bid on any subsequent project for one (1) year from the date of such determination;

26.6.7.2 Forfeit as a penalty to District the full amount as stated in Labor Code section 1777.7. Interpretation and enforcement of these provisions shall be in accordance with the rules and procedures of the California Apprenticeship Council and under the authority of the Chief of the Division of Apprenticeship Standards.

26.6.8 Contractor and all Subcontractors shall comply with Labor Code section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.

26.6.9 Contractor shall become fully acquainted with the law regarding apprentices prior to commencement of the Work. Special attention is directed to sections 1777.5, 1777.6, and 1777.7 of the Labor Code, and title 8, California Code of Regulations, section 200 et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, 9th floor, San Francisco, California 94102.

26.7 Non-Discrimination

26.7.1 Contractor herein agrees not to discriminate in its recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, national origin, ancestry, sex, age, or physical handicap in the performance of this Contract and to comply with the provisions of the California Fair Employment and Housing Act as set forth in part 2.8 of division 3 of the California Government Code, commencing at section 12900; the Federal Civil Rights Act of 1964, as set forth in Public Law 88-352, and all amendments thereto; Executive Order 11246; and all administrative rules and regulations found to be applicable to Contractor and Subcontractor.

26.7.2 Special requirements for Federally Assisted Construction Contracts: During the performance of this Contract, Contractor agrees to incorporate in all subcontracts the provisions set forth in Chapter 60-1.4(b) of Title 41 published in Volume 33 No. 104 of the Federal Register dated May 28, 1968.

26.8 Labor First Aid

Contractor shall maintain emergency first aid treatment for Contractor's workers on the Project which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.) and the California Occupational Safety and Health Act of 1973 (Lab. Code, § 6300 et seq.; 8 Cal. Code of Regs., § 330 et seq.).

27. [RESERVED]

28. MISCELLANEOUS

28.1 Assignment of Antitrust Actions

28.1.1 Section 7103.5(b) of the Public Contract Code states:

In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, which assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

28.1.2 Section 4552 of the Government Code states:

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

28.1.3 Section 4553 of the Government Code states:

If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

28.1.4 Section 4554 of the Government Code states:

Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

28.1.5 Under this Article, "public purchasing body" is District and "bidder" is Contractor.

28.2 **Excise Taxes**

If, under Federal Excise Tax Law, any transaction hereunder constitutes a sale on which a Federal Excise Tax is imposed and the sale is exempt from such Federal Excise Tax because it is a sale to a State or Local Government for its exclusive use, District, upon request, will execute documents necessary to show (1) that District is a political subdivision of the State for the purposes of such exemption, and (2) that the sale is for the exclusive use of District. No Federal Excise Tax for such materials shall be included in any Contract Price.

28.3 **Taxes**

Contract Price is to include any and all applicable sales taxes or other taxes that may be due in accordance with section 7051 et seq. of the Revenue and Taxation Code, Regulation 1521 of the State Board of Equalization or any other tax code that may be applicable.

28.4 **Shipments**

All shipments must be F.O.B. destination to Site or sites, as indicated in the Contract Documents. There must be no charge for containers, packing, unpacking, drayage, or

insurance. The total Contract Price shall be all inclusive (including sales tax) and no additional costs of any type will be considered.

28.5 Compliance with Government Reporting Requirements

If this Contract is subject to federal or other governmental reporting requirements because of federal or other governmental financing in whole or in part for the Project of which it is part, or for any other reason, Contactor shall comply with those reporting requirements at the request of the District at no additional cost.

END OF DOCUMENT

SPECIAL CONDITIONS

1. Mitigation Measures

Contractor shall comply with all applicable mitigation measures, if any, adopted by any public agency with respect to this Project pursuant to the California Environmental Quality Act. (Public Resources Code section 21000 *et seq.*)

2. Modernization Projects

2.1 Access. Access to the school buildings and entry to buildings, classrooms, restrooms, mechanical rooms, electrical rooms, or other rooms, for construction purposes, must be coordinated with District and onsite District personnel before Work is to start. Unless agreed to otherwise in writing, only a school custodian will be allowed to unlock and lock doors in existing building(s). The custodian will be available only while school is in session. If a custodian is required to arrive before 7:00 a.m. or leave after 3:30 p.m. to accommodate Contractor's Work, the overtime wages for the custodian will be paid by the Contractor, unless at the discretion of the District, other arrangements are made in advance.

2.2 Keys. Upon request, the District may, at its own discretion, provide keys to the school site for the convenience of the Contractor. The Contractor agrees to pay all expenses to re-key the entire school site and all other affected District buildings if the keys are lost or stolen, or if any unauthorized party obtains a copy of the key or access to the school.

2.3 Maintaining Services. The Contractor is advised that Work is to be performed in spaces regularly scheduled for instruction. Interruption and/or periods of shutdown of public access, electrical service, water service, lighting, or other utilities shall be only as arranged in advance with the District. Contractor shall provide temporary services to all facilities interrupted by Contractor's Work.

2.4 Maintaining Utilities. The Contractor shall maintain in operation during duration of Contract, drainage lines, storm drains, sewers, water, gas, electrical, steam, and other utility service lines within working area.

2.5 Confidentiality. Contractor shall maintain the confidentiality of all information, documents, programs, procedures and all other items that Contractor encounters while performing the Work. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes, without limitation, all student, parent, and employee disciplinary information and health information.

2.6 Work during Instructional Time. By submitting its bid, Contractor affirms that Work may be performed during ongoing instruction in existing facilities. If so, Contractor agrees to cooperate to the best of its ability to minimize any

disruption to school operations and any use of school facilities by the public up to, and including, rescheduling specific work activities, at no additional cost to District.

2.7 No Work during Student Testing. Contractor shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests.

3. Badge Policy for Contractors

All Contractors doing work for the District will provide their workers with identification badges. These badges will be worn by all members of the Contractor's staff who are working in a District facility.

3.1 Badges must be filled out in full and contain the following information:

3.1.1 Name of Contractor

3.1.2 Name of Employee

3.1.3 Contractor's address and phone number

3.2 Badges are to be worn when the Contractor or his/her employees are on site and must be visible at all times. Contractors must inform their employees that they are required to allow District employees, the Architect, the Construction Manager, the Program Manager, or the Project Inspector to review the information on the badges upon request.

3.3 Continued failure to display identification badges as required by this policy may result in the individual being removed from the Project or assessment of fines against the Contractor.

4. Substitution for Specified Items

4.1 Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Contractor may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified.

4.1.1 If the material, process, or article offered by Contractor is not, in the opinion of the District, substantially equal or better in every respect to that specified, then Contractor shall furnish the material, process, or article specified in the Specifications without any additional compensation or change order.

4.1.2 This provision shall not be applicable with respect to any material, product, thing or service for which District made findings and gave notice in accordance with Public Contract Code section 3400(c); therefore, Contractor shall not be entitled to request a substitution with respect to those materials, products or services.

4.2 A request for a substitution shall be submitted as follows:

4.2.1 Contractor shall notify the District in writing of any request for a substitution at least ten (10) days prior to bid opening as indicated in the Instructions to Bidders.

4.2.2 Requests for Substitutions after award of the Contract shall be submitted within thirty-five (35) days of the date of the Notice of Award.

4.3 Within 35 days after the date of the Notice of Award, Contractor shall provide data substantiating a request for substitution of "an equal" item, including but not limited to the following:

4.3.1 All variations of the proposed substitute from the material specified including, but not limited to, principles of operation, materials, or construction finish, thickness or gauge of materials, dimensions, weight, and tolerances;

4.3.2 Available maintenance, repair or replacement services;

4.3.3 Increases or decreases in operating, maintenance, repair, replacement, and spare parts costs;

4.3.4 Whether or not acceptance of the substitute will require other changes in the Work (or in work performed by the District or others under Contract with the District); and

4.3.5 The time impact on any part of the Work resulting directly or indirectly from acceptance of the proposed substitute.

4.4 No substitutions shall be made until approved, in writing, by the District. The burden of proof as to equality of any material, process, or article shall rest with Contractor. The Contractor warrants that if substitutes are approved:

4.4.1 The proposed substitute is equal or superior in all respects to that specified, and that such proposed substitute is suitable and fit for the intended purpose and will perform adequately the function and achieve the results called for by the general design and the Contract Documents;

4.4.2 The Contractor provides the same warranties and guarantees for the substitute that would be provided for that specified;

4.4.3 The Contractor shall be fully responsible for the installation of the substitute and any changes in the Work required, either directly or indirectly, because of the acceptance of such substitute, with no increase in Contract Price or Contract Time. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time;

4.4.4 The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute; and

4.4.5 The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit.

4.5 In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.

4.6 In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

4.7 Contractor shall be responsible for any costs the District incurs for professional services, DSA fees, or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor's means and methods. District may deduct those costs from any amounts owing to the Contractor for the review of the request for substitution, even if the request for substitution is not approved. District, at its sole discretion, shall deduct from the payments due to and/or invoice Contractor for all the professional services and/or DSA fees or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor's means and methods arising herein.

5. Weather Days

Delays due to Adverse Weather conditions will only be permitted in compliance with the provisions in the General Conditions and only if the number of days of Adverse Weather exceeds the following parameters and Contractor can verify that the excess days of Adverse Weather caused delays:

January	<u>11</u>	July	<u>0</u>
February	<u>10</u>	August	<u>0</u>
March	<u>10</u>	September	<u>1</u>
April	<u>6</u>	October	<u>4</u>
May	<u>3</u>	November	<u>7</u>
June	<u>1</u>	December	<u>10</u>

6. Insurance Policy Limits

All of Contractor's insurance shall be with insurance companies with an A.M. Best rating of no less than **AAA**. The limits of insurance shall not be less than:

Commercial General Liability	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	[E.G.] Low Risk: \$1,000,000 per occurrence; \$2,000,000 aggregate
		Intermediate Risk: \$2,000,000 per occurrence; \$4,000,000 aggregate
		High Risk: \$5,000,000 per occurrence; \$10,000,000 aggregate
Automobile Liability – Any Auto	Combined Single Limit	[E.G.] Personal vehicles: \$500,000 Commercial vehicles: \$1,000,000
		Personal vehicles: \$100,000 per person/ \$300,000 per accident
Workers' Compensation		Statutory limits pursuant to State law
Employers' Liability		[E.G. \$0]
Builder's Risk (Course of Construction)		Issued for the value and scope of Work indicated herein.
Pollution Liability		[E.G. \$0]

7. Permits, Certificates, Licenses, Fees, Approvals

7.1 Payment for Permits, Certificates, Licenses, Fees, and Approvals. As required in the General Conditions, the Contractor shall secure and pay for all permits, licenses, approvals, and certificates necessary for the prosecution of the Work with the exception of the following:

7.1.1 With respect to the above-listed items, Contractor shall be responsible for securing such items; however, District will be responsible for payment of these charges or fees. Contractor shall notify the District of the amount due with respect to such items and to whom the amount is payable. Contractor shall provide the District with an invoice and receipt with respect to such charges or fees.

7.2 General Permit For Storm Water Discharges Associated With Construction and Land Disturbance Activities

7.2.1 Contractor acknowledges that all California school districts are obligated to develop and implement the following requirements for the discharge of storm water to surface waters from its construction and land disturbance activities (storm water requirements), without limitation:

7.2.1.1 Municipal Separate Storm Sewer System (MS4) is a system of conveyances used to collect and/or convey storm water, including, without limitation, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.

7.2.1.2 Storm Water Pollution Prevention Plan ("SWPPP") contains specific best management practices ("BMPs") and establishes numeric effluent limitations at:

7.2.1.2.1 Sites where the District engages in maintenance (e.g., fueling, cleaning, repairing) for transportation activities.

7.2.1.2.2 Construction sites where:

7.2.1.2.2.1 One (1) or more acres of soil will be disturbed, or

7.2.1.2.2.2 The project is part of a larger common plan of development that disturbs more than one (1) acre of soil.

7.2.2 Contractor shall comply with any District storm water requirements that are approved by the District and applicable to the Project, at no additional cost to the District.

7.2.3 At no additional cost to the District, Contractor shall provide a Qualified Storm Water Practitioner who shall be onsite and implement and monitor any and all SWPPP requirements applicable to the Project, including but not limited to:

7.2.3.1 At least forty eight (48) hours prior to a forecasted rain event, implementing the Rain Event Action Plan (REAP) for any rain event requiring implementation of the REAP, including any erosion and sediment control measures needed to protect all exposed portions of the site; and

7.2.3.2 Monitoring any Numeric Action Levels (NALs), if applicable.

8. As-Builts and Record Drawings

8.27 When called for by Division 1, Contractor shall submit As-Built Drawings pursuant to the Contract Documents consisting of one set of computer-aided design and drafting ("CADD") files in the following format **PDF** plus one set of As-Built Drawings on bond copy paper.

8.28 Contractor shall submit Record Drawings pursuant to the Contract Documents consisting of one set of computer-aided design and drafting ("CADD")

files in the following format **PDF** plus one set of Record Drawings on bond copy paper.

9. Fingerprinting

Contractor shall comply with the provisions of Education Code section 45125.2 regarding the submission of employee fingerprints to the California Department of Justice and the completion of criminal background investigations of its employees, its subcontractor(s), and its subcontractors' employees. Contractor shall not permit any employee to have any contact with District pupils until such time as Contractor has verified in writing to the governing board of the District, that such employee has not been convicted of a violent or serious felony, as defined in Education Code section 45122.1. Contractor shall fully complete and perform all tasks required pursuant to the Criminal Background Investigation/ Fingerprinting Certification.

10. Disabled Veteran Business Enterprises

This Project uses or may plan to use funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings. Therefore, Section 17076.11 of the Education Code requires the District to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%), per year, of the overall dollar amount expended each year by the District on projects that receive state funding and the Contractor must submit the Disabled Veteran Business Enterprise Participation Certification to the District with its executed Agreement, identifying the steps Contractor took to solicit DVBE participation in conjunction with this Contract.

13. Preliminary Schedule of Values

The preliminary schedule of values shall include, at a minimum, the following information and the following structure:

Replace provision in the General Conditions with the following provisions:

10.1.1.2.3. The preliminary schedule of values shall not provide for values any greater than the following percentages of the Contract value:

10.1.2.3.1 Mobilization and layout combined to equal not more than **[1]**%;

10.1.1.2.3.2 Submittals, samples and shop drawings combined to equal not more than **[3]**%;

10.1.1.2.3.3 Bonds and insurance combined to equal not more than **[2]**%.

END OF DOCUMENT

HAZARDOUS MATERIALS
PROCEDURES & REQUIREMENTS

1. Summary

This document includes information applicable to hazardous materials and hazardous waste abatement.

2. Notice of Hazardous Waste or Materials

- a. Contractor shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:
 - (1) Material that Contractor believes may be a material that is hazardous waste or hazardous material, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law;
 - (2) Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.
- b. Contractor's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.
- c. In response to Contractor's written notice, the District shall investigate the identified conditions.
- d. If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Contractor in writing, stating reasons. If the District and Contractor cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Contractor shall proceed with the Work as directed by the District.

- e. If after receipt of notice from the District, Contractor does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.
- f. If Contractor stops Work in connection with any hazardous condition and in any area affected thereby, Contractor shall immediately redeploy its workers, equipment, and materials, as necessary, to other portions of the Work to minimize delay and disruption.

3. Additional Warranties and Representations

- a. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).
- b. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.
- c. Contractor represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Contractor accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

4. Monitoring and Testing

- a. District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.
- b. Contractor acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, preabatement, during abatement, and post-abatement air monitoring, that District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of the Work by Contractor. In the event District elects to perform these activities and tests, Contractor shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Contractor will include the potential impact of these activities or tests by District in the Contract Price and the Scheduled Completion Date.
- c. Notwithstanding District's rights granted by this paragraph, Contractor may retain its own industrial hygiene consultant at Contractor's own expense and may collect samples and may perform tests including, but not limited to, preabatement, during abatement, and post-abatement personal air monitoring, and District reserves the right to request documentation of all such activities and tests performed by Contractor relating to the Work and Contractor shall immediately provide that documentation upon request.

5. Compliance with Laws

- a. Contractor shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.
- b. Contractor represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:
 - (1) The protection of the public health, welfare and environment;

- (2) Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;
- (3) The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and
- (4) The protection of environmentally sensitive areas such as wetlands and coastal areas.

6. Disposal

- a. Contractor has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Contractor must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is not obligated to, require submittals with this information for it to review consistent with the Contract Documents.
- b. Contractor shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.
- c. Contractor shall provide District with the name and address of each waste disposal facility prior to any disposal, and District shall have the express right to reject any proposed disposal facility. Contractor shall not use any disposal facility to which District has objected. Contractor shall document actual disposal or destruction of waste at a designated facility by completing a disposal certificate or certificate of destruction forwarding the original to the District.

7. Permits

- a. Before performing any of the Work, and at such other times as may be required by applicable law, Contractor shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Contractor shall submit evidence satisfactory to District that it and any disposal facility:
 - (1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and
 - (2) are in compliance with all such permits, approvals and the regulations.

For example, before commencing any work in connection with the Work involving asbestos-containing materials, or PCBs, or other hazardous materials subject to regulation, Contractor agrees to provide the required notice of intent to renovate or demolish to the appropriate state or federal agency having jurisdiction, by certified mail, return receipt requested, or by some other method of transmittal for which a return receipt is obtained, and to send a copy of that notice to District. Contractor shall not conduct any Work involving asbestos-containing materials or PCBs unless Contractor has first confirmed that the appropriate agency having jurisdiction is in receipt of the required notification. All permits, licenses, and bonds that are required by governmental or quasi-governmental authorities, and all fees, deposits, tap fees, offsite easements, and asbestos and PCB disposal facilities expenses necessary for the prosecution of the Work, shall be procured and paid for by Contractor. Contractor shall give all notices and comply with the all applicable laws bearing on the conduct of the Work as drawn and specified. If Contractor observes or reasonably should have observed that Plans and Specifications and other Contract Documents are at variance therewith, it shall be responsible for promptly notifying District in writing of such fact. If Contractor performs any Work contrary to applicable laws, it shall bear all costs arising therefrom.

- b. In the case of any permits or notices held in District's name or of necessity to be made in District's name, District shall cooperate with Contractor in securing the permit or giving the notice, but the Contractor shall prepare for District review and execution upon approval, all necessary applications, notices, and other materials.

8. Indemnification

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 9601 *et seq.*).

9. Termination

District shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents, or any applicable law, on any matter involving the exposure of persons or property to hazardous waste. However, if the breach of contract exposing persons or property to hazardous waste is due solely to an ordinary, unintentional, and non-reckless failure to exercise reasonable care, then the procedures for termination for cause shall apply without modification.

END OF DOCUMENT

SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access Conditions and Requirements;
- B. Special Conditions.

1.02 SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract consists of the following:

Construction & modernization rebuild of the Creative Arts Bldg.'s Entry Plaza Lower Landing and Lower Level Steps using colored & stamped concrete in a brick paver design. The Lower Landing will also include a water/laser cut design of some sort, and the Lower Steps' handrails are to be replaced and increased in quantity.

1.03 CONTRACTS

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

1.04 WORK BY OTHERS

NOT USED

1.05 CODES, REGULATIONS, AND STANDARDS

- A. The codes, regulations, and standards adopted by the state and federal agencies having jurisdiction shall govern minimum requirements for this 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.
- B. Codes, regulations, and standards shall be as published effective as of date of bid opening, unless otherwise specified or indicated.

1.06 PROJECT RECORD DOCUMENTS

- A. Contractor shall maintain on Site one set of the following record documents; Contractor shall record actual revisions to the Work:
 - (1) Contract Drawings.
 - (2) Specifications.
 - (3) Addenda.
 - (4) Change Orders and other modifications to the Contract.
 - (5) Reviewed shop drawings, product data, and samples.
 - (6) Field test records.
 - (7) Inspection certificates.
 - (8) Manufacturer's certificates.
- B. Contractor shall store Record Documents separate from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.
- C. Contractor shall record information concurrent with construction progress.
- D. Specifications: Contractor shall legibly mark and record at each product section of the Specifications the description of the actual product(s) installed, including the following:
 - (1) Manufacturer's name and product model and number.
 - (2) Product substitutions or alternates utilized.
 - (3) Changes made by Addenda and Change Orders and written directives.

1.07 EXAMINATION OF EXISTING CONDITIONS

- A. Contractor shall be held to have examined the Project Site and acquainted itself with the conditions of the Site and of the streets or roads approaching the Site.
- B. 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.
- C. 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.

1.08 CONTRACTOR'S USE OF PREMISES

- A. 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.
- B. 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.
- C. Contractor shall not interfere with use of or access to occupied portions of the building(s) or adjacent property.
- D. Contractor shall maintain corridors, stairs, halls, and other exit-ways of building clear and free of debris and obstructions at all times.
- E. 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.
- F. The Contractor shall install the construction fence and maintain that it will be locked when not in use. Keys to this fencing will be provided to the District.

1.09 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. 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.
- B. 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.

1.10 UTILITY SHUTDOWNS AND INTERRUPTIONS

- A. 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. The 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.

- B. 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.

1.11 STRUCTURAL INTEGRITY

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

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

ALTERNATES AND UNIT PRICING

PART 1 – ALTERNATES

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Bid Form and Proposal;
- D. Instruction to Bidders.

1.02 DESCRIPTION

The items of work indicated below propose modifications to, substitutions for, additions to and/or deletions from the various parts of the Work specified in other Sections of the Specifications. The acceptance or rejection of any of the alternates is strictly at the option of the District subject to District's acceptance of Contractor's stated prices contained in this Proposal.

1.03 GENERAL

Where an item is omitted, or scope of Work is decreased, all Work pertaining to the item whether specifically stated or not, shall be omitted and where an item is added or modified or where scope of Work is increased, all Work pertaining to that 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.

1.04 BASE BID

The Base Bid includes all work required to construct the Project completely and in accordance with the Contract Documents.

1.05 ALTERNATES

NOT USED

PART 2 - UNIT PRICING

NOT USED

END OF DOCUMENT

PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. Instructions to Bidders;
- B. General Conditions, including, without limitation, Substitutions For Specified Items; and
- C. Special Conditions.

1.02 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT

- A. Catalog numbers and specific brands or trade names followed by the designation "or equal" are used in conjunction with material and equipment required by the Specifications to establish the standards of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be reviewed subject to the provisions of the General Conditions.
- B. Wherever more than one manufacturer's product is specified, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such alternatives are proposed by Contractor and are approved by the District and/or the Architect, Contractor shall assume all costs required to make necessary revisions and modifications of the design resulting from the substitutions requested by the Contractor.
- C. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name and "or approved equal," supporting data for the second product, if proposed by Contractor, shall be submitted in accordance with the requirements for substitutions. The District's Board has found and determined that certain item(s) shall be used on this Project based on the purpose(s) indicated pursuant to Public Contract Code section 3400(c). These findings, as well as the products and brand or trade names, have been identified in the Notice to Bidders.
- D. The Contractor will not be allowed to substitute specified items unless the request for substitution is submitted as follows:
 - (1) District must receive any notice of request for substitution of a specified item a minimum of ten (10) calendar days prior to bid opening.

- (2) Within thirty five (35) days after the date of the Notice of Award, the Contractor shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the technical Specifications. Insufficient information shall be grounds for rejection of substitution.
- E. If the District and/or Architect, in reviewing proposed substitute materials and equipment, require revisions or corrections to be made to previously accepted Shop Drawings and supplemental supporting data to be resubmitted, Contractor shall promptly do so. If any proposed substitution is judged by the District and/or Architect to be unacceptable, the specified material or equipment shall be provided.
- F. Samples may be required. Tests required by the District and/or Architect for the determination of quality and utility shall be made at the expense of Contractor, with acceptance of the test procedure first given by the District.
- G. In reviewing the supporting data submitted for substitutions, the District and/or Architect will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Contract Documents. If more than two (2) submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by Contractor, and the District will deduct the costs from the Contract Price. The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute.
- H. The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit. In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.
- I. In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 26 00

CHANGES IN THE WORK

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS IN THE AGREEMENT, GENERAL CONDITIONS, AND SPECIAL CONDITIONS, IF USED, RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES.

END OF DOCUMENT

DOCUMENT 01 29 00

**APPLICATION FOR PAYMENT AND
CONDITIONAL AND UNCONDITIONAL WAIVER AND RELEASE FORMS**

**CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS IN THE GENERAL
CONDITIONS RELATED TO APPLICATIONS FOR PAYMENT AND/OR PAYMENTS.**

**CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(CIVIL CODE SECTION 8132)**

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: _____

Amount of Check: \$_____

Check Payable to: _____

Exceptions

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:

Date(s) of waiver and release: _____

Amount(s) of unpaid progress payment(s): \$_____

PITTSBURG UNIFIED SCHOOL DISTRICT
Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**APPLICATION FOR PAYMENT AND
CONDITIONAL AND UNCONDITIONAL
WAIVER AND RELEASE FORMS
DOCUMENT 01 29 00-2**

- (4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**UNCONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(CIVIL CODE SECTION 8134)**

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has received the following progress payment: \$_____

Exceptions

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**CONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT
(CIVIL CODE SECTION 8136)**

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check:

Amount of Check: \$_____

Check Payable to: _____

Exceptions

This document does not affect any of the following: _____

Disputed claims for extras in the amount of: \$_____

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**UNCONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT
(CIVIL CODE SECTION 8138)**

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

Exceptions

This document does not affect any of the following: _____

Disputed claims for extras in the amount of: \$_____

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

PROJECT MEETINGS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions; and
- B. Special Conditions.

1.02 PROGRESS MEETINGS:

- A. Contractor shall schedule and hold regular weekly progress meetings after a minimum of one week's prior written notice of the meeting date and time to all Invitees as indicated below.
- B. Location: Contractor's field office.
- C. The Contractor shall notify and invite the following entities ("Invitees"):
 - (1) District Representative.
 - (2) Contractor.
 - (3) Contractor's Project Manager.
 - (4) Contractor's Superintendent.
 - (5) Subcontractors, as appropriate to the agenda of the meeting.
 - (6) Suppliers, as appropriate to the agenda of the meeting.
 - (7) Architect
 - (8) Engineer(s), if any and as appropriate to the agenda of the meeting.
 - (9) Others, as appropriate to the agenda of the meeting.
- D. The District's and/or the Architect's Consultants will attend at their discretion, in response to the agenda.
- E. The District representative, the Construction Manager, and/or another District Agent shall take and distribute meeting notes to attendees and other concerned parties. If exceptions are taken to anything in the meeting notes, those exceptions shall be stated in writing to the District within five (5) working days following District's distribution of the meeting notes.

1.03 PRE-INSTALLATION/PERFORMANCE MEETING:

- A. Contractor shall schedule a meeting prior to the start of each of the following portions of the Work:

- 1. Battery Units

- Contractor shall invite all parties to these meetings, and others whose work may affect, or be affected by, the quality of any one of these work items.

- B. Contractor shall review in detail prior to this meeting, the manufacturer's requirements and specifications, applicable portions of the Contract Documents, Shop Drawings, and other submittals, and other related work. At this meeting, invitees shall review and resolve conflicts, incompatibilities, or inadequacies discovered or anticipated.
- C. Contractor shall review in detail Project conditions, schedule, requirements for performance, application, installation, and quality of completed Work, and protection of adjacent Work and property.
- D. Contractor shall review in detail means of protecting the completed Work during the remainder of the construction period.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

SCHEDULING OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Summary of Work; and
- D. Submittals.

1.02 SECTION INCLUDES

- A. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.
 - (1) Development of schedule, cost and resource loading of the schedule, monthly payment requests, and project status reporting requirements of the Contract shall employ computerized Critical Path Method ("CPM") scheduling ("CPM Schedule").
 - (2) CPM Schedule shall be cost loaded based on Schedule of Values as approved by District.
 - (3) Submit schedules and reports as specified in the General Conditions.
- B. Upon Award of Contract, Contractor shall immediately commence development of Initial and Original CPM Schedules to ensure compliance with CPM Schedule submittal requirements.

1.03 CONSTRUCTION SCHEDULE

- A. Within ten (10) days of being awarded the Contract and before request for first progress payment, the Contractor shall prepare and submit to the Project Manager a construction progress schedule conforming to the Milestone Schedule below.
- B. The Construction Schedule shall be continuously updated, and an updated schedule shall be submitted with each application for progress payment. Each revised schedule shall indicate the work actually accomplished during the previous period and the schedule for completion of the remaining work.

C. Milestone Schedule:

ACTIVITY DESCRIPTION

REQUIRED DATES

**ON-SITE CONSTRUCTION STARTS:
ALL ON-SITE CONSTRUCTION
COMPLETION:
FINAL PROJECT COMPLETION:**

**September 21, 2026
November 20, 2026
December 18, 2026**

1.04 QUALIFICATIONS

- A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of [i.e., Primavera Project Planner]. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose.
- (1) The written statement shall identify the individual who will perform CPM scheduling.
 - (2) Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.
 - (3) Required level of experience shall include at least two (2) projects of similar nature and scope with value not less than three fourths ($\frac{3}{4}$) of the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.
- B. District reserves the right to approve or reject Contractor's scheduler or consultant at any time. District reserves the right to refuse replacing of Contractor's scheduler or consultant, if District believes replacement will negatively affect the scheduling of Work under this Contract.

1.05 GENERAL

- A. Progress Schedule shall be based on and incorporate milestone and completion dates specified in Contract Documents.
- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in the Contract, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by District. Any such agreement shall be formalized by a Change Order.
- (1) District is not required to accept an early completion schedule, i.e., one that shows an earlier completion date than the Contract Time.
 - (2) Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier completion schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in its early completion schedule but within the Contract Time.

- (3) A schedule showing the work completed in less than the Contract Time, and that has been accepted by District, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and the Completion Date. Project Float is a resource available to both District and the Contractor.
- C. Ownership Project Float: Neither the District nor Contractor owns Project Float. The Project owns the Project Float. As such, liability for delay of the Completion Date rests with the party whose actions, last in time, actually cause delay to the Completion Date.
 - (1) For example, if Party A uses some, but not all of the Project Float and Party B later uses remainder of the Project Float as well as additional time beyond the Project Float, Party B shall be liable for the time that represents a delay to the Completion Date.
 - (2) Party A would not be responsible for the time since it did not consume the entire Project Float and additional Project Float remained; therefore, the Completion Date was unaffected by Party A.
- D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract CPM Schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- E. Failure of Progress Schedule to include any element of the Work, or any inaccuracy in Progress Schedule, will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. District's acceptance of schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests and shall not, in any manner, impose a duty of care upon District, or act to relieve Contractor of its responsibility for means and methods of construction.
- F. Software: Use **Primavera P6 Scheduling** software. Such software shall be compatible with Windows operating system. Contractor shall transmit contract file to District on compact disk at times requested by District.
- G. Transmit each item under the form approved by District.
 - (1) Identify Project with District Contract number and name of Contractor.
 - (2) Provide space for Contractor's approval stamp and District's review stamps.
 - (3) Submittals received from sources other than Contractor will be returned to the Contractor without District's review.

1.06 INITIAL CPM SCHEDULE

- A. Initial CPM Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to ninety (90) calendar days after the Notice to Proceed.

- B. Indicate detailed plan for the Work to be completed in first ninety (90) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; procurement of materials and equipment. Show Work beyond ninety (90) calendar days in summary form.
- C. Initial CPM Schedule shall be time scaled.
- D. Initial CPM Schedule shall be cost and resource loaded. Accepted cost and resource loaded schedule will be used as basis for monthly progress payments until acceptance of the Original CPM Schedule. Use of Initial CPM Schedule for progress payments shall not exceed ninety (90) calendar days.
- E. District and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to District.
 - (1) District's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements).
 - (2) Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by District. Contractor shall resubmit Initial CPM Schedule if requested by District.
- F. If, during the first ninety (90) days after Notice to Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to District a written Time Impact Evaluation ("TIE") in accordance with Article 1.12 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

1.07 ORIGINAL CPM SCHEDULE

- A. Submit a detailed proposed Original CPM Schedule presenting an orderly and realistic plan for completion of the Work in conformance with requirements as specified herein.
- B. Progress Schedule shall include or comply with following requirements:
 - (1) Time scaled, cost and resource (labor and major equipment) loaded CPM schedule.
 - (2) No activity on schedule shall have duration longer than fifteen (15) work days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by District.
 - (a) Activity durations shall be total number of actual work days required to perform that activity.
 - (3) The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.

- (4) District furnished materials and equipment, if any, identified as separate activities.
- (5) Activities for maintaining Project Record Documents.
- (6) Dependencies (or relationships) between activities.
- (7) Processing/approval of submittals and shop drawings for all material and equipment required per the Contract. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates.
 - (a) Include time for submittals, re-submittals and reviews by District. Coordinate with accepted schedule for submission of Shop Drawings, samples, and other submittals.
 - (b) Contractor shall be responsible for all impacts resulting from re-submittal of Shop Drawings and submittals.
- (8) Procurement of major equipment, through receipt and inspection at jobsite, identified as separate activity.
 - (a) Include time for fabrication and delivery of manufactured products for the Work.
 - (b) Show dependencies between procurement and construction.
- (9) Activity description; what Work is to be accomplished and where.
- (10) The total cost of performing each activity shall be total of labor, material, and equipment, excluding overhead and profit of Contractor. Overhead and profit of the General Contractor shall be shown as a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.
- (11) Resources required (labor and major equipment) to perform each activity.
- (12) Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.
- (13) Identify the activities which constitute the controlling operations or critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to (10) days.
- (14) Twenty (20) workdays for developing punch list(s), completion of punch-list items, and final cleanup for the Work or any designated portion thereof. No other activities shall be scheduled during this period.

- (15) Interface with the work of other contractors, District, and agencies such as, but not limited to, utility companies.
- (16) Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which CPM was built.
 - (a) Also furnish for each Subcontractor, as determined by District, submitted on Subcontractor letterhead, a statement certifying that Subcontractor concurs with Contractor's Original CPM Schedule and that Subcontractor's related schedules have been incorporated, including activity duration, cost and resource loading.
 - (b) Subcontractor schedules shall be independently derived and not a copy of Contractor's schedule.
 - (c) In addition to Contractor's schedule and resource loading, obtain from electrical, mechanical, and plumbing Subcontractors, and other Subcontractors as required by District, productivity calculations common to their trades, such as units per person day, feet of pipe per day per person, feet of wiring per day per person, and similar information.
 - (d) Furnish schedule for Contractor/Subcontractor CPM schedule meetings which shall be held prior to submission of Original CPM schedule to District. District shall be permitted to attend scheduled meetings as an observer.
- (17) Activity durations shall be in Work days.
- (18) Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays. The Progress Schedule shall exclude in its Work day calendar all non-Work days on which Contractor anticipates critical Work will not be performed.
- C. Original CPM Schedule Review Meeting: Contractor shall, within sixty (60) days from the Notice to Proceed date, meet with District to review the Original CPM Schedule submittal.
 - (1) Contractor shall have its Project Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required by District, in attendance. The meeting will take place over a continuous one (1) day period.
 - (2) District's review will be limited to submittal's conformance to Contract requirements including, but not limited to, coordination requirements. However, review may also include:
 - (a) Clarifications of Contract Requirements.
 - (b) Directions to include activities and information missing from submittal.

- (c) Requests to Contractor to clarify its schedule.
- (3) Within five (5) days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by District at the Meeting.

1.08 ADJUSTMENTS TO CPM SCHEDULE

- A. Adjustments to Original CPM Schedule: Contractor shall have adjusted the Original CPM Schedule submittal to address all review comments from original CPM Schedule review meeting and resubmit network diagrams and reports for District's review.
 - (1) District, within ten (10) days from date that Contractor submitted the revised schedule, will either:
 - (a) Accept schedule and cost and resource loaded activities as submitted, or
 - (b) Advise Contractor in writing to review any part or parts of schedule which either do not meet Contract requirements or are unsatisfactory for District to monitor Project's progress, resources, and status or evaluate monthly payment request by Contractor.
 - (2) District may accept schedule with conditions that the first monthly CPM Schedule update be revised to correct deficiencies identified.
 - (3) When schedule is accepted, it shall be considered the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
 - (4) District reserves right to require Contractor to adjust, add to, or clarify any portion of schedule which may later be discovered to be insufficient for monitoring of Work or approval of partial payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.
- B. Acceptance of Contractor's schedule by District will be based solely upon schedule's compliance with Contract requirements.
 - (1) By way of Contractor assigning activity durations and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the schedule.
 - (2) Upon submittal of schedule update, updated schedule shall be considered "current" CPM Schedule.
 - (3) Submission of Contractor's schedule to District shall not relieve Contractor of total responsibility for scheduling, sequencing, and

pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed Work.

- C. Submittal of Original CPM Schedule, and subsequent schedule updates, shall be understood to be Contractor's representation that the Schedule meets requirements of Contract Documents and that Work shall be executed in sequence indicated on the schedule.
- D. Contractor shall distribute Original CPM Schedule to Subcontractors for review and written acceptance, which shall be noted on Subcontractors' letterheads to Contractor and transmitted to District for the record.

1.09 MONTHLY CPM SCHEDULE UPDATE SUBMITTALS

- A. Following acceptance of Contractor's Original CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any anticipated changes to planned activities.
 - (1) Each schedule update submitted shall be complete, including all information requested for the Original CPM Schedule submittal.
 - (2) Each update shall continue to show all Work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- B. A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application.
 - (1) At this meeting, at a minimum, the following items will be reviewed: Percent (%) complete of each activity; Time Impact Evaluations for Change Orders and Time Extension Request; actual and anticipated activity sequence changes; actual and anticipated duration changes; and actual and anticipated Contractor delays.
 - (2) These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.
 - (3) Contractor shall plan on the meeting taking no less than four (4) hours.
- C. Within five (5) working days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.
- D. Within five (5) work days of receipt of above noted revised submittals, District will either accept or reject monthly schedule update submittal.
 - (1) If accepted, percent (%) complete shown in monthly update will be basis for Application for Payment by the Contractor. The schedule

update shall be submitted as part of the Contractor's Application for Payment.

- (2) If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.
- E. Neither updating, changing or revising of any report, curve, schedule, or narrative submitted to District by Contractor under this Contract, nor District's review or acceptance of any such report, curve, schedule or narrative shall have the effect of amending or modifying in any way the Completion Date or milestone dates or of modifying or limiting in any way Contractor's obligations under this Contract.

1.10 SCHEDULE REVISIONS

- A. Updating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.
- B. To reflect revisions to the Schedule, the Contractor shall provide District with a written narrative with a full description and reasons for each Work activity revised. For revisions affecting the sequence of work, the Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. The Contractor shall provide the written narrative and schedule diagram for revisions two (2) working days in advance of the monthly schedule update meeting.
- C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District. District may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide District with a complete written narrative response to District's request.
- D. If the Contractor's revision is still not accepted by District, and the Contractor disagrees with District's position, the Contractor has seven (7) calendar days from receipt of District's letter rejecting the revision to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within seven (7) calendar days of District's written rejection of a schedule revision shall be contractually interpreted as acceptance of District's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding District's position.
- E. At District's discretion, the Contractor can be required to provide Subcontractor certifications of performance regarding proposed schedule revisions affecting said Subcontractors.

1.11 RECOVERY SCHEDULE

- A. If the Schedule Update shows a completion date twenty-one (21) calendar days beyond the Contract Completion Date, or individual milestone completion dates, the Contractor shall submit to District the proposed revisions to recover the lost time within seven (7) calendar days. As part of

this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.

- B. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District.
- C. If the Contractor's revisions are not accepted by District, District and the Contractor shall follow the procedures in paragraph 1.09.C, 1.09.D and 1.09.E above.
- D. At District's discretion, the Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

1.12 TIME IMPACT EVALUATION ("TIE") FOR CHANGE ORDERS, AND OTHER DELAYS

- A. When Contractor is directed to proceed with changed Work, the Contractor shall prepare and submit within fourteen (14) calendar days from the Notice to Proceed a TIE which includes both a written narrative and a schedule diagram depicting how the changed Work affects other schedule activities. The schedule diagram shall show how the Contractor proposes to incorporate the changed Work in the schedule and how it impacts the current schedule-update critical path. The Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram must be tied to the main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path.
- B. Contractor shall be required to comply with the requirements of Paragraph 1.09.A for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.
- C. Contractor shall be responsible for all costs associated with the preparation of TIEs, and the process of incorporating them into the current schedule update. The Contractor shall provide District with four (4) copies of each TIE.
- D. Once agreement has been reached on a TIE, the Contract Time will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Time may be extended in an amount District allows, and the Contractor may submit a claim for additional time claimed by contractor.

1.13 TIME EXTENSIONS

- A. The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accord with the General Conditions.
- B. Where an event for which District is responsible impacts the projected Completion Date, the Contractor shall provide a written mitigation plan,

including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor, equipment, and material the Contractor would expend to mitigate District-caused time impact. The Contractor shall submit its mitigation plan to District within fourteen (14) calendar days from the date of discovery of the impact. The Contractor is responsible for the cost to prepare the mitigation plan.

- C. Failure to request time, provide TIE, or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
- D. No time will be granted under this Contract for cumulative effect of changes.
- E. District will not be obligated to consider any time extension request unless the Contractor complies with the requirements of Contract Documents.
- F. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.
- G. If the Contractor does not submit a TIE within the required fourteen (14) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

1.14 SCHEDULE REPORTS

- A. Submit four (4) copies of the following reports with the Initial CPM Schedule, the Original CPM Schedule, and each monthly update.
- B. Required Reports:
 - (1) Two activity listing reports: one sorted by activity number and one by total Project Float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, Project Float, responsibility code, and the logic relationship of activities.
 - (2) Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value- to date, previous payments, and amount earned for current update period.
 - (3) Schedule plots presenting time-scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.
 - (4) Cash flow report calculated by early start, late start, and indicating actual progress. Provide an exhibit depicting this information in graphic form.
 - (5) Planned versus actual resource (i.e., labor) histogram calculated by early start and late start.

C. Other Reports:

In addition to above reports, District may request, from month to month, any two of the following reports. Submit four (4) copies of all reports.

- (1) Activities by early start.
- (2) Activities by late start.
- (3) Activities grouped by Subcontractors or selected trades.
- (4) Activities with scheduled early start dates in a given time frame, such as fifteen (15) or thirty (30) day outlook.

D. Furnish District with report files on compact disks containing all schedule files for each report generated.

1.15 PROJECT STATUS REPORTING

- A. In addition to submittal requirements for CPM scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each CPM Schedule as specified herein. Status reporting shall be in form specified below.
- B. Contractor shall prepare monthly written narrative reports of status of Project for submission to District. Written status reports shall include:
- (1) Status of major Project components (percent (%) complete, amount of time ahead or behind schedule) and an explanation of how Project will be brought back on schedule if delays have occurred.
 - (2) Progress made on critical activities indicated on CPM Schedule.
 - (3) Explanations for any lack of work on critical path activities planned to be performed during last month.
 - (4) Explanations for any schedule changes, including changes to logic or to activity durations.
 - (5) List of critical activities scheduled to be performed next month.
 - (6) Status of major material and equipment procurement.
 - (7) Any delays encountered during reporting period.
 - (8) Contractor shall provide printed report indicating actual versus planned resource loading for each trade and each activity. This report shall be provided on weekly and monthly basis.
 - (a) Actual resource shall be accumulated in field by Contractor, and shall be as noted on Contractor's daily reports. These reports

will be basis for information provided in computer-generated monthly and weekly printed reports.

- (b) Contractor shall explain all variances and mitigation measures.
- (9) Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by District at no additional cost.
- (10) Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

1.16 WEEKLY SCHEDULE REPORT

At the Weekly Progress Meeting, the Contractor shall provide and present a time-scaled three (3) week look-ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

1.17 DAILY CONSTRUCTION REPORTS

On a daily basis, Contractor shall submit a daily activity report to District for each workday, including weekends and holidays when worked. Contractor shall develop the daily construction reports on a computer-generated database capable of sorting daily Work, manpower, and man-hours by Contractor, Subcontractor, area, sub-area, and Change Order Work. Upon request of District, furnish computer disk of this data base. Obtain District's written approval of daily construction report data base format prior to implementation. Include in report:

- A. Project name and Project number.
- B. Contractor's name and address.
- C. Weather, temperature, and any unusual site conditions.
- D. Brief description and location of the day's scheduled activities and any special problems and accidents, including Work of Subcontractors. Descriptions shall be referenced to CPM scheduled activities.
- E. Worker quantities for its own Work force and for Subcontractors of any tier.
- F. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

1.18 PERIODIC VERIFIED REPORTS

Contractor shall complete and verify construction reports on a form prescribed by the Division of the State Architect and file reports on the first day of February, May, August, and November during the preceding quarter year; at the completion of the Contract; at the completion of the Work; at the suspension of Work for a period of more than one (1) month; whenever the services of Contractor or any of Contractor's Subcontractors are terminated for any reason; and at any time a special

verified report is required by the Division of the State Architect. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Contractor's Submittals and Schedules, Drawings and Specifications;
- B. Special Conditions.

1.02 SECTION INCLUDES:

- A. Definitions:
 - (1) Shop Drawings and Product Data are as indicated in the General Conditions and include, but are not limited to, fabrication, erection, layout and setting drawings, formwork and falsework drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams. In addition, there are other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and all positions conform to the requirement of the Contract Documents, including, without limitation, the Drawings.
 - (2) "Manufactured" applies to standard units usually mass-produced; "fabricated" means specifically assembled or made out of selected materials to meet design requirements. Shop Drawings shall establish the actual detail of manufactured or fabricated items, indicated proper relation to adjoining work and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.
 - (3) Manufacturer's Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed, at a minimum, in accordance with a specified product manufacturer's instructions, the Contractor shall procure and distribute copies of these to the District, the Architect, and all other concerned parties and shall furnish, install, or perform the work, at a minimum, in accordance with those instructions.

- B. Samples, Shop Drawings, Product Data, and other items as specified, in accordance with the following requirements:
- (1) Contractor shall submit all Shop Drawings, Product Data, and Samples to the District, the Architect, the Project Inspector, and the Construction Manager.
 - (2) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall submit required information in sufficient time to permit proper consideration and action before ordering any materials or items represented by such Shop Drawings, Product Data, and/or Samples.
 - (3) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall allow sufficient time so that no delay occurs due to required lead time in ordering or delivery of any item to the Site. Contractor shall be responsible for any delay in progress of Work due to its failure to observe these requirements.
 - (4) Time for completion of Work shall not be extended on account of Contractor's failure to promptly submit Shop Drawings, Product Data, and/or Samples.
 - (5) Reference numbers on Shop Drawings shall have Architectural and/or Engineering Contract Drawings reference numbers for details, sections, and "cuts" shown on Shop Drawings. These reference numbers shall be in addition to any numbering system that Contractor chooses to use or has adopted as standard.
 - (6) When the magnitude or complexity of submittal material prevents a complete review within the stated time frame, Contractor shall make this submittal in increments to avoid extended delays.
 - (7) Contractor shall certify on submittals for review that submittals conform to Contract requirements. In event of any variance, Contractor shall specifically state in transmittal and on Shop Drawings, portions vary and require approval of a substitute. Also certify that Contractor-furnished equipment can be installed in allocated space.
 - (8) Unless specified otherwise, sampling, preparation of samples, and tests shall be in accordance with the latest standard of the American Society for Testing and Materials.
 - (9) Upon demand by Architect or District, Contractor shall submit samples of materials and/or articles for tests or examinations and consideration before Contractor incorporates same in Work. Contractor shall be solely responsible for delays due to sample(s) not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved samples in every respect. Samples that are of value after testing will remain the property of Contractor.

- C. Submittal Schedule:
- (1) Contractor shall prepare its proposed submittal schedule that is coordinated with the proposed construction schedule and submit both to the District within ten (10) days after the date of the Notice to Proceed. Contractor's proposed schedules shall become the Project Construction Schedule and the Project Submittal Schedule after each is approved by the District.
 - (2) Contractor is responsible for all lost time should the initial submittal be rejected, marked "revise and resubmit", etc.
 - (3) All Submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those Submittals shall be forwarded to the District so as not to delay the Construction Schedule.

1.03 SHOP DRAWINGS:

- A. Contractor shall submit one reproducible transparency and six (6) opaque reproductions. The District will review and return the reproducible copy and one (1) opaque reproduction to Contractor.
- B. Before commencing installation of any Work, the Contractor shall submit and receive approval of all drawings, descriptive data, and material list(s) as required to accomplish Work.
- C. Review of Shop Drawings is regarded as a service to assist Contractor and in all cases original Contract Documents shall take precedence as outlined under General Conditions.
- D. No claim for extra time or payment shall be based on work shown on Shop Drawings unless the claim is (1) noted on Contractor's transmittal letter accompanying Shop Drawings and (2) Contractor has complied with all applicable provisions of the General Conditions, including, without limitation, provisions regarding changes and payment, and all required written approvals.
- E. District shall not review Shop Drawings for quantities of materials or number of items supplied.
- F. District's and/or Architect's review of Shop Drawing will be general. District and/or Architect review does not relieve Contractor of responsibility for dimensions, accuracy, proper fitting, construction of Work, furnishing of materials, or Work required by Contract Documents and not indicated on Shop Drawings. The District's and/or Architect's review of Shop Drawings is not to be construed as approving departures from Contract Documents.
- G. Review of Shop Drawings and Schedules does not relieve Contractor from responsibility for any aspect of those Drawings or Schedules that is a violation of local, County, State, or Federal laws, rules, ordinances, or rules and

regulations of commissions, boards, or other authorities or utilities having jurisdiction.

- H. Before submitting Shop Drawings for review, Contractor shall check Shop Drawings of its subcontractors for accuracy, and confirm that all Work contiguous with and having bearing on other work shown on Shop Drawings is accurately drawn and in conformance with Contract Documents.
- I. Submitted drawings and details must bear stamp of approval of Contractor:
 - (1) Stamp and signature shall clearly certify that Contractor has checked Shop Drawings for compliance with Drawings.
 - (2) If Contractor submits a Shop Drawing without an executed stamp of approval, or whenever it is evident (despite stamp) that Drawings have not been checked, the District and/or Architect will not consider them and will return them to the Contractor for revision and resubmission. In that event, it will be deemed that Contractor has not complied with this provision and Contractor shall bear risk of all delays to same extent as if it had not submitted any Shop Drawings or details.
- J. Submission of Shop Drawings (in either original submission or when resubmitted with correction) constitutes evidence that Contractor has checked all information thereon and that it accepts and is willing to perform Work as shown.
- K. Contractor shall pay for cost of any changes in construction due to improper checking and coordination. Contractor shall be responsible for all additional costs, including coordination. Contractor shall be responsible for costs incurred by itself, the District, the Architect, the Project Inspector, the Construction Manager, any other Subcontractor or contractor, etc., due to improperly checked and/or coordination of submittals.
- L. Shop Drawings must clearly delineate the following information:
 - (1) Project name and address.
 - (2) Specification number and description.
 - (3) Architect's name and project number.
 - (4) Shop Drawing title, number, date, and scale.
 - (5) Names of Contractor, Subcontractor(s) and fabricator.
 - (6) Working and erection dimensions.
 - (7) Arrangements and sectional views.
 - (8) Necessary details, including complete information for making connections with other Work.

- (9) Kinds of materials and finishes.
 - (10) Descriptive names of materials and equipment, classified item numbers, and locations at which materials or equipment are to be installed in the Work. Contractor shall use same reference identification(s) as shown on Contract Drawings.
- M. Contractor shall prepare composite drawings and installation layouts when required to solve tight field conditions.
- (1) Shop Drawings shall consist of dimensioned plans and elevations and must give complete information, particularly as to size and location of sleeves, inserts, attachments, openings, conduits, ducts, boxes, structural interferences, etc.
 - (2) Contractor shall coordinate these composite Shop Drawings and installation layouts in the field between itself and its Subcontractor(s) for proper relationship to the Work, the work of other trades, and the field conditions. The Contractor shall check and approve all submittal(s) before submitting them for final review.

1.04 PRODUCT DATA OR NON REPRODUCIBLE SUBMITTALS:

- A. Contractor shall submit manufacturer's printed literature in original form. Any fading type of reproduction will not be accepted. Contractor must submit a minimum of six (6) each, to the District. District shall return one (1) to the Contractor, who shall reproduce whatever additional copies it requires for distribution.
- B. Contractor shall submit six (6) copies of a complete list of all major items of mechanical, plumbing, and electrical equipment and materials in accordance with the approved Submittal Schedule, except as required earlier to comply with the approved Construction Schedule. Other items specified are to be submitted prior to commencing Work. Contractor shall submit items of like kind at one time in a neat and orderly manner. Partial lists will not be acceptable.
- C. Submittals shall include manufacturer's specifications, physical dimensions, and ratings of all equipment. Contractor shall furnish performance curves for all pumps and fans. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on sheet and superfluous information shall be crossed out. If highlighting is used, Contractor shall mark all copies.
- D. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and supplemental information that may be requested.
- E. Imported Materials Certification must be submitted at least ten (10) days before material is delivered.

1.05 SAMPLES:

- A. Contractor shall submit for approval Samples as required and within the time frame in the Contract Documents. Materials such as concrete, mortar, etc., which require on-site testing will be obtained from Project Site.
- B. Contractor shall submit four (4) samples except where greater or lesser number is specifically required by Contract Documents including, without limitation, the Specifications.
 - (1) Samples must be of sufficient size and quality to clearly illustrate functional characteristics, with integrally related parts and attachment devices.
 - (2) Samples must show full range of texture, color, and pattern.
- C. Contractor shall make all Submittals, unless it has authorized Subcontractor(s) to submit and Contractor has notified the District in writing to this effect.
- D. Samples to be shipped prepaid or hand-delivered to the District.
- E. Contractor shall mark samples to show name of Project, name of Contractor submitting, Contract number and segment of Work where representative Sample will be used, all applicable Specifications Sections and documents, Contract Drawing Number and detail, and ASTM or FS reference, if applicable.
- F. Contractor shall not deliver any material to Site prior to receipt of District's and/or Architect's completed written review and approval. Contractor shall furnish materials equal in every respect to approved Samples and execute Work in conformance therewith.
- G. District's and/or Architect's review, acceptance, and/or approval of Sample(s) will not preclude rejections of any material upon discovery of defects in same prior to final acceptance of completed Work.
- H. After a material has been approved, no change in brand or make will be permitted.
- I. Contractor shall prepare its Submittal Schedule and submit Samples of materials requiring laboratory tests to specified laboratory for testing not less than ninety (90) days before such materials are required to be used in Work.
- J. Samples which are rejected must be resubmitted promptly after notification of rejection and be marked "Resubmitted Sample" in addition to other information required.
- K. Field Samples and Mock-Ups are to be removed by Contractor at District's direction:
 - (1) Size: As Specified.
 - (2) Furnish catalog numbers and similar data, as requested.

1.06 REVIEW AND RESUBMISSION REQUIREMENTS:

- A. The District will arrange for review of Sample(s), Shop Drawing(s), Product Data, and other submittal(s) by appropriate reviewer and return to Contractor as provided below within twenty-one (21) days after receipt or within twenty-one (21) days after receipt of all related information necessary for such review, whichever is later.
- B. One (1) copy of product or materials data will be returned to Contractor with the review status.
- C. Samples to be incorporated into the Work will be returned to Contractor, together with a written notice designating the Sample with the appropriate review status and indicating errors discovered on review, if any. Other Samples will not be returned, but the same notice will be given with respect thereto, and that notice shall be considered a return of the Sample.
- D. Contractor shall revise and resubmit any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) as required by the reviewer. Such resubmittals will be reviewed and returned in the same manner as original Sample(s), Shop Drawing(s), Product Data, and other submittal(s), within fourteen (14) days after receipt thereof or within fourteen (14) days after receipt of all related information necessary for such review. Such resubmittal shall not delay the Work.
- E. Contractor may proceed with any of the Work covered by Sample(s), Shop Drawing(s), Product Data, and other submittal(s) upon its return if designated as no exception taken, or revise as noted, provided the Contractor proceeds in accordance with the District and/or the Architect's notes and comments.
- F. Contractor shall not begin any of the work covered by a Sample(s), Shop Drawing(s), Product Data, and other submittal(s), designated as revise and resubmit or rejected, until a revision or correction thereof has been reviewed and returned to Contractor.
- G. Sample(s), Shop Drawing(s), Product Data, and other submittal(s) designated as revise and resubmit or rejected and requiring resubmittal, shall be revised or corrected and resubmitted to the District no later than fourteen (14) days or a shorter period as required to comply with the approved Construction Schedule, after its return to Contractor.
- H. Neither the review nor the lack of review of any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) shall waive any of the requirements of the Contract Documents, or relieve Contractor of any obligation thereunder.
- I. District's and/or Architect's review of Shop Drawings does not relieve the Contractor of responsibility for any errors that may exist. Contractor is responsible for the dimensions and design of adequate connections and details and for satisfactory construction of all the Work.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

SITE STANDARDS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including without limitation, Site Access, Conditions, and Regulations;
- B. Special Conditions;
- C. Drug-Free Workplace Certification;
- D. Tobacco-Free Environment Certification;
- E. Criminal Background Investigation/Fingerprinting Certification;
- F. Temporary Facilities and Controls.

1.02 REQUIREMENTS OF THE DISTRICT:

- A. Drug-Free Schools and Safety Requirements:
 - (1) All school sites and other District Facilities have been declared "Drug-Free Zones." No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, or contractors are to use drugs on these sites.
 - (2) Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. Contractor shall post: "Non-Smoking Area" in a highly visible location in each work area, staging area, and parking area. 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 is to be kept clean at all times.
 - (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.
- B. Language: Profanity or other unacceptable and/or loud language will not be tolerated, "Cat calls" or other derogatory language toward students, staff, volunteers, parents or public will not be allowed.

C. Disturbing the Peace (Noise and Lighting):

- (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.
- (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 mobile phones or other handheld communication radios.
- (3) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

D. Traffic:

- (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.
- (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.
- (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.
- (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 softscape areas that could otherwise be damaged.

- E. 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.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Obtaining of Permits, Licenses and Registrations and Work to Comply with All Applicable Laws and Regulations;
- B. Special Conditions; and
- C. Quality Control.

1.02 DESCRIPTION:

This section covers the general requirements for regulatory requirements pertaining to the Work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the Contract Documents.

1.03 REQUIREMENTS OF REGULATORY AGENCIES:

- A. All statutes, ordinances, laws, rules, codes, regulations, standards, and the lawful orders of all public authorities having jurisdiction over the Work, are hereby incorporated into these Contract Documents as if repeated in full herein and are intended to be included in any reference to Code or Building Code, unless otherwise specified, including, without limitation, the references in the list below. Contractor shall make available at the Site copies of all the listed documents applicable to the Work as the District and/or Architect may request, including, without limitation, applicable portions of the most current adopted versions of the California Code of Regulations ("CCR").
 - (1) California Building Standards Administrative Code, Part 1, Title 24, CCR.
 - (2) California Building Code (CBC), Part 2, Title 24, CCR; (International Building Code volumes 1-2 and California Amendments).
 - (3) California Electrical Code (CEC), Part 3, Title 24, CCR; (National Electrical Code and California Amendments).
 - (4) California Mechanical Code (CMC), Part 4, Title 24, CCR; (Uniform Mechanical Code and California Amendments).
 - (5) California Plumbing Code (CPC), Part 5, Title 24, CCR; (Uniform Plumbing Code and California Amendments).

- (6) California Fire Code (CFC), Part 9, Title 24, CCR; (International Fire Code and California Amendments).
- (7) California Referenced Standards Code, Part 12, Title 24, CCR.
- (8) State Fire Marshal Regulations, Public Safety, Title 19, CCR.
- (9) Partial List of Applicable National Fire Protection Association (NFPA) Standards:
 - (a) NFPA 13 - Automatic Sprinkler System.
 - (b) NFPA 14 - Standpipes Systems.
 - (c) NFPA 17A - Wet Chemical System
 - (d) NFPA 24 - Private Fire Mains.
 - (e) (California Amended) NFPA 72 - National Fire Alarm Codes.
 - (f) NFPA 253 - Critical Radiant Flux of Floor Covering System.
 - (g) NFPA 2001 - Clean Agent Fire Extinguishing Systems.
- (10) California Division of the State Architect interpretation of Regulations ("DSA IR"), including, without limitation:
 - (a) DSA IR A-6 — Construction Change Document Submittal and Approval Processes.
 - (b) DSA IR A-7 — Project Inspector Certification and Approval.
 - (c) DSA IR A-8 — Project Inspector and Assistant Inspector Duties and Performance.
 - (d) DSA IR A-12 — Assistant Inspector Approval.
- (11) DSA Procedures ("DSA PR")
 - (a) DSA PR 13-01 – Construction Oversight Process
 - (b) DSA PR 13-02 – Project Certification Process

B. This Project shall be governed by applicable regulations, including, without limitation, the State of California's Administrative Regulations for the Division of the State Architect-Structural Safety (DSA/SS), Chapter 4, Part 1, Title 24, CCR, and the most current version on the date the bids are opened and as it pertains to school construction including, without limitation:

- (1) Test and testing laboratory per Section 4-335. District shall pay for the testing laboratory.

- (2) Special inspections per Section 4-333(c).
- (3) Deferred Approvals per section 4-317(g).
- (4) Verified reports per Sections 4-336 & 4-343(c).
- (5) Duties of the Architect & Engineers shall be per Sections 4-333(a) and 4-341.
- (6) Duties of the Contractor shall be per Section 4-343.
- (7) Duties of Project Inspector shall be per Section 4-334.
- (8) Addenda and Construction Change Documents per Section 4-338.

Contractor shall keep and make available all applicable parts of the most current version of Title 24 referred to in the plans and specifications at the Site during construction.

- C. Items of deferred approval shall be clearly marked on the first sheet of the Architect's and/or Engineer's approved Drawings. All items later submitted for approval shall be per Title 24 requirements to the DSA.
- (1) Contractor shall submit the following to Architect for review and endorsement:
 - (a) Product information on proposed material/system supplier.
 - (b) Drawings, specifications, and calculations prepared, signed, and stamped by an architect or engineer licensed in the State of California for that portion of the Work.
 - (c) All other requirements as may be required by DSA.
 - (2) Cost of preparing and submitting documentation per DSA Deferred Approval requirements including required modifications to Drawings and Specifications, whether or not indicated in the Contract Documents, shall be borne by Contractor.
 - (3) Contractor shall not begin fabrication and installation of deferred approval items without first obtaining DSA approval of Drawings and Specifications.
 - (4) Schedule of Work Subject to DSA Deferred Approval: Window wall systems exceeding 10 feet in span.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

ABBREVIATIONS AND ACRONYMS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

1.02 DOCUMENT INCLUDES:

- A. Abbreviations used throughout the Contract Documents.
- B. Reference to a technical society, organization, or body is by abbreviation, as follows:

1.	AA	The Aluminum Association
2.	AAMA	American Architectural Manufacturers Association
3.	AASHTO	American Association of State Highway and Transportation Officials
4.	ABPA	Acoustical and Board Products Association
5.	ACI	American Concrete Institute
6.	AGA	American Gas Association
7.	AGC	Associated General Contractors of America
8.	AHC	Architectural Hardware Consultant
9.	AI	Asphalt Institute
10.	AIA	American Institute of Architects
11.	AIEE	American Institute of Electrical Engineers
12.	AISC	American Institute of Steel Construction
13.	AISI	American Iron and Steel Institute
14.	AMCA	Air Moving and Conditioning Association
15.	ANSI	American National Standards Institute
16.	APA	American Plywood Association
17.	ARI	Air Conditioning and Refrigeration Institute
18.	ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
19.	ASME	American Society of Mechanical Engineers
20.	ASSE	American Society of Structural Engineers
21.	ASTM	American Society of Testing and Materials
22.	AWPB	American Wood Preservers Bureau
23.	AWPI	American Wood preservers Institute
24.	AWS	American Welding Society
25.	AWSC	American Welding Society Code
26.	AWI	Architectural Woodwork Institute
27.	AWWA	American Water Works Association

28.	BIA	Brick Institute of America
29.	CCR	California Code of Regulations
30.	CLFMI	Chain Link Fence Manufacturers Institute
31.	CMG	California Masonry Guild
32.	CRA	California Redwood Association
33.	CRSI	Concrete Reinforcing Steel Institute
34.	CS	Commercial Standards
35.	CSI	Construction Specifications Institute
36.	CTI	Cooling Tower Institute
37.	FGMA	Flat Glass Manufacturer's Association
38.	FIA	Factory Insurance Association
39.	FM	Factory Mutual
40.	FS	Federal Specification
41.	FTI	Facing Title Institute
42.	GA	Gypsum Association
43.	ICC	International Code Council
44.	IEEE	Institute of Electrical and Electronic Engineers
45.	IES	Illumination Engineering Society
46.	LIA	Lead Industries Association
47.	MIA	Marble Institute of America
48.	MLMA	Metal Lath Manufacturers Association
49.	MS	Military Specifications
50.	NAAMM	National Association of Architectural Metal Manufacturers
51.	NBHA	National Builders Hardware Association
52.	NBFU	National Board of Fire Underwriters
53.	NBS	National Bureau of Standards
54.	NCMA	National Concrete Masonry Association
55.	NEC	National Electrical Code
56.	NEMA	National Electrical Manufacturers Association
57.	NFPA	National Fire Protection Association/National Forest Products Association
58.	NMWIA	National Mineral Wool Insulation Association
59.	NTMA	National Terrazzo and Mosaic Association
60.	NWMA	National Woodwork Manufacturer's Association
61.	ORS	Office of Regulatory Services (California)
62.	OSHA	Occupational Safety and Health Act
63.	PCI	Precast Concrete Institute
64.	PCA	Portland Cement Association
65.	PDCA	Painting and Decorating Contractors of America
66.	PDI	Plumbing Drainage Institute
67.	PEI	Porcelain Enamel Institute
68.	PG&E	Pacific Gas & Electric Company
69.	PS	Product Standards
70.	SDI	Steel Door Institute; Steel Deck Institute
71.	SJI	Steel Joist Institute
72.	SSPC	Steel Structures Painting Council
73.	TCA	Tile Council of America
74.	TPI	Truss Plate Institute
75.	UBC	Uniform Building Code
76.	UL	Underwriters Laboratories Code
77.	UMC	Uniform Mechanical Code

78.	USDA	United States Department of Agriculture
79.	VI	Vermiculite Institute
80.	WCLA	West Coast Lumberman's Association
81.	WCLB	West Coast Lumber Bureau
82.	WEUSER	Western Electric Utilities Service Engineering Requirements
83.	WIC	Woodwork Institute of California
84.	WPOA	Western Plumbing Officials Association

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DEFINITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, Contractor shall comply with requirements of the standard, except when more rigid requirements are specified in the Contract Documents, or are required by applicable codes.
- B. Contractor shall conform to current reference standard publication date in effect on the date of bid opening.
- C. Contractor shall obtain copies of standards unless specifically required not to by the Contract Documents.
- D. Contractor shall maintain a copy of all standards at jobsite during submittals, planning, and progress of the specific Work, until final completion, unless specifically required not to by the Contract Documents.
- E. Should specified reference standards conflict with Contract Documents, Contractor shall request clarification from the District and/or the Architect before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the contractual relationship as indicated in the Contract Documents by mention or inference otherwise in any referenced document.
- G. Governing Codes shall be as shown in the Contract Documents including, without limitation, the Specifications.

END OF DOCUMENT

REFERENCES**PART 1 - GENERAL****1.01 SCHEDULE OF REFERENCES:**

The following information is intended only for the general assistance of the Contractor, and the District does not represent that all of the information is current. It is the Contractor's responsibility to verify the correct information for each of the entities listed.

AA	The Aluminum Association 1400 Crystal Drive, Suite 430 Arlington, VA 22202 www.aluminum.org	703/358-2960
AABC	Associated Air Balance Council 1518 K Street, NW, Suite 503 Washington, DC 20005 www.aabc.com	202/737-0202
AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 550 Schaumburg, IL 60173-4268 www.aamanet.org	847/303-5664
AASHTO	American Association of State Highway and Transportation Officials 444 N Capitol St. NW - Suite 249 Washington, DC 20001 www.transportation.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
ACA	American Coatings Association 1500 Rhode Island Ave., NW Washington DC, 20005 www.paint.org	202/462-6272

ACI	American Concrete Institute 38800 Country Club Dr. Farmington Hills, MI 48331-3439 www.concrete.org	248/848-3700
ACPA	American Concrete Pipe Association 8445 Freeport Parkway, Suite 350 Irving, TX 75063-2595 www.concrete-pipe.org	972/506-7216
ADC	Air Duct Council 1901 N. Roselle Road, Suite 800 Schaumburg, Illinois 60195 www.flexibleduct.org	847/706-6750
AF&PA	American Forest and Paper Association 1101 K Street, NW, Suite 700 Washington, DC 20005 www.afandpa.org	202/463-2700
AGA	American Gas Association 400 North Capitol Street, NW Washington, DC 20001 www.aga.org	202/824-7000
AGC	Associate General Contractors of America 2300 Wilson Blvd., Suite 300 Arlington, VA 22201 www.agc.org	703/548-3118
AHA	American Hardboard Association 1210 West Northwest Highway Palatine, IL 60067 domensino.com/AHA/default.htm	847/934-8800
AI	Asphalt Institute 2696 Research Park Drive Lexington, KY 40511-8480 www.asphaltinstitute.org	859/288-4960
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006-5292 www.aia.org	202/626-7300
AISC	American Institute of Steel Construction 130 East Randolph Street Suite 2000 Chicago, IL 60601 www.aisc.org	312.670.2400

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-2**

AIA	American Insurance Association (formerly the National Board of Fire Underwriters) 555 12th St, NW, Suite 550 Washington DC 20004 www.aiadc.org	202/828-7100
AISI	American Iron and Steel Institute 25 Massachusetts Ave., NW, Suite 800 Washington, DC 20001 www.steel.org	202/452.7100
AITC	American Institute of Timber Construction 7012 S. Revere Parkway Suite 140 Centennial, CO 80112 www.aitc-glulam.org	503/639.0651
ALI	Associated Laboratories, Inc. P.O. Box 152837 Dallas, TX 75315 www.assoc-labs.com	214/565-0593
ALSC	American Lumber Standards Committee, Inc. 7470 New Technology Way, Suite F Frederick, MD 21703 www.alsc.org	301/972-1700
AMCA	Air Movement and Control Association International, Inc. 30 W. University Drive Arlington Heights, IL 60004 www.amca.org	847/394-0150
ANLA	American Nursery & Landscape Association (now AmericanHort) 525 9 th St NW, Suite 80 Washington, DC 20004 www.americanhort.org	202/789-2900
ANSI	American National Standards Institute 1899 L Street, NW, 11th Floor Washington, DC, 20036 www.ansi.org	202/293.8020
APA	APA-The Engineered Wood Association 7011 S. 19th Street Tacoma, WA 98466-5333 www.apawood.org	253/565-6600

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-3**

APA	Architectural Precast Association 325 John Know Rd, Ste L103 Tallahassee, FL 32303 www.archprecast.org	850/205.5637
ARI	Air Conditioning and Refrigeration Institute (now Air-Conditioning, Heating, & Refrigeration Institute) 2111 Wilson Blvd, Suite 500 Arlington, VA 22201 www.ahrinet.org	703/524-8800
ARMA	Asphalt Roofing Manufacturers Association Public Information Department 750 National Press Building 529 14th Street, NW Washington, DC 20045 www.asphaltroofing.org	202/591-2450
ASA	The Acoustical Society of America ASA Office Manager Suite 1N01 2 Huntington Quadrangle Melville, NY 11747-4502 http://asa.aip.org	516/576-2360
ASCE	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 www.asce.org	800/548-2723 703/295-6300
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 636 Eye Street, NW Washington, DC 20001-3736 www.asla.org	202/898-2444
ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-5990 www.asme.org	800/434-2763
ASPE	American Society of Plumbing Engineers 2980 S River Rd. Des Plaines, IL 60018 http://aspe.org	847/296-0002

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-4**

ASQ	American Society for Quality P.O. Box 3005 Milwaukee, WI 53201-3005 or 600 North Plankinton Avenue Milwaukee, WI 53203 http://asq.org	800/248-1946 414/272-8575
ASSE	American Society of Sanitary Engineering 901 Canterbury, Suite A Westlake, Ohio 44145 www.asse-plumbing.org	440/835-3040
ASTM	ASTM International 100 Barr Harbor Drive PO Box C700 West Conshohocken, PA, 19428-2959 www.astm.org	610/832-9500
AWCI	Association of the Wall and Ceiling Industry 513 West Broad Street, Suite 210 Falls Church, VA 22046 www.awci.org	703/538-1600
AWPA	American Wood Protection Association P.O. Box 361784 Birmingham, AL 35236-1784 www.awpa.com	205/733-4077
AWPI	American Wood Preservers Institute 2750 Prosperity Ave. Suite 550 Fairfax, VA 22031-4312 www.arcat.com	800/356-AWPI 703/204-0500
AWS	American Welding Society 8669 Doral Boulevard, Suite 130 Doral, Florida 33166 www.aws.org	800/443-9353 305/443-9353
AWI	Architectural Woodwork Institute 46179 Westlake Drive, Suite 120 Potomac Falls, VA 20165-5874 www.awinet.org	571/323-3636
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 www.awwa.org	800/926-7337 303/794 7711

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-5**

BHMA	Builders Hardware Manufacturers Association 355 Lexington Avenue, 15th floor New York, NY 10017 www.buildershardware.com	212/297-2122
BIA	The Brick Industry Association 1850 Centennial Park Drive, Suite 301 Reston, VA 20191 www.gobrick.com	703/620-0010
CGA	Compressed Gas Association 14501 George Carter Way, Suite 103 Chantilly VA 20151-2923 www.cganet.com	703/788-2700
CISCA	Ceilings & Interior Systems Construction Association 1010 Jorie Blvd, Suite 30 Oak Brook, IL 60523 www.cisca.org	630/584-1919
CISPI	Cast Iron Soil Pipe Institute 1064 Delaware Avenue SE Atlanta, GA 30316 www.cispi.org	404/622-0073
CLFMI	Chain Link Fence Manufacturers Institute 10015 Old Columbia Road, Suite B-215 Columbia, MD 21046 www.associationsites.com/main-pub.cfm?usr=clfma	410/290-6267
CPA	Composite Panel Association 19465 Deerfield Avenue, Suite 306 Leesburg, VA 20176 www.compositepanel.org	703/724-1128
CPSC	Consumer Product Safety Commission 4330 East West Highway Bethesda, MD 20814 www.cpsc.gov	301/504-7923 800/638-2772
CRA	California Redwood Association 405 Enfrente Drive, Suite 200 Novato, CA 94949 www.calredwood.org	415/382-0662

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-6**

CRI	Carpet and Rug Institute P.O. Box 2048 Dalton, Georgia 30722-2048 www.carpet-rug.org	706/278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Road Schaumburg, IL 60173 4758 www.crsi.org	847/517-1200
CSI	The Construction Specifications Institute 110 South Union Street, Suite 100 Alexandria VA 22314 www.csinet.org	800/689-2900
CTIOA	Ceramic Tile Institute of America 12061 Jefferson Blvd. Culver City, CA 90230-6219 www.ctioa.org	310/574-7800
DHI	Door and Hardware Institute (formerly National Builders Hardware Association) 14150 Newbrook Dr. Chantilly, VA 20151 www.dhi.org	703/222-2010
DIPRA	Ductile Iron Pipe Research Association 2000 2nd Avenue, South Suite 429 Birmingham, AL 35233 www.dipra.org	205/402-8700
DOC	U.S. Department of Commerce 1401 Constitution Ave., NW Washington, D.C. 20230 www.commerce.gov	202/482-2000
DOT	U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590 www.dot.gov	855/368-4200
EJMA	Expansion Joint Manufacturers Association, Inc. 25 North Broadway Tarrytown, NY 10591 www.ejma.org	914/332-0040

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-7**

EPA	Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460 www.epa.gov	202/272-0167
FCICA	Floor Covering Installation Contractors Association 7439 Millwood Drive West Bloomfield, MI 48322 www.fcica.com	248/661-5015 877/TO-FCICA
FM Global	Factory Mutual Insurance Company Amy Daley Global Practice Leader – Education, Public Entities, Health Care FM Global 270 Central Avenue Johnston, RI 02919-4949 www.fmglobal.com	401/275-3000 401/275-3029
FS	General Services Administration (GSA) Index of Federal Specifications, Standards and Commercial Item Descriptions 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407 www.gsa.gov	202/619-8925
GA	The Gypsum Association 6525 Belcrest Road, Suite 480 Hyattsville, MD 20782 www.gypsum.org	301/277-8686
GANA	Glass Association of North America 800 SW Jackson St., Suite 1500 Topeka, KS 66612-1200 www.glasswebsite.com	785/271-0208
HMA	Hardwood Manufacturers Association 665 Rodi Road, Suite 305 Pittsburgh, PA 15235 http://hmamembers.org	412/244-0440
HPVA	Hardwood Plywood & Veneer Association 1825 Michael Faraday Drive Reston, Virginia 20190 www.hpva.org	703/435-2900

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-8**

IAPMO	International Association of Plumbing and Mechanical Officials (formerly the Western Plumbing Officials Association) 4755 E. Philadelphia St. Ontario, CA 91761 www.iapmo.org	909/472-4100
ICC	International Code Council 500 New Jersey Avenue, NW, 6th Floor Washington, DC 20001 www.iccsafe.org	888/422-7233
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue, 17th Floor New York, NY 10016-5997 www.ieee.org	212/419-7900
IES	Illuminating Engineering Society 120 Wall Street, Floor 17 New York, NY 10005-4001 www.ies.org	212/248-5000
ITRK	Intertek Testing Services 3933 US Route 11 Cortland, NY 13045 www.intertek.com	607/753-6711
MCAA	Mechanical Contractors Association of America 1385 Piccard Drive Rockville, MD 20850 www.mcaa.org	301/869-5800
MIA	Marble Institute of America 28901 Clemens Rd, Ste 100 Cleveland, OH 44145 www.marble-institute.com	440/250-9222
MMPA (formerly WMMPA)	Moulding & Millwork Producers Association (formerly Wood Moulding & Millwork Producers Association) 507 First Street Woodland, CA 95695 www.wmmpa.com	530/661-9591 800/550-7889

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-9**

MSS	Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry 127 Park Street, NE Vienna, VA 22180-4602 http://mss-hq.org	703/281-6613
NAAMM	National Association of Architectural Metal Manufacturers 800 Roosevelt Rd. Bldg. C, Suite 312 Glen Ellyn, IL 60137 www.naamm.org	630/942-6591
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 5100 Forbes Blvd. Lanham, MD USA 20706-4407 www.asphaltpavement.org	888/468-6499 301/731-4748
NCSPA	National Corrugated Steel Pipe Association 14070 Proton Road, Suite 100 LB9 Dallas, TX 75244 www.ncspa.org	972/850-1907
NCMA	National Concrete Masonry Association 13750 Sunrise Valley Drive Herndon, VA 20171-4662 www.ncma.org	703/713-1900
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877 www.nebb.org	301/977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 www.necanet.org	301/657-3110
NEMA	National Electrical Manufacturers Association 1300 North 17th Street, Suite 1752 Rosslyn, Virginia 22209 www.nema.org	703/841-3200

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-10**

NEII	National Elevator Industry, Inc. 1677 County Route 64 P.O. Box 838 Salem, New York 12865-0838 www.neii.org	518/854-3100
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, Massachusetts USA 02169-7471 www.nfpa.org	617/770-3000
NHLA	National Hardwood Lumber Association PO Box 34518 Memphis, TN 38184 www.nhla.com	901/377-1818
NIA	National Insulation Association 12100 Sunset Hills Road, Suite 330 Reston, VA 20190 www.insulation.org	703/464-6422
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018-5607 www.nrca.net	847/299-9070
NSF	NSF International P.O. Box 130140 789 N. Dixboro Road Ann Arbor, MI 48113-0140, USA www.nsf.org	800/673-6275 734/769-8010
NTMA	National Terrazzo and Mosaic Association PO Box 2605 Fredericksburg, TX 78624 www.ntma.com	800/323-9736
OSHA	Occupational Safety and Health Act U.S. Department of Labor Occupational Safety & Health Administration 200 Constitution Ave., NW Washington, D.C. 20210 www.osha.gov	800/321-OSHA (6742)

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-11**

PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 or 500 New Jersey Ave., N.W. 7 th Floor Washington, D.C. 20001 www.cement.org	847/966-6200 202/408-9494
PCI	Precast/Prestressed Concrete Institute 200 W. Adams St. #2100 Chicago, IL 60606 www.pci.org	312/786-0300
PDCA	Painting and Decorating Contractors of America 2316 Millpark Drive, Ste 220 Maryland Heights, MO 63043 www.pdca.com	800/332-PDCA (7322) 314/514-7322
PDI	Plumbing & Drainage Institute 800 Turnpike Street, Suite 300 North Andover, MA 01845 http://pdionline.org	978/557-0720 800/589-8956
PEI	Porcelain Enamel Institute, Inc. P.O. Box 920220 Norcross, GA 30010 www.porcelainenamel.com	770/676-9366
PG&E	Pacific Gas & Electric Company www.pge.com	800/743-5000
PLANET	Professional Landcare Network 950 Herndon Parkway, Suite 450 Herndon, Virginia 20170 www.landcarenetwork.org	703/736-9666 800/395-2522 703/736-9668
RFCI	Resilient Floor Covering Institute 115 Broad Street, Suite 201 La Grange GA 30240 www.rfci.com	706/882-3833
RIS	Redwood Inspection Service 818 Grayson Road, Suite 201 Pleasant Hill, CA 94523 www.redwoodinspection.com	925/935-1499
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021 www.sdi.org	847/458-4647

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-12**

SDI	Steel Door Institute 30200 Detroit Road Westlake, Ohio 44145 www.steeldoor.org	440/899-0010
SJI	Steel Joist Institute 234 W. Cheves Street Florence, SC 29501 http://steeljoist.org	843/407-4091
SMA	Stucco Manufacturers Association 500 East Yale Loop Irvine, CA 92614 www.stuccomfgassoc.com	949/387.7611
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, Virginia 20151-1219 www.smacna.org	703/803-2980
SPI	SPI: The Plastics Industry Trade Association, Inc. 1667 K St., NW, Suite 1000 Washington, DC 20006 www.plasticsindustry.org	202/974-5200
SSPC	Society for Protective Coatings (formerly the Steel Structures Painting Council) 40 24th St 6th Fl Pittsburgh, PA 15222 www.sspc.org	412/281-2331 877/281-7772
TCA	The Tile Council of North America 100 Clemson Research Blvd. Anderson, SC 29625 www.tcnatile.com	864/646-8453
TPI	Truss Plate Institute 218 North Lee Street, Suite 312 Alexandria, VA 22314 www.tpinst.org	703/683-1010
TPI	Turfgrass Producers International 2 East Main Street East Dundee, IL 60118 www.turfgrasssod.org	800/405-8873 847/649-5555

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

**REFERENCES
DOCUMENT 01 42 19-13**

TCIA	Tree Care Industry Association (formerly the National Arborist Association) 136 Harvey Road, Suite 101 Londonderry, NH 03053 www.tcia.org	800/733-2622
TVI	The Vermiculite Institute c/o The Schundler Company 150 Whitman Avenue Edison, NJ. 08817 www.vermiculiteinstitute.org	732/287-2244
UL	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com	847/272-8800 877/854-3577
UNI	Uni-Bell PVC Pipe Association 2711 LBJ Freeway, Suite 1000 Dallas, TX 75234 www.uni-bell.org	972/243-3902
USDA	U.S. Department of Agriculture 1400 Independence Ave., S.W. Washington, DC 20250 www.usda.gov	202/720-2791
WA	Wallcoverings Association 401 North Michigan Avenue Suite 2200 Chicago, IL 60611 www.wallcoverings.org	312/321-5166

WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281 or 6980 S.W. Varns Tigard, OR 97223 www.wclib.org	503/639-0651
WCMA	Window Covering Manufacturers Association 355 Lexington Avenue 15th Floor New York, New York 10017 www.wcmanet.org	212/297-2122
WDMA	Window & Door Manufacturers Association 401 N. Michigan Avenue, Suite 2200 Chicago, IL 60611 or 2025 M Street, NW, Ste. 800 Washington, D.C. 20036-3309 www.wdma.com	312/321-6802 202/367-1157
WI	Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798 www.wicnet.org	916/372-9943
WRI	Wire Reinforcement Institute 942 Main Street Hartford, CT 06103 www.wirereinforcementinstitute.org	860/240-9545
WWCA	Western Wall & Ceiling Contractors Association 1910 N. Lime St. Orange, California 92865 www.wwcca.org	714/221-5520
WWPA	Western Wood Products Association 522 SW Fifth Ave., Suite 500 Portland, OR 97204-2122 www2.wwpa.org	503/224-3930

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

PITTSBURG UNIFIED SCHOOL DISTRICT

Pittsburg HS – Creative Arts Bldg. (CAB)
Entry Plaza Modernization Project

REFERENCES

DOCUMENT 01 42 19-15

MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Purchase of Materials and Equipment;
- B. Special Conditions;
- C. Imported Materials Certification.

1.02 MATERIAL AND EQUIPMENT

- A. Only items approved by the District and/or Design Professional shall be used.
- B. Contractor shall submit lists of products and other product information in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

1.03 MATERIAL AND EQUIPMENT COLORS

- A. The District and/or Architect will provide a schedule of colors.
- B. 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.
- C. Contractor shall request priority in writing for any item requiring advance ordering to maintain the approved Construction Schedule.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Contractor shall deliver manufactured materials in original packages, containers, or bundles (with seals unbroken), bearing name or identification mark of manufacturer.
- B. 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.
- C. 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.

- D. Materials are not acceptable 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.
- E. Contractor shall store material so as to cause no obstructions of sidewalks, roadways, access to the Site or buildings, and underground services. Contractor shall protect material and equipment furnished under Contract.
- F. Contractor may store materials on Site with prior written approval by the District, all material 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 a bonded warehouse and with appropriate insurance coverage at no cost to District.
- G. When any room in Project is used as a shop or storeroom, the 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.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

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

2.02 FACILITIES AND EQUIPMENT

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

2.03 MATERIAL REFERENCE STANDARDS

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

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. 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).
- B. Work shall be executed by tradespersons skilled in their respective lines of Work. When completed, parts shall have been durably and substantially built and present a neat appearance.

3.02 COORDINATION

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

3.03 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 manner to assure well-balanced performance, in accordance with manufacturer's recommendations and by Contract Documents. For example, electric water coolers require water, electricity, and drain services; roof drains require drain system; 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," "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.

3.04 APPROVED INSTALLER OR APPLICATOR

Installation by a manufacturer's approved installer or applicator is an understood part of Specifications and only approved installer or applicator is to provide on-site Work where specified manufacturer has on-going program of approving (i.e. certifying, bonding, re-warranting) installers or applicators. Newly established relationships between a manufacturer and an installer or applicator who does not have other approved applicator work in progress or completed is not approved for this Project.

3.05 MANUFACTURER'S RECOMMENDATIONS

All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative. Should Contract Documents differ from recommendations of manufacturer or directions of his 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

QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections and Tests, Uncovering of Work and Non-conforming of Work and Correction of Work;
- B. Special Conditions.

1.02 RELATED CODES:

- A. The Work is governed by requirements of Title 24, California Code of Regulations ("CCR"), and the Contractor shall keep a copy of these available at the job Site for ready reference during construction.
- B. The Division of the State Architect ("DSA") shall be notified at or before the start of construction.

1.03 OBSERVATION AND SUPERVISION:

- A. 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, CCR, Part 1, Title 24, Section 4-341.
- B. One or more Project Inspector(s) approved by DSA and employed by or in contract with the District, referred to hereinafter as the "Project Inspector", will observe the work in accordance with CCR, Part 1, Title 24, Sections 4-333(b) and 4-342:
 - (1) The Project Inspector and Special Inspector(s) 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. The Contractor shall provide facilities and operation of equipment as needed, and access as required and shall provide assistance for sampling or measuring materials.
 - (2) The Project Inspector will notify the District and Architect and call the attention of the Contractor to any observed failure of Work or material to conform to Contract Documents.

- (3) The Project Inspector shall observe and monitor all testing and inspection activities required.

The Contractor shall conform with all applicable laws as indicated in the Contract Documents, including, without limitation, to CCR, Part 1, Title 24, Section 4-343. The Contractor shall supervise and direct the Work and maintain a competent superintendent on the job who is authorized to act in all matters pertaining to the Work. The Contractor's superintendent shall also 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 Part 1, Title 24, Section 4-336.

1.04 TESTING AGENCIES:

- A. Testing agencies and tests shall be in conformance with the General Documents and the requirements of Part 1, Title 24, Section 4- 335.
- B. Testing and inspection in connection with earthwork shall be under the direction of the District's consulting soils engineer, if any, referred to hereinafter as the "Soils Engineer."
- C. Testing and inspection of construction materials and workmanship shall be performed by a qualified laboratory, referred to hereinafter as the "Testing 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.

1.05 TESTS AND INSPECTIONS:

- A. The Contractor shall be responsible for notifying the District and Project Inspector of all required tests and inspections. Contractor shall notify the District and Project Inspector at least seventy-two hours (72) hours in advance of performing any Work requiring testing or inspection.
- B. The Contractor shall provide access to Work to be tested and furnish incidental labor, equipment, and facilities to facilitate all inspections and tests.
- C. The District will pay for first inspections and tests required by the "CCR", and other inspections or tests that the District and/or the Architect may direct to have made, including the following principal items:
 - (1) Tests and observations for earthwork and paving.
 - (2) Tests for concrete mix designs, including tests of trial batches.
 - (3) Tests and inspections for structural steel work.
 - (4) Field tests for framing lumber moisture content.

- (5) Additional tests directed by the District that establish that materials and installation comply with the Contract Documents.
 - (6) Tests and observations of welding and expansion anchors.
- D. The District may at its discretion, pay and then back charge the Contractor for:
 - (1) Retests or re-inspections, if required, and tests or inspections required due to Contractor error or lack of required identifications of material.
 - (2) Uncovering of work in accordance with Contract Documents.
 - (3) Testing done on weekends, holidays, and overtime will be chargeable to the Contractor for the overtime portion.
 - (4) Testing done off Site.
- E. Testing and inspection reports and certifications:
 - (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.
 - (a) The District;
 - (b) The Construction Manager, if any;
 - (c) The Architect;
 - (d) The Consulting Engineer, if any;
 - (e) Other engineers on the Project, as appropriate;
 - (f) The Project Inspector; and
 - (g) The Contractor.
 - (2) When the test or inspection is one required by the CCR, a copy of the report shall also be provided to the DSA.

PART 2 - PRODUCTS

2.01 TYPE OF TESTS AND INSPECTIONS

- A. Testing and inspection shall be in accordance with DSA Form 103 (or current version).

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Site Standards; and
- D. Construction Waste Management and Disposal.

1.02 TEMPORARY UTILITIES:

- A. Electric Power and Lighting:
 - (1) Contractor will pay for power during the course of the Work. To the extent power is available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver that power service from its existing location in the building(s) or on the Site to point of intended use.
 - (2) Contractor shall verify characteristics of power available in building(s) or on the Site. Contractor shall take all actions required to make modifications where power of higher voltage or different phases of current are required. Contractor shall be fully responsible for providing that service and shall pay all costs required therefor.
 - (3) 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.
 - (4) Contractor shall be responsible for maintaining existing lighting levels in the project vicinity should temporary outages or service interruptions occur.

B. Heat and Ventilation:

- (1) Contractor shall provide temporary heat 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.
- (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.
- (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.

C. Water:

- (1) Contractor shall pay for water used during the course of the Work. Contractor shall coordinate and pay for installation or use of water meter in compliance with local water agency requirements. To the extent water is then available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver such utility service from its existing location in the building(s), on the Site, or other location approved by the local water agency, to point of intended use.
- (2) Contractor shall use backflow preventers on water lines at point of connection to District's water supply. Backflow preventers shall comply with requirements of Uniform Plumbing Code.
- (3) Contractor shall make potable water available for human consumption.

D. Sanitary Facilities:

- (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 Inspector or Contractor completes all other work at the Site.
- (2) Use of toilet facilities in the Work under construction shall not be permitted except by consent of the Inspector and the District.

E. Telephone Service:

- (1) Contractor shall arrange with local telephone service company for telephone & high speed internet service as required 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.
- (2) Contractor shall pay the costs for telephone, high speed internet and fax lines installation, maintenance, service, and removal.

F. Fire Protection:

- (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.
- (2) Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces. Notify Local Fire Authority prior to welding.

G. Trash Removal:

- (1) Contractor shall provide trash removal on a weekly basis. Under no circumstance shall Contractor use District trash service.

H. Field Office:

- (1) If Contractor chooses to provide a field office, it shall be an acceptable construction trailer that is well-lit and ventilated. The construction trailer shall be equipped with shelves, desks, filing cabinet, chairs, and such other items of equipment needed. Trailer and equipment are the property of the Contractor and must be removed from the Site upon completion of the Work.
- (2) Contractor shall provide any additional electric lighting and power required for the trailer. Contractor shall make adequate provisions for heating and cooling as required.

1.03 CONSTRUCTION AIDS:

A. Plant and Equipment:

- (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 workers. Include elevators, hoists, debris chutes, and other equipment, tools, and appliances necessary for performance of the Work.

- (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.
- B. None of the District's tools and equipment shall be used by Contractor for the performance of the Work.

1.04 BARRIERS AND ENCLOSURES:

- A. Contractor shall obtain the District's written permission for locations and types of temporary barriers and enclosures, including fire-rated materials proposed for use, prior to their installation.
- B. 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, the public, and workers. Contractor shall also protect the Work and existing facilities from the elements, and adjacent construction and improvements, persons, and trees and plants from damage and injury from demolition and construction operations.
- C. Contractor shall provide site access to existing facilities for persons using other buildings and portions of the Site, the public, and for deliveries and other services and activities.
- D. Tree and Plant Protection:
 - (1) Contractor shall preserve and protect existing trees and plants on the Premises that are not designated or required to be removed, and those adjacent to the Premises.
 - (2) Contractor shall provide barriers to a minimum height of 4'-0" around drip line of each tree and plant, around each group of trees and plants, as applicable, in the proximity of demolition and construction operations, or as denoted on the Plans.
 - (3) Contractor shall not park trucks, store materials, perform Work or cross over landscaped areas. Contractor shall not dispose of paint thinners, water from cleaning, plastering or concrete operations, or other deleterious materials in landscaped areas, storm drain systems, or sewers. Plant materials damaged as a result of the performance of the Work shall, at the option of the District and at Contractor's expense, either be replaced with new plant materials equal in size to those damaged or by payment of an amount representing the value of the damaged materials as determined by the District.
 - (4) Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.

- (5) Excavation around Trees:
- (a) Excavation within drip lines of trees shall be done only where absolutely necessary and with written permission from the District.
 - (b) Where trenching for utilities is required within drip lines, tunneling under and around roots shall be by hand digging and shall be approved by the District. Main lateral roots and taproots shall not be cut. All roots 2 inches in diameter and larger shall be tunneled under and heavily wrapped with wet burlap so as to prevent scarring or excessive drying. Smaller roots that interfere with installation of new work may be cut with prior approval by the District. Roots must first be cut with a Vermeer, or equivalent, root cutter prior to any trenching.
 - (c) Where excavation for new construction is required within drip line of trees, hand excavation shall be employed to minimize damage to root system. Roots shall be relocated in backfill areas wherever possible. If encountered immediately adjacent to location of new construction, roots shall be cut approximately 6 inches back from new construction.
 - (d) Approved excavations shall be carefully backfilled with the excavated materials approved for backfilling. Backfill shall conform to adjacent grades without dips, sunken areas, humps, or other surface irregularities. Do not use mechanical equipment to compact backfill. Tamp carefully using hand tools, refilling and tamping until Final Acceptance as necessary to offset settlement.
 - (e) Exposed roots shall not be allowed to dry out before permanent backfill is placed. Temporary earth cover shall be provided, or roots shall be wrapped with four layers of wet, untreated burlap and temporarily supported and protected from damage until permanently relocated and covered with backfill.
 - (f) Accidentally broken roots should be sawed cleanly 3 inches behind ragged end.

1.05 SECURITY:

The Contractor shall be responsible for project security for materials, tools, equipment, supplies, and completed and partially completed Work.

1.06 TEMPORARY CONTROLS:

A. Noise Control:

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

B. Noise and Vibration:

- (1) Equipment and impact tools shall have intake and exhaust mufflers.
- (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.

C. Dust and Dirt:

- (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.
- (2) Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.
- (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.
- (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.

D. Water:

- (1) 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.

E. Pollution:

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

F. Lighting:

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

1.07 JOB SIGN(S):

NOT USED

1.08 PUBLICITY RELEASES:

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

PART 2 – PRODUCTS Not used.

PART 3 – EXECUTION Not used.

END OF DOCUMENT

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Temporary Facilities and Controls.

1.02 SECTION INCLUDES:

- A. Administrative and procedural requirements for the following:
 - (1) Salvaging non-hazardous construction waste.
 - (2) Recycling non-hazardous construction waste.
 - (3) Disposing of non-hazardous construction waste.

1.03 DEFINITIONS:

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.04 PERFORMANCE REQUIREMENTS:

- A. General: Develop waste management plan that results in end-of Project rates for salvage/recycling of fifty percent (50%) by weight (or by volume, but not a combination) of total waste generated by the Work.

1.05 SUBMITTALS:

- A. Waste Management Plan: Submit waste management plan within 30 days of date established for commencement of the Work.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit copies of report. Include the following information:
 - (1) Material category.
 - (2) Generation point of waste.
 - (3) Total quantity of waste in tons or cubic yards.
 - (4) Quantity of waste salvaged, both estimated and actual in tons or cubic yards.
 - (5) Quantity of waste recycled, both estimated and actual in tons or cubic yards.
 - (6) Total quantity of waste recovered (salvaged plus recycled) in tons or cubic yards.
 - (7) Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- C. Waste Reduction Calculations: Before request for final payment, submit copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

- H. Qualification Data: For Waste Management Coordinator.
- I. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- J. Submittal procedures and quantities are specified in Document 01 33 00.

1.06 QUALITY ASSURANCE:

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements. Review methods and procedures related to waste management including, but not limited to, the following:
 - (1) Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
 - (2) Review requirements for documenting quantities of each type of waste and its disposition.
 - (3) Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 - (4) Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 - (5) Review waste management requirements for each trade.

1.07 WASTE MANAGEMENT PLAN:

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measurement throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

- (1) Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
- (2) Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (3) Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (4) Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
- (5) Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
- (6) Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 PLAN IMPLEMENTATION:

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - (1) Comply with Document 01 50 00 for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 - (1) Distribute waste management plan to everyone concerned within 3 days of submittal return.

- (2) Distribute waste management plan to entities when they first begin work on site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - (1) Designate and label specific areas of Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 - (2) Comply with Document 01 50 00 for controlling dust and dirt, environmental protection, and noise control.

3.02 RECYCLING CONSTRUCTION WASTE:

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
 - (1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
 - (a) Inspect containers and bins for contamination and remove contaminated materials if found.
 - (2) Stockpile processed materials on site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - (3) Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - (4) Store components off the ground and protect from the weather.
 - (5) Remove recyclable waste off District property and transport to recycling receiver or processor.

- D. Packaging:
 - (1) Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - (2) Polystyrene Packaging: Separate and bag material.
 - (3) Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on Site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 - (4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- E. Site-Clearing Wastes: Chip brush, branches, and trees on site.
- F. Wood Materials:
 - (1) Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 - (2) Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- G. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.
 - (1) Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.03 DISPOSAL OF WASTE:

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - (1) Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on site.
 - (2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off District property and legally dispose of them.

END OF SECTION

PRODUCT DELIVERY, STORAGE AND HANDLING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access, Conditions and Requirements;
- B. Special Conditions.

1.02 PRODUCTS

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

1.03 TRANSPORTATION AND HANDLING

- A. Contractor shall transport and handle Products in accordance with manufacturer's instructions.
- B. Contractor shall promptly inspect shipments to confirm that Products comply with requirements, quantities are correct, and products are undamaged.
- C. Contractor shall provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.04 STORAGE AND PROTECTION

- A. 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.
- B. For exterior storage of fabricated Products, Contractor shall place on sloped supports, above ground.
- C. Contractor shall provide off-site storage and protection when Site does not permit on-site storage or protection.

- D. Contractor shall cover products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.
- E. Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and prevent mixing with foreign matter.
- F. Contractor shall provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- G. 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.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

FIELD ENGINEERING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Investigation, and Soils Investigation Report;
- B. Special Conditions;
- C. Site-Visit Certification.

1.02 REQUIREMENTS INCLUDED:

- A. Contractor shall provide and pay for field engineering services by a California-registered engineer, required for the project, including, without limitations:
 - (1) Survey work required in execution of the Project.
 - (2) Civil or other professional engineering services specified, or required to execute Contractor's construction methods.

1.03 QUALIFICATIONS OF SURVEYOR OR ENGINEERS:

Contractor shall only use a qualified licensed engineer or registered land surveyor, to whom District makes no objection.

1.04 SURVEY REFERENCE POINTS:

- A. Existing basic horizontal and vertical control points for the Project are those designated on the Drawings.
- B. Contractor shall locate and protect control points prior to starting Site Work and preserve all permanent reference points during construction. In addition Contractor shall:
 - (1) Make no changes or relocation without prior written notice to District and Architect.
 - (2) Report to District and Architect when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
 - (3) Require surveyor to replace Project control points based on original survey control that may be lost or destroyed.

1.05 RECORDS:

Contractor shall maintain a complete, accurate log of all control and survey work as it progresses.

1.06 SUBMITTALS:

- A. Contractor shall submit name and address of Surveyor and Professional Engineer to District and Architect prior to its/their work on the Project.
- B. On request of District and Architect, Contractor shall submit documentation to verify accuracy of field engineering work, at no additional cost to the District.
- C. Contractor shall submit a certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance or nonconformance with Contract Documents.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 COMPLIANCE WITH LAWS:

Contractor is responsible for meeting all applicable codes, OSHA, safety and shoring requirements.

3.02 NONCONFORMING WORK:

Contractor is responsible for any re-surveying required by correction of nonconforming work.

END OF DOCUMENT

CUTTING AND PATCHING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections, and Tests, Integration of Work, Nonconforming Work, and Correction of Work, and Uncovering Work;
- B. Special Conditions;
- C. Hazardous Materials Procedures and Requirements;
- D. Hazardous Materials Certification;
- E. Lead-Based Paint Certification;
- F. Imported Materials Certification.

1.02 CUTTING AND PATCHING:

- A. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work or to:
 - (1) Make several parts fit together properly.
 - (2) Uncover portions of Work to provide for installation of ill-timed Work.
 - (3) Remove and replace defective Work.
 - (4) Remove and replace Work not conforming to requirements of Contract Documents.
 - (5) Remove Samples of installed Work as specified for testing.
 - (6) Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - (7) Attaching new materials to existing remodeling areas – including painting (or other finishes) to match existing conditions.

- B. In addition to Contract requirements, upon written instructions from the 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.
- C. 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.

1.03 SUBMITTALS:

- A. Prior to any cutting or alterations that may affect the structural safety of Project, or work of others, and well in advance of executing such cutting or alterations, 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, including the following:
 - (1) The work of the District or other trades.
 - (2) Structural value or integrity of any element of Project.
 - (3) Integrity or effectiveness of weather-exposed or weather-resistant elements or systems.
 - (4) Efficiency, operational life, maintenance or safety of operational elements.
 - (5) Visual qualities of sight-exposed elements.
- B. Contractor's Request shall also include:
 - (1) Identification of Project.
 - (2) Description of affected Work.
 - (3) Necessity for cutting, alteration, or excavations.
 - (4) Effects of Work on District, other trades, or structural or weatherproof integrity of Project.
 - (5) Description of proposed Work:
 - (a) Scope of cutting, patching, alteration, or excavation.
 - (b) Trades that will execute Work.
 - (c) Products proposed to be used.
 - (d) Extent of refinishing to be done.
 - (6) Alternates to cutting and patching.

- (7) Cost proposal, when applicable.
- (8) The scheduled date the Contractor intends to perform the Work and the duration of time to complete the Work.
- (9) Written permission of District or other District contractor(s) whose work will be affected.

1.04 QUALITY ASSURANCE:

- A. 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.
- B. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, 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.

1.05 PAYMENT FOR COSTS:

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of the District, its consultants, including but not limited to the Construction Manager, the Architect, the Project Inspector(s), Engineers, and Agents, will be paid by Contractor and/or deducted from the Contract by the District.
- B. District shall only pay for cost of Work if it is part of the original 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. Contractor shall provide written cost proposals prior to proceeding with cutting and patching.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. 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 first recommend a product of a manufacturer or appropriate trade association for approval by the District.
- B. Materials to be cut and patched include those damaged by the performance of the Work.

PART 3 – EXECUTION

3.01 INSPECTION:

- A. 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.
- B. 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.

3.02 PREPARATION:

- A. 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.
- B. Contractor shall provide devices and methods to protect other portions of Project from damage.
- C. 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.

3.03 ERECTION, INSTALLATION AND APPLICATION:

- A. With respect to performance, Contractor shall:
 - (1) Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
 - (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) Execute cutting, demolition excavating, and backfilling by methods that will prevent damage to other Work and damage from settlement.
- B. Contractor shall employ original installer or fabricator to perform cutting and patching for:
 - (1) Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other trades.
 - (2) Sight-exposed finished surfaces.

- C. Contractor shall 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.
- D. Contractor 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.
- E. Contractor shall restore Work which has been cut or removed. Contractor shall install new products to provide completed Work in accordance with requirements of the Contract Documents and as required to match surrounding areas and surfaces.
- F. Contractor shall refinish all continuous surfaces to nearest intersection as necessary to match the existing finish to any new finish.

END OF DOCUMENT

ALTERATION PROJECT PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Integration of Work, Purchase of Materials and Equipment, Uncovering of Work and Non-conforming Work and Correction of Work and Trenches;
- B. Special Conditions.

PART 2 - PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK:

- A. New Materials: As specified in the Contract Documents including, without limitation, in the Specifications, Contractor shall match existing products, conditions, and work for patching and extending work.
- B. Type and Quality of Existing Products: Contractor shall determine by inspection, by testing products where necessary, by referring to existing conditions and to the Work as a standard.

PART 3 - EXECUTION

3.01 EXAMINATION:

- A. Contractor shall verify that demolition is complete and that areas are ready for installation of new Work.
- B. By beginning restoration Work, Contractor acknowledges and accepts the existing conditions.

3.02 PREPARATION:

- A. Contractor shall cut, move, or remove items as necessary for access to alterations and renovation Work. Contractor shall replace and restore these at completion.
- B. Contractor shall remove unsuitable material not as salvage unless otherwise indicated in the Contract Documents. Unsuitable material may include, without limitation, rotted wood, corroded metals, and deteriorated masonry and concrete. Contractor shall replace materials as specified for finished Work.

- C. Contractor shall remove debris and abandoned items from all areas of the Site and from concealed spaces.
- D. Contractor shall prepare surface and remove surface finishes to provide for proper installation of new Work and finishes.
- E. Contractor shall close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity. Contractor shall insulate ductwork and piping to prevent condensation in exposed areas. Contractor shall insulate building cavities for thermal and/or acoustical protection, as detailed.

3.03 INSTALLATION:

- A. Contractor shall coordinate Work of all alternations and renovations to expedite completion and to accommodate District occupancy.
- B. Designated Areas and Finishes: Contractor shall complete all installations in all respects, including operational, mechanical work and electrical work.
- C. Contractor shall remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to original or specified condition.
- D. Contractor shall refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat and square or straight transition to adjacent finishes.
- E. Contractor shall install products as specified in the Contract Documents, including without limitation, the Specifications.

3.04 TRANSITIONS:

- A. Where new Work abuts or aligns with existing, Contractor shall perform a smooth and even transition. Patched Work must match existing adjacent work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new Work is not possible, Contractor shall terminate existing surface along a straight line at a natural line of division and make a recommendation for resolution to the District and the Architect for review and approval.

3.05 ADJUSTMENTS:

- A. Where removal of partitions or walls results in adjacent spaces becoming one, Contractor shall rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4 inch or more occurs, Contractor shall submit a recommendation for providing a smooth transition to the District and the Architect for review and approval.

- C. Contractor shall trim and seal existing wood doors and shall trim and paint metal doors as necessary to clear new floor finish and refinish trim as required.
- D. Contractor shall fit Work at penetrations of surfaces.

3.06 REPAIR OF DAMAGED SURFACES:

- A. Contractor shall patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other imperfections, in the area where the Work is performed.
- B. Contractor shall repair substrate prior to patching finish.

3.07 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS:

- A. Cultivated or planted areas and other surface improvements which are damaged by actions of the Contractor shall be restored by Contractor to their original condition or better, where indicated.
- B. Contractor shall protect and replace, if damaged, all existing guard posts, barricades, and fences.
- C. Contractor shall give special attention to avoid damaging or killing trees, bushes and/or shrubs on the Premises and/or identified in the Contract Documents, including without limitation, the Drawings.

3.08 FINISHES:

- A. Contractor shall finish surfaces as specified in the Contract Documents, including without limitations, the provisions of all Divisions of the Specifications.
- B. Contractor shall finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, Contractor shall refinish entire surface to nearest intersections.

3.09 CLEANING:

- A. Contractor shall continually clean the Site and the Premises as indicated in the Contract Documents, including without limitation, the provisions in the General Conditions and the Specifications regarding cleaning.

END OF DOCUMENT

CONTRACT CLOSEOUT AND FINAL CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of Work;
- B. Special Conditions;
- C. Temporary Facilities and Controls.

1.02 CLOSEOUT PROCEDURES

Contractor shall comply with all closeout provisions as indicated in the General Conditions.

1.03 FINAL CLEANING

- A. Contractor shall execute final cleaning prior to final inspection.
- B. Contractor shall clean interior and exterior glass and all surfaces exposed to view; remove temporary labels, tape, stains, and foreign substances, polish transparent and glossy surfaces, wax and polish new vinyl floor surfaces, vacuum carpeted and soft surfaces.
- C. Contractor shall clean equipment and fixtures to a sanitary condition.
- D. Contractor shall replace filters of operating equipment.
- E. Contractor shall clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Contractor shall clean Site, sweep paved areas, and rake clean landscaped surfaces.
- G. Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.

1.04 ADJUSTING

Contractor shall adjust operating products and equipment to ensure smooth and unhindered operation.

1.05 RECORD DOCUMENTS AND SHOP DRAWINGS

- A. Contractor shall legibly mark each item to record actual construction, including:
 - (1) Measured depths of foundation in relation to finish floor datum.
 - (2) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.
 - (3) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - (4) Field changes of dimension and detail.
 - (5) Details not on original Contract Drawings
 - (6) Changes made by modification(s).
 - (7) References to related Shop Drawings and modifications.
- B. Contractor will provide two (2) hard copy sets, and one (1) electronic set, of Record Drawings to District.
- C. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

1.06 INSTRUCTION OF DISTRICT PERSONNEL

- A. Before final inspection, at agreed upon times, Contractor shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six months or by the change of season.
- C. 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.
- D. Contractor shall prepare and insert additional data in Operation and Maintenance Manual when the need for such data becomes apparent during instruction.
- E. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

1.07 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Contractor shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.
- B. Contractor shall provide District with all required Operation and Maintenance Data at one time. Partial or piecemeal submissions of Operation and Maintenance Data will not be accepted.
- C. Contractor will provide two (2) hard copy sets, and one (1) electronic set, of Record Drawings to District.
- D. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of the Work;
- B. Special Conditions.

1.02 QUALITY ASSURANCE:

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

1.03 FORMAT:

- A. Contractor shall prepare data in the form of an instructional manual entitled "OPERATIONS AND MAINTENANCE MANUAL & INSTRUCTIONS" ("Manual").
- B. 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.
- C. 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.
- D. Contractor shall arrange content by systems process flow under section numbers and sequence of Table of Contents of the Contract Documents.
- E. Contractor shall provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: The content shall include Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Contractor shall provide with reinforced punched binder tab and shall bind in with text; folding larger drawings to size of text pages.

1.04 CONTENTS, EACH VOLUME:

- A. 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.
- B. 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.
- C. Product Data: Contractor shall mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. 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.
- E. Text: 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.
- F. Warranties and Bonds: Contractor shall bind in one copy of each.

1.05 MANUAL FOR MATERIALS AND FINISHES:

- A. 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.
- B. 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.
- C. 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.
- D. Additional Requirements: Contractor shall include all additional requirements as specified in the Specifications.
- E. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS:

- A. 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.
- B. Panelboard Circuit Directories: Contractor shall provide electrical service characteristics, controls, and communications.
- C. Contractor shall include color coded wiring diagrams as installed.
- D. 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.
- E. Maintenance Requirements: Contractor shall include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Contractor shall provide servicing and lubrication schedule, and list of lubricants required.
- G. Contractor shall include manufacturer's printed operation and maintenance instructions.
- H. Contractor shall include sequence of operation by controls manufacturer.
- I. Contractor shall provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Contractor shall provide control diagrams by controls manufacturer as installed.
- K. Contractor shall provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Contractor shall provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Contractor shall provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: Contractor shall include all additional requirements as specified in Specification(s).
- O. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.07 SUBMITTAL:

- A. Contractor shall submit to the Architect and District, for review, two (2) hard copies of preliminary draft or proposed formats and outlines of the contents of the Manual within thirty (30) days of Contractor's start of Work.
- B. 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.
- C. Contractor shall submit two (2) hard copies of a complete Manual in final form prior to final Application for Payment. Copies will be returned with Architect/Engineer comments. Contractor must revise the content of the Manual as required by District prior to District's approval of Contractor's final Application for Payment.
- D. Contractor must submit two (2) hard copies, and one (1) electronic copy, of revised Manual in final form within ten (10) days after final inspection.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

WARRANTIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Warranty/Guarantee Information;
- B. Special Conditions.

1.02 FORMAT

- A. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size.
- B. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list title of Project.
- C. Table of Contents: Contractor shall provide 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.
- D. 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).

1.03 PREPARATION:

- A. 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 blank until the date of completion is determined.
- B. Contractor shall verify that documents are in proper form, contain full information, and are notarized, when required.
- C. Contractor shall co-execute submittals when required.
- D. Contractor shall retain warranties until time specified for submittal.

1.04 TIME OF SUBMITTALS:

- A. 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.
- B. Contractor shall submit for District approval all warranties and related documents within ten (10) days after date of completion. Contractor must revise the warranties as required by the District prior to District's approval of Contractor's final Application for Payment.
- C. For items of work delayed beyond date of completion, Contractor shall provide an updated submittal within ten (10) days after acceptance, listing the date of acceptance as start of warranty period.

PART 2 - PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

RECORD DOCUMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Documents on Work;
- B. Special Conditions.

PART 2 - RECORD DRAWINGS

2.01 GENERAL:

- A. As indicated in the Contract Documents, the District will provide Contractor with one set of reproducible, full size original Contract Drawings.
- B. Contractor shall maintain at each Project Site one set of marked-up plans and shall transfer all changes and information to those marked-up plans, 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 Drawings ("As-Builts") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Builts shall be available at the Project Site. The Contractor shall submit reproducible copy of the plans at the conclusion of the Project following review of the marked-up plans.
- C. Label and date each Record Drawing "RECORD DOCUMENT" in legibly printed letters.
- D. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused by without limitation Change Orders, Construction Claim Directives, RFI's, and Addenda, shall be accurately and legibly recorded by Contractor.
- E. 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.

2.02 RECORD DRAWING INFORMATION:

- A. Contractor shall record the following information:
 - (1) Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.

- (2) Actual numbering of each electrical circuit to match panel schedule.
- (3) Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Contract Drawings.
- (4) Locations of all items, not necessarily concealed, which vary from the Contract Documents.
- (5) Installed location of all cathodic protection anodes.
- (6) Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.
- (7) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub-outs, invert elevations, etc.
- (8) Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.

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.

- B. Contractor shall provide additional drawings as necessary for clarification.
- C. Contractor shall provide reproducible record drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."
- D. After review and approval of the marked-up plans by the Project Inspector, Contractor shall provide electronic copies of the drawings (in PDF format) with one file with all of the sheets and one set of individual sheet files at the conclusion of the Project. Contractor shall also provide two (2) copies, on bond copy paper, of the set of approved marked-up plans.

PART 3 - RECORD SPECIFICATIONS

3.01 GENERAL:

- A. Contractor shall mark each section legibly to record manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.
- B. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide two (2) electronic copies of the specifications (in PDF format) at the conclusion of the Project. Contractor shall also provide one copy, on bond copy paper, of the approved marked-up specifications.

PART 4 - MAINTENANCE OF RECORD DOCUMENTS

4.01 GENERAL

- A. Contractor shall store Record Documents apart from documents used for construction as follows:
 - (1) Provide files and racks for storage of Record Documents.
 - (2) Maintain Record Documents in a clean, dry, legible condition and in good order.
- B. Contractor shall not use Record Documents for construction purposes.

PART 5 – PRODUCTS Not Used.

END OF DOCUMENT

SECTION 02 31 13

SELECTIVE SITE DEMOLITION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes
 - 1. Demolition and removal of existing selected site elements.
 - 2. Disconnecting, capping or sealing and abandoning or removing utilities as required for new work.

1.3 MATERIALS OWNERSHIP

- A. Demolished materials shall become the Contractor's property and shall be removed from the site with further legal disposition at the Contractor's option.

1.4 SUBMITTALS

- A. Proposed dust-control & noise-control measures and temporary safety barriers.
- B. Schedule of demolition activities indicating the following:
 - 1. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
 - 2. Interruption of utility services.
 - 3. Coordination for shutoff and capping of utility services.
 - 4. Detailed sequence of demolition and removal work to ensure uninterrupted progress of the Owner's on-site operations.
- C. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by demolition operations.
- D. Record drawings at Project closeout.
 - 1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.5 QUALITY ASSURANCE

- A. Qualifications
 - 1. Demolition Firm: Engage an experienced firm that has successfully completed demolition Work similar to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before starting demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

- C. Pre-demolition Conference: Conduct conference at Project site.

1.6 JOB CONDITIONS

- A. Occupancy: Site improvements to be demolished will be vacated and their use discontinued before start of Work. The Owner will occupy adjacent rooms and buildings. Conduct selective demolition work in manner that will minimize need for disruption of normal operations. Provide minimum of 72-hours advance notice to the Owner of demolition activities that will affect normal operations.
- B. Condition of Demolition Items: The Owner assumes no responsibility for actual condition of items to be demolished.
1. Conditions existing at time of inspection for bidding purposes will be maintained by the Owner insofar as practicable. However, minor variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- C. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.
1. Storage or sale of removed items on site will not be permitted.
- D. Protections: Provide temporary barricades and other forms of protection to protect buildings from damage and to protect building occupants from injury due to selective demolition work.
1. Provide protective measures as required to provide secure passage of building occupants to occupied portions of the building.
 2. Provide shoring, bracing, or support to prevent movement, settlement, or collapse of element to be demolished and adjacent facilities or work to remain.
 3. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
 4. Protect adjacent paving and planting areas with suitable coverings when necessary.
 5. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing buildings.
 6. Remove protections at completion of work.
- E. Damages: Promptly repair damages caused to adjacent facilities by demolition work.
- F. Traffic: Conduct selective demolition operations and debris removal to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
1. Do not close, block, or otherwise obstruct streets, walks, or other occupied or used facilities without written permission from the Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- G. Flame Cutting: Do not use cutting torches for removal until work area is cleared of flammable materials. Maintain portable fire suppression devices during flame-cutting operations.

- H. Utility Services: Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.
 - 1. Do not interrupt utilities serving occupied or used facilities, except when authorized in writing by the Owner. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
 - 2. Maintain fire protection services during selective demolition operations.
- I. Environmental Controls: Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.
 - 1. Do not use water when it may create hazardous or objectionable conditions such as flooding and pollution.
- J. Inspections:
 - 1. Prior to starting demolition, make inspection and report observable defects and structural weaknesses of construction designated for demolition, of adjacent structures, and of other improvements to remain. If unsatisfactory conditions exist, do not commence demolition until appropriate determinations have been made.
 - 2. As demolition progresses, periodically inspect structures for adverse conditions and for damage. Immediately notify the Owner's Representative if damage is noticed, and stop operations at that location until appropriate determinations have been made.
- K. Hazardous materials: It is expected that asbestos will be encountered in the Work. Hazardous materials will be removed as directed by the Owner before start of Work per the Hazardous Materials Report and Procedures.

PART 2 – PRODUCTS Not Applicable

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of demolition required.
- C. Survey the condition of the site improvements to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during demolition.
- D. Perform surveys as the Work progresses to detect hazards resulting from demolition activities.

3.2 UTILITY SERVICES

- A. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving site improvements to be selectively demolished.

- B. Arrange to shut off, disconnect, remove and seal or cap all utilities within demolition area with utility companies.
- C. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

3.3 PREPARATION

- A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
- B. Employ a certified, licensed exterminator to treat site improvements and to control rodents and vermin before and during demolition operations.
- C. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the City and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- D. Conduct demolition operations to prevent injury to people and damage to adjacent site improvements and facilities to remain. Ensure safe passage of people around selective demolition area.
 - 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
 - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
 - 3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
- E. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of site improvements to be demolished.
 - 1. Strengthen or add new supports when required during progress of demolition.

3.4 POLLUTION CONTROLS

- A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
 - 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of demolition.

3.5 DEMOLITION

- A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations.
- B. Completely remove below-grade construction, including foundation walls, basements and footings.
- C. Filling Below-Grade Areas: Completely fill below-grade areas and voids resulting from demolition of site improvements and pavements with soil materials according to requirements specified in Section 31 20 00 "EARTHWORK".
- D. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain, using power-driven masonry saw or hand tools; do not use power-driven impact tools. Sawcut in neat straight lines. Do not overcut.
- E. Break up and remove concrete slabs on grade, unless otherwise shown to remain.
- F. Remove air-conditioning equipment without releasing refrigerants.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off the Owner's property and legally dispose of them.

END OF SECTION

SECTION 03 20 00

CONCRETE REINFORCING

PART 1 – GENERAL**1.1 SUMMARY:**

- A. Section includes: Reinforcing steel for cast-in-place concrete.
- B. Related Documents: The Conditions of the Contract and Division 1 apply to this section as fully as if repeated herein.

1.2 REFERENCES:

- A. The editions of the specifications and standards referenced herein, published by
 - 1. Concrete curbs, and curb and gutter.
 - 2. Concrete pavement, sidewalks, ramps and drives.
 - 3. Storm drain catch basins and manhole bases.
 - 4. Thrust blocks for water systems
 - 5. Equipment bases: See Mechanical and Electrical Systems.
 - 6. Post bases for galvanized chain link fencing and gates.
- B. Related Documents: The General Conditions, Supplementary Conditions and Division 1 General Requirements are hereby made a part of this section as fully as if repeated herein.

1.3 REFERENCES:

- A. ASTM International:
 - 1. ANSI/ASTM A185 – Welded Steel Wire Fabric or Concrete Reinforcement.
 - 2. ASTM A615 – Deformed and Plain Billet-Steel for Concrete Reinforcement.
 - 3. ASTM C33 – Standard Specification for Concrete Aggregates.
 - 4. ASTM C150 – Standard Specification for Portland Cement.
 - 5. ASTM C31 – Standard Practice for Making and Curing Test Specimens in the Field.
 - 6. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 7. ASTM C94 – Standard Specifications for Ready-Mixed Concrete.
 - 8. ASTM C138 – Standard Test Method for Unit Weight, Yield and Air Content (Gravimetric) of concrete.
 - 9. ASTM C143 – Standard Test Method for Slump of Hydraulic Cement Concrete.
 - 10. ASTM C172 – Standard Method for Sampling Freshly Mixed Concrete.
 - 11. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - 12. ASTM C260 – Air Entraining Admixtures for Concrete.
 - 13. ASTM C309 – Liquid Membrane-Forming Compounds for Curing Concrete.
 - 14. ASTM C494 – Chemical Admixtures for Concrete.
 - 15. ANSI/ASTM D1751 – Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- B. American Concrete Institute:

1. ACI 318 – Building Code Requirements for Structural Concrete.
2. ACI 304R – Guide for Measuring, Mixing, Transporting and Placing Concrete.
3. ACI 305R – Hot Weather Concreting.
4. ACI 306R – Cold Weather Concreting.

C. California Building Code, current edition.

D. Federal Specification:

1. FS TT-C-800 – Curing Compound, Concrete, for New and Existing Surfaces.

1.4 SUBMITTALS:

- A. Comply with requirements of Section 01 33 00 – Submittals
- B. Product Data: For each type of product indicated.
- C. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.5 JOB CONDITIONS:

- A. Weather Limitations: Construct concrete surface course only when atmospheric temperature is above 40 degrees F, when the underlying base is dry, and when weather is not rainy.
- B. Grade Control: Establish and maintain the required lines and grades, including cross-slope during construction operations.

1.6 QUALITY CONTROL:

- A. Standard Specifications: The American Concrete Institute (ACI) "Specifications for Structural Concrete", ACI 301, shall be used as standard specification. All cast-in-place concrete shall conform to this standard specification except as modified by the requirements specified herein and/or detailed on the Drawings.
- B. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is saturated or frozen.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Poured-in-Place Concrete: Concrete sidewalks, curbs, curb and gutter, ramps, drives, manhole bases and thrust blocks for water systems and fire systems shall be Class A conforming to Section 90 of State Specifications with a minimum 28-day compressive strength of 2500 psi.
 1. Cement – Type II modified conforming to ASTM C150, Portland cement.
 2. Aggregate – Maximum size $\frac{3}{4}$ -inch diameter.

- B. Extruded Curbs, and Curb and Gutter: 3000-lb. Concrete: special no slump design mix.
- C. Expansion Joints: Joint fill shall be a performed non-extruded resilient filler, saturated with bituminous materials and conforming to ASTM D1751. Products shall be equivalent to Burke "Fiber Expansion Joint", W.R. Meadows "Fibrated Expansion Joint Filler", or approved equal and as detailed on the Drawings.

2.2 REINFORCEMENT:

- A. Reinforcing Steel and Wire Fabric: Type specified in Section 03 20 00 – Concrete Reinforcing.
- B. Welded Steel Wire Fabric: 6 x 6 – w1.4 x w1.4 wwf flat sheets, unfinished.
- C. Dowels: ASTM A615, smooth plain steel, unfinished.
- D. Expansion Joints: Joint fill shall be a pre-formed non-extruded resilient filler, saturated with bituminous materials and conforming to ASTM D 1751.
 - 1. Burke: Fiber Expansion Joint
 - 2. W.R. Meadows: Fibrated Expansion Joint Filler
 - 3. Approved equal.

2.3 SUB-GRADE:

- A. Unless otherwise noted on the Drawings, provide minimum 6" AB with 90% relative compaction over 8" non-expansive material with 90% relative compaction.

PART 3 – EXECUTION

3.1 EXAMINATION:

- A. Verify gradients and elevations of substrate are correct.
- B. Verify that substrate is level, smooth, and capable of supporting curbs, and curb and gutter sections.
- C. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.

3.2 INSTALLATION – REINFORCING:

- A. Reinforcing is to be held firmly in place during concrete placement.
- B. Place reinforcement at mid-height of slabs-on-grade.
- C. Interrupt reinforcement at expansion joints.

3.3 INSTALLATION – CONCRETE:

- A. Space expansion joints as shown on the drawings for flatwork for adjacent curbs, curb and gutters, and valley gutters. Align expansion joints
- B. Exterior Walks:
 - 1. Place expansion joints at maximum of 20 foot intervals where not otherwise indicated on Drawings. Align curb, gutter and sidewalk joints.
 - 2. Place joint filler between components and building or other appurtenances. Recess top of filler $\frac{1}{4}$ " for sealer placement per manufacturer specifications.
 - 3. Provide minimum $\frac{1}{4}$ " deep score joints (unless otherwise indicated on Drawings) in sidewalks at 5 foot intervals.
- C. Do not sawcut score lines.

3.4 FINISHES

- A. After trowel finishing, draw a fine hair push broom over the surface at the time when such broom marks shall produce a uniform texture on the surface.
- B. Walks with inadequate amounts of texture shall be rejected.
- C. Areas of poor workmanship, as determined by the Architect, shall be removed and redone at Contractor's expense.
- D. Positive drainage shall be achieved; areas of ponding shall be redone/repared at Contractor's expense. Contractor shall have method of repair approved by Architect/Engineer prior to repair.

3.5 FIELD QUALITY CONTROL:

- A. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with Caltrans and the DSA Testing and Inspection Form. A set of test cylinders shall be taken for each individual pour or placement of concrete and, in no case, shall a set of cylinders represent more than 200 cubic yards of concrete placed.

3.6 PROTECTION:

- A. Immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures, and mechanical injury.

END OF SECTION

4/22/25

SECTION 03 30 01

SITE CONCRETE

The General Conditions, Supplementary Conditions and Division 1 General Requirements are hereby a part of this Section as fully as if repeated herein.

PART 1 – GENERAL

1.1 DESCRIPTION:

A. Section Includes:

1. Concrete curbs, and curb and gutter.
2. Concrete pavement, sidewalks, ramps and drives.
3. Storm drain catch basins and manhole bases.
4. Thrust blocks for water systems
5. Equipment bases: See Mechanical and Electrical Systems.
6. Post bases for galvanized chain link fencing and gates and site signage.

- B. Related Documents:** The General Conditions, Supplementary Conditions and Division 1 General Requirements are hereby made a part of this section as fully as if repeated herein.

1.2 REFERENCES:

A. ASTM International:

1. ANSI/ASTM A185 – Welded Steel Wire Fabric or Concrete Reinforcement.
2. ASTM A615 – Deformed and Plain Billet-Steel for Concrete Reinforcement.
3. ASTM C33 – Standard Specification for Concrete Aggregates.
4. ASTM C150 – Standard Specification for Portland Cement.
5. ASTM C31 – Standard Practice for Making and Curing Test Specimens in the Field.
6. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
7. ASTM C94 – Standard Specifications for Ready-Mixed Concrete.
8. ASTM C138 – Standard Test Method for Unit Weight, Yield and Air Content (Gravimetric) of concrete.
9. ASTM C143 – Standard Test Method for Slump of Hydraulic Cement Concrete.
10. ASTM C172 – Standard Method for Sampling Freshly Mixed Concrete.
11. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
12. ASTM C260 – Air Entraining Admixtures for Concrete.
13. ASTM C309 – Liquid Membrane-Forming Compounds for Curing Concrete.
14. ASTM C494 – Chemical Admixtures for Concrete.
15. ANSI/ASTM D1751 – Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.

B. American Concrete Institute:

1. ACI 318 – Building Code Requirements for Structural Concrete.
2. ACI 304R – Guide for Measuring, Mixing, Transporting and Placing Concrete.
3. ACI 305R – Hot Weather Concreting.
4. ACI 306R – Cold Weather Concreting.

C. California Building Code, current edition.

D. Federal Specification:

1. FS TT-C-800 – Curing Compound, Concrete, for New and Existing Surfaces.

1.3 SUBMITTALS:

- A. Comply with requirements of Section 01 33 00 – Submittals
- B. Product Data: For each type of product indicated.
- C. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.4 JOB CONDITIONS:

- A. Weather Limitations: Construct concrete surface course only when atmospheric temperature is above 40 degrees F, when the underlying base is dry, and when weather is not rainy.
- B. Grade Control: Establish and maintain the required lines and grades, including cross-slope during construction operations.

1.5 QUALITY CONTROL:

- A. Standard Specifications: The American Concrete Institute (ACI) "Specifications for Structural Concrete", ACI 301, shall be used as standard specification. All cast-in-place concrete shall conform to this standard specification except as modified by the requirements specified herein and/or detailed on the Drawings.
- B. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is saturated or frozen.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Poured-in-Place Concrete: Concrete sidewalks, curbs, curb and gutter, ramps, drives, manhole bases and thrust blocks for water systems and fire systems shall be Class A conforming to Section 90 of State Specifications with a minimum 28-day compressive strength of 2500 psi.
 - 1. Cement – Type II modified conforming to ASTM C150, Portland cement.
 - 2. Aggregate – Maximum size $\frac{3}{4}$ -inch diameter.
- B. Extruded Curbs, and Curb and Gutter: 3000-lb. Concrete: special no slump design mix.
- C. Expansion Joints: Joint fill shall be a performed non-extruded resilient filler, saturated with bituminous materials and conforming to ASTM D1751. Products shall be equivalent to Burke "Fiber Expansion Joint", W.R. Meadows "Fibrated Expansion Joint Filler", or approved equal and as detailed on the Drawings.

2.2 REINFORCEMENT:

- A. Reinforcing Steel and Wire Fabric: Type specified in Section 03 20 00 – Concrete Reinforcing.
- B. Welded Steel Wire Fabric: 6 x 6 – w1.4 x w1.4 wwf flat sheets, unfinished.
- C. Dowels: ASTM A615, smooth plain steel, unfinished.
- D. Expansion Joints: Joint fill shall be a pre-formed non-extruded resilient filler, saturated with bituminous materials and conforming to ASTM D 1751.
 - 1. Burke: Fiber Expansion Joint
 - 2. W.R. Meadows: Fibrated Expansion Joint Filler
 - 3. Approved equal.

2.3 SUB-GRADE:

- A. Unless otherwise noted on the Drawings, provide minimum 6" AB with 90% relative compaction over 8" non-expansive material with 90% relative compaction.

PART 3 – EXECUTION

3.1 EXAMINATION:

- A. Verify gradients and elevations of substrate are correct.
- B. Verify that substrate is level, smooth, and capable of supporting curbs, and curb and gutter sections.
- C. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.

3.2 INSTALLATION – REINFORCING:

- A. Reinforcing is to be held firmly in place during concrete placement.
- B. Place reinforcement at mid-height of slabs-on-grade.
- C. Interrupt reinforcement at expansion joints.

3.3 INSTALLATION – CONCRETE:

- A. Space expansion joints as shown on the drawings for flatwork for adjacent curbs, curb and gutters, and valley gutters. Align expansion joints.
- B. Exterior Walks:
 - 1. Place expansion joints at maximum of 20 foot intervals where not otherwise indicated on Drawings. Align curb, gutter and sidewalk joints.
 - 2. Place joint filler between components and building or other appurtenances. Recess top of filler $\frac{1}{4}$ " for sealer placement per Section 07 92 00 – Joint Sealant
 - 3. Provide minimum $\frac{1}{4}$ " deep score joints (unless otherwise indicated on Drawings) in sidewalks equally spaced at 5 foot max intervals.
- C. Do not sawcut score lines.

3.4 FINISHES

- A. Unless otherwise noted on drawings, after trowel finishing, draw a fine hair push broom over the surface at the time when such broom marks shall produce a uniform texture on the surface.
- B. Walks with inadequate amounts of texture shall be rejected.
- C. Areas of poor workmanship, as determined by the Architect, shall be removed and redone at Contractor's expense.
- D. Positive drainage shall be achieved; areas of ponding shall be redone/repared at Contractor's expense. Contractor shall have method of repair approved by Architect/Engineer prior to repair.

3.5 FIELD QUALITY CONTROL:

- A. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with Caltrans and the DSA Testing and Inspection Form. A set of test cylinders shall be taken for each individual pour or placement of concrete and, in no case, shall a set of cylinders represent more than 200 cubic yards of concrete placed.

3.6 PROTECTION:

- A. Immediately after placement, protect concrete from premature drying, excessive hot or cold temperatures, and mechanical injury.

END OF SECTION

7/20/26

SECTION 05 52 00

METAL RAILINGS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Steel plate & tube guardrail systems
 - 2. Steel pipe and tube stair hand railings

1.3 RELATED REQUIREMENTS

- A. Pertinent Sections specifying Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 09 96 00 High-Performance Coatings for field-applied durable paint finish.

1.4 REFERENCES

- A. California Code of Regulations, Title 24, Part 11 California Green Building Standards Code, "CALGreen".
- B. California Code of Regulations, Title 24, Part 2 California Building Code (CBC), International Building Code 2024, with 2025 California Amendments

1.5 SUBMITTALS

- A. General: Submit in accordance with Section 01 33 00
- B. Product Data: For each type of product indicated, demonstrate compliance with specified attributes.
- C. CALGreen Submittals:
 - 1. Product Data – VOC Limits: For adhesive sealants, fillers and primers, documentation including printed statement of VOC contents, comply with limits specified by CBC
 - 2. Low/No-VOC Paints and Coatings: Provide certification that all primers and coatings meet VOC emissions limits specified in the CBC. List manufacturer, brand, application, type (flat or non-flat), number of gallons, and the VOC emissions in grams/liter. Include MSDS and product data sheet indicating VOC limits for each product provided.
- D. Shop Drawings: Include plans, elevations, sections, details and attachments to other work

- E. Mill Certificates: Signed by manufacturers of stainless-steel products certifying that products furnished comply with requirements.
- F. Welding certifications
- G. Qualification Data (for professional engineer).

1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of railing component through one source from a single manufacturer.
- B. Welding: Qualify procedures and personnel according to the following:
 - 1. D1.1/D1.1M:2025 - Structural Welding Code-Steel

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicated measurements on Shop Drawings

1.8 COODRINATION & SCHEDULING

- A. Coordinate installations of anchorage for railings. 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.
- B. Schedule installation so wall attachments are made only to completed walls. Do no support railings temporarily by any means that do not satisfy structural performance requirements.

PART 2 – PRODUCTS**2.1 PERFORMANCE REQUIREMENTS**

- A. VOC Limits for adhesives, sealants, fillers, primers and coatings. Comply with limits specified in the CBC:
- B. Structural Performance: Provide railings capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 - 1. Handrails
 - a. Uniform load of 50 lbf/ft (0.73 kN/m) applied in any direction
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction
 - c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Toprails of Guards
 - a. Uniform load of 50 lbf/ft (0.73 kN/m) applied in any direction
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
3. Infill of Guards
 - a. Uniform load of 25 lbf/ft (1.2 kN/m) applied horizontally
 - b. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sqft (0.093 sqm)
 - c. Infill and other loads need not be assumed to act concurrently.

2.2 MANUFACTURERS

- A. Railing systems fully fabricated by a qualified metal shop meeting the requirements of this section.
 1. Qualified Metal Shop: Fabricator with a minimum of seven years experience in engineering, fabricating and installing railings with architectural exposed steel finish

2.3 METALS, GENERAL

- A. Metal surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations or blemishes.
- B. Brackets, Flanges & Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.4 STEEL AND IRON

- A. Tubing: ASTM A 500 (cold formed) or ASTM A 513, Type 5 (mandrel drawn).
- B. Pipe: ASM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
- C. Plates, Shapes, and Bars: ASM A 36/A 36M

2.5 INFILL OF GUARDS

- A. Not applicable to this project.

2.6 FASTENERS

- A. General: Provide the Following.
 1. Steel Railings: Plated steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.

- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners by type, grade and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- C. Fasteners for Interconnecting Railing Components: Do not use. Provide all welded connections.
- D. Anchors: Provide cast-in-place chemical or torque-controlled expansion anchors, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.

2.7 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.
- C. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with ASTM C1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.8 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish and anchorage, but not less than that required to support structural loads.
- B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of 1/8in (3.18mm) minimum per CBC 11B-307.3.1. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill and tap as indicated to receive finish hardware, screws and similar items.
- G. Connections: Fabricate railings with welded connections, unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings design for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.

3. Remove flux immediately.
 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
 - I. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 - J. Form changes in direction as follows: by bending.
 - K. Form simple and compound curves by bending members in jigs to produce uniform curvature bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
 - L. Close exposed ends of railing members with prefabricated end fittings
 - M. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is $\frac{1}{4}$ in (6mm) or less.
 - N. Brackets, Flanges, Fittings and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work, unless otherwise indicated.
 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide fillers made from crush-resistant material, or other means to transfer wall loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
 - O. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.
 - P. For railing posts set in concrete, provide steel sleeves not less than 6in (150mm) long with inside dimensions no less than 1/2in (13mm) greater than outside dimensions of post, with steel plate forming bottom closure.
 - Q. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate continuous 2-in high by 1-1/2in deep to board along all stair landings and balcony edges.
- 2.9 STEEL AND IRON FINISHES
- A. Galvanizing: Hot-dip galvanize items to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
 - B. Galvanizing Repair Paint: High-zinc-duct-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it. For site touch-up only.
 1. Type specified in Section 09 96 00.
 2. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
 3. Exterior Items: SSPC-SP 6 Commercial Blast Cleaning (NACE No. 3)

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements have been clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling and fitting required for installing railings. Set railings accurately in location, alignment and elevations; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16in in 3ft (2mm in 1m).
 - 3. Align railings before anchoring to ensure matching alignment at abutting joints.

3.3 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in Part 2 "Fabrication" whether welding is performed in shop or in the field.

3.4 ANCHORING POSTS

- A. Form or core-drill holes not less than 5in (125mm) deep and 3/4in (20mm) larger than OC of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, non-metallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Cover anchorage joint with flange of same metal as post, attached to post with set crews, at enclosed stairwells.
- C. Leave anchorage joint exposed; wipe off surplus anchoring material; and leave 1/8in (3mm) buildup, sloped away from post.
- D. Anchor plate balusters to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For steel pipe railings, weld flanges to post and bolt to metal supporting surfaces.

3.5 ATTACHING HANDRAILS TO WALLS

- A. Attach handrails to wall with wall brackets. Provide brackets with 1-1/2in (38mm) clearance from inside face of handrail and finished wall surface.
 - 1. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt.
- B. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- C. Secure wall brackets to building construction as follows:
 - 1. For steel-formed gypsum board partitions, use hanger or lag bolts set into wood backing between studs. Coordinate with stud installation to locate backing members.

3.6 ADJUSTING AND CLEANING

- A. Clean aluminum and stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.
- B. Touchup Painting: Immediately after erection clean field welds, bolted connections and abraded areas of shop paint, and paint exposed areas with same materials as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

3.7 PROTECTION

- A. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished.

END OF SECTION

SECTION 07 90 00

JOINT SEALERS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes: Requirements for furnishing and applying joint sealers and associated materials for exterior and interior use.
- B. Related Sections:
 - 1. Modified bituminous roofing is specified in Section 07 52 00.
 - 2. Modified bituminous sheet flashing is specified in Section 07 65 16.

1.02 SUBMITTALS

- A. Comply with requirements of Section 01 33 00.
- B. Product Data: Submit manufacturer's descriptive literature for each product specified, including instructions for joint preparation and sealant application.
 - 1. Certification: Manufacturer's certification joint sealers, primers and cleaners comply with Contract documents, local regulations controlling the use of volatile organic compounds (VOC), and are suitable for Project applications.
- C. Samples: Manufacturer's bead samples of actual products showing full range of standard colors for each type of sealant to be used in an exposed location. Furnish sample of paint finish on paintable sealant.
- D. Test Reports:
 - 1. Certified test results of elastomeric sealants showing compliance with specified requirements. Include results of aged performances including hardness, stain-resistance, adhesion and cohesion under cyclic movement, low temperature flexibility, modulus of elasticity at 100-percent strain, effects of heat and aging, and effects of accelerated weathering.
 - 2. Preconstruction field test results indicating which products and joint preparation methods demonstrated acceptable adhesion to joint substrates.
- E. Certificates: Manufacturer's certification that joint sealants comply with specified requirements and are suitable for uses and joint movements indicated and that total VOC's do not exceed 50 grams per liter.
- F. Submit detail drawings of each joint design including dimensions with tolerances, joint accessories, and joint preparation and installation requirements.

1.03 QUALITY ASSURANCE

- A. Test Samples: Test sealants that will come in contact with each other for compatibility, or furnish test data or manufacturers' data verifying compatibility.
- B. Select materials for compatibility with joint surfaces and indicated exposures.
- C. Installer Qualifications: Firm with minimum five years successful experience on projects of similar type and size, using specified products.

- D. Obtain joint sealant materials from a single manufacturer for each product required unless otherwise approved.
 - E. Preconstruction Compatibility and Adhesion Testing: Submit sample substrate materials to be sealed to joint sealant manufacturer for testing of adhesion and for compatibility with secondary seals.
 - 1. Determine if priming and/or other preparation techniques are required.
 - 2. Test for adhesion.
 - 3. Determine compatibility of exterior joint sealant with concrete masonry unit material to be used. Verify that joint sealant oils do not migrate onto concrete masonry unit face causing visual banding while wet or dry.
 - F. Preconstruction Field Testing: Prior to installation of joint sealants, field-test adhesion to joint substrates.
 - 1. Install joint sealants in 5-foot joint lengths. Allow to cure before testing. Test adhesion by pulling sealant out of joint.
 - 2. Perform field tests for each type of elastomeric sealant and joint substrate.
 - 3. Arrange for tests to take place with joint sealant manufacturer's technical representative present.
 - 4. Report whether or not sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.
 - 5. Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrate during testing.
 - 6. As an alternate, provide 3-inch x 3-inch 24-gauge galvanized sheet metal flashing at jambs and perform test as indicated.
 - G. Review Contract Documents and ensure joints are sized as required for anticipated movement and are sized within the ranges of manufacturer's recommendations and warranties. Notify the Architect in writing of any discrepancies.
 - H. Sealants shall comply with BAAQMD Regulation 8, Rule 51.
 - I. Do not use products containing Methylene Chloride or Chlorinated Hydrocarbons.
 - J. Do not use products containing bactericides and fungicides that are classified as Phenol mercury acetates, phenol phenates, or phenol formaldehyde.
 - K. Do not use products containing aromatic and aliphatic solvents.
 - L. Do not use products containing Styrene Butadiene.
- 1.04 DELIVERY, STORAGE, AND HANDLING
- A. Comply with requirements of Section 01 60 00.
 - B. Deliver materials in the unopened, original containers or unopened packages with manufacturer's name, labels, product identification, color, expiration period, curing time and mixing instructions for multicomponent materials.
 - C. Store materials in the original, unopened containers or packages, and under conditions recommended by manufacturers.

1.05 SITE CONDITIONS

- A. Do not proceed with installation of joint sealers under unfavorable weather conditions.
- B. Install sealants when temperature is in range recommended by manufacturer.
- C. Environmental Conditions: Do not install sealants when ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer, or to wet joint substrates.
- D. Joint Width Conditions: Do not install sealants when joint widths are less than permitted by sealant manufacturer.
- E. Joint Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with their adhesion are removed from joint substrates.

1.06 WARRANTY

- A. Comply with requirements of 01 70 00.
- B. Repair or replace joint sealers which fail to perform as intended because of leaking, crumbling, hardening, shrinkage, bleeding, sagging, staining and loss of adhesion.
- C. Warranty Period: Five years labor and material, ten years material.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. General: Sealants that will come in contact with other sealants shall be compatible with each other.
- B. Sealants:
 - 1. At Other Exterior Joints: Type A - Silicone high performance sealant: One-part non-sag low-modulus, high-elongation and compression recovery, highly adhesive, ASTM C920, Type S, Grade NS, Class 25, Use NT, G, M and O; UL Classified. "Sonneborn NP-1" or equal.
 - 2. Fire Rated: At steel door, frames, and joints in fire rated walls, 3M Fire Barrier 2000+ Silicone Sealant by 3M.
- C. Sealant Colors: For sealants which will be used in exposed locations, color will be selected by Architect from manufacturer's standard range; sealants for use in concealed locations may be any of manufacturer's standard colors.
- D. Sealant Backup: Non-staining, closed-cell foam compatible with sealant to be used; of size and shape to control depth of sealant and to allow manufacturer recommended compression upon insertion.

E. Miscellaneous Materials:

1. Joint Cleaner for Metal and Glass: Type recommended by manufacturer of sealant to be used.
2. Primer: Type recommended by manufacturer of sealant to be used.
3. Masking Tape: Pressure-sensitive, adhesive paper tape.
4. Bond Breaker: Pressure-sensitive, adhesive polyethylene tape.
5. Sealant Backer Rod: Compressible closed cell polyethylene foam rod or other flexible, permanent, durable nonabsorptive material as recommended by joint sealer manufacturer for compatibility with joint sealer. Oversize backer rod minimum 30% to 50% of joint opening.

PART 3 – EXECUTION**3.01 EXAMINATION**

- A. Verify that surfaces to receive joint sealants are clean, dry, and free of grease, oil, and other materials that could prevent proper adhesion of sealants.
- B. Verify that other conditions are satisfactory for the application of joint sealants. If unsatisfactory conditions exist, do not begin installation until such conditions have been corrected.

3.02 PREPARATION

- A. Clean joints, using recommended cleaner.
- B. Mask surfaces adjacent to exposed joints.
- C. Apply primer, if recommended by sealant manufacturer.
- D. If new or existing joints as indicated are not suitable, clean out to depth indicated or required by sealant manufacturer; grind to minimum ½-inch width without damaging adjacent surfaces. Do not grind metal.

3.03 APPLICATION

- A. Apply joint sealants in accordance with the manufacturer's printed instructions.
- B. Provide sealants at areas of new work wherever necessary to prevent light leakage and moisture leakage; at exposed joints around plumbing fixtures, door and window frames, and other locations required to aid cleaning and sanitation, whether or not specifically indicated or specified.
- C. Install sealant backup using blunt instrument; avoid twisting. Install so that joint depth is 50 percent of joint width, but not less than ¼-inch deep.
- D. Apply gun-grade sealants using pressure gun with nozzle sized to fit joint width; apply in continuous, uniform beads, without gaps and air pockets.
- E. Tool joints within ten minutes of sealant application. Around countertops and backsplashes, tool joints flat, not concave. Remove masking materials immediately after tooling.
- F. Seal joints adjacent to surfaces to be painted prior to application of final coat of paint.

3.04 CLEANING

- A. Remove excess and spilled sealants adjacent to joints without damaging adjacent surfaces.

END OF SECTION

SECTION 09 96 00

HIGH-PERFORMANCE COATINGS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exposed exterior metals (ferrous and non-ferrous)

1.3 RELATED REQUIREMENTS

- A. Pertinent Sections specifying Volatile Organic Compound (VOC) Content Restrictions.
- B. Division 05 Sections for shop priming of metal substrates with primers specified in this Section.

1.4 REFERENCES

- A. California Code of Regulations, Title 24, Part 11 California Green Building Standards Code, "CALGreen".
- B. California Code of Regulations, Title 24, Part 2 California Building Code (CBC), International Building Code 2024, with 2025 California Amendments

1.5 DEFINITIONS

- A. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- B. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.6 SUBMITTALS

- A. General: Submit in accordance with Section 01 33 00
- B. Product Data: For each type of product indicated, demonstrate compliance with specified attributes, including primers.
 - 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference the specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each material specified.

- C. CALGreen Submittals:
1. Product Data – VOC Limits: For adhesive sealants, fillers and primers, documentation including printed statement of VOC contents, comply with limits specified by CBC
 2. Low/No-VOC Paints and Coatings: Provide certification that all primers and coatings meet VOC emissions limits specified in the CBC. List manufacturer, brand, application, type (flat or non-flat), number of gallons, and the VOC emissions in grams/liter. Include MSDS and product data sheet indicating VOC limits for each product provided.
- D. Certification by manufacturer that products supplied comply with requirements indicated that limit the amount of VOCs in coating products.
- E. Samples for Verification: Of each color and material to be applied, with texture to simulate actual condition, on representative samples of the actual substrate.
1. Submit samples on the following substrates for Architect's review of color and texture:
 - a. Ferrous and nonferrous Metal: Provide two 4-in square samples of flat metal and two 8-in long samples of solid metal for each color and finish.

1.7 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed high-performance coating system applications similar in material and extend to those indicated for Project and whose work has a record of successful in-service performance.
- B. Source Limitations: Obtain primers and undercoat materials for each coating system from the same manufacturer as the finish coats.
- C. Mockups: Apply benchmark samples of each coating system indicated to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution
1. Architect will select one surface to represent surfaces and conditions for application of each type of coating and substrate.
 - a. Architectural Exposed Structural Steel Surfaces (AESS) Surfaces: Provide field samples of at least 6 sqft, include surface edges.
 - b. Other Items: Architect will designate items or areas required.
 2. Final approval of color selections will be based on benchmark samples
 - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

1.8 PROJECT CONDITIONS

- A. Deliver materials to Project site in manufacturer' original, unopened packages and containers bearing manufacturer's name and label.

- B. Store Materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees Fahrenheit. Maintain containers used in storage in clean conditions, free of foreign materials and residue.
 - 1. Protect materials from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and applying coatings.

1.9 PROJECT CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and surrounding area temperatures are within ranges recommended by manufacturers.
- B. Do not apply coatings in snow, rain, fog, or mist; when relative humidity exceeds 85%; at temperatures less than 5 degrees Fahrenheit (3 degrees Celsius) above the dew point; or at damp or wet surfaces.
 - 1. Allow wet surfaces to dry thoroughly and attain temperature and conditions specified before proceeding with or continuing coating operation.

1.10 EXTRA MATERIALS

- A. Furnish extra high-performance coating materials from the same production run as materials applied and in quantities described below. Package coating materials in unopened, factory-sealed containers for storage and identify with labels describing contents.
 - 1. Quantity, Paint: 5 percent, but not less than 1 gal. (3.8L) of each material and color applied. Contractor shall furnish two copies of the mixing formula to the Architect in addition to the instructions attached to paint containers.

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. VOC Limits for adhesives, sealants, fillers, primers and coatings. Comply with limits specified in the CBC:

2.2 COATINGS MATERIALS, GENERAL

- A. Material Compatibility: Provide primers, undercoats, and finish-coat materials that are compatible with one another and substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's highest grade of the various high-performance coatings specified. Materials not displaying manufacturer's product identification are not acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certifications of performance for proposed substitutions.
 - C. Paint-material containers not displaying manufacturer's product identification will **NOT** be acceptable.
 - D. Colors: As selected by Architect from manufacturer's available options.
- 2.3 HIGH-PERFORMANCE COATING SYSTEMS
- A. Basis of Design: Components specified in this Section are manufactured by Tnemec, Sherwin Williams, Dunn Edwards, Amstep, and are the standard of quality against which the architect will judge equivalency of materials.
 1. Manufacturer: Subject to compliance with requirements, provide products of one of the following.
 - a. Amstep Products.
 - b. Carboline Company.
 - c. Dunn Edwards
 - d. Glidden Professional: Devoe Coatings
 - e. Sherwin Williams
 - f. Tnemec
 - g. Wooster Products
 - h. Zinsser, Rustoleum
 - B. Detailed specifications for the various surfaces are shown in the Paint Schedule at the end of this Section. If these specifications conflict with the recommendations of the manufacturer, this discrepancy shall be brought to the attention of the Architect, and the Architect shall decide which method shall be followed.
- 2.4 PAINT COLORS
- A. Colors selected by Architect from manufacturer's full range of coors to match Owner's samples, unless otherwise noted.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. With Applicator present, examine substrates and conditions under which high-performance coatings will be applied, for compliance with coating application requirements.

- B. Coordination of Work: Review other Sections in which primers or other coatings are provided to ensure compatibility of total systems for various substrates. On request, furnish information on characteristics of specified finish materials to ensure compatible primers.
- C. Proceed with coatings application only after unsatisfactory conditions have been corrected.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instruction and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers stilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 - 1. SSPC-SP 6 Commercial Blast Cleaning (NACE No. 3)
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings.
- G. Aluminum Substrates: remove loose surface oxidation.

3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual"
 - 1. Use applicators and techniques suited for coating and substrate indicated.
 - 2. Coat back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 3. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating or nomenclature plates

- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color and appearance.
- D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Engage the services of a qualified testing and inspection agency to inspect and test coatings for dry film thickness.
 - 1. Contractor shall touch up and restore coated surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, Contractor shall apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At the end of each workday, remove rubbish, empty cans, rags and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping or other methods. Do no scratch or damage adjacent finished surfaces. Do not use metal blades on tempered glass.
- C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing and recoating as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.6 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

- A. Steel Substrates, Unless Otherwise Noted: Provide the following finish system on dry mil thickness as shown, over exterior ferrous-metal surfaces:
 - 1. Pigmented Polyurethane over High-Build Epoxy System:
 - a. Primer Coat: Primer, epoxy as recommended in writing by topcoat manufacturer, (5.0 mils).
 - 1) Tnemec Hi-Build Epoxoline II Series L69
 - 2) Sherwin Williams Macropoxy 646-100
 - 3) Dunn Edwards Carboline Carbomastic Epoxy 15

- b. Intermediate Coat: Epoxy, high-build, low gloss (5.0 mils).
 - 1) Tnemec Hi-Build Epoxoline II Series L69
 - 2) Sherwin Williams Macropoxy 646-100
 - 3) Dunn Edwards Carboline Carbothane 134 Series
 - c. Final Coats: Polyurethane, two-component, pigmented gloss (Gloss Level 6) (2.5 mils)
 - 1) Tnemec Endura-Shield Series 1080
 - 2) Sherwin Williams WB Acrolon 100 Series B65
 - 3) Dunn Edwards Carboline Carbothane 134 Series
- B. Galvanized Substrates: Provide the following finish system in dry mil thicknesses as shown over exterior ferrous-metal surfaces:
- 1. Primer Coat: Primer, epoxy as recommended in writing by topcoat manufacturer, (5.0 mils).
 - a. Tnemec Hi-Build Epoxoline II Series L69
 - b. Sherwin Williams Macropoxy 646-100
 - c. Dunn Edwards Carboline Carbomastic Epoxy 15
 - 2. Intermediate Coat: Epoxy, high-build, low gloss (5.0 mils).
 - a. Tnemec Hi-Build Epoxoline II Series L69
 - b. Sherwin Williams Macropoxy 646-100
 - c. Dunn Edwards Carboline Carbothane 134 Series
 - 3. Final Coats: Polyurethane, two-component, pigmented gloss (Gloss Level 6) (2.5 mils)
 - a. Tnemec Endura-Shield Series 1080
 - b. Sherwin Williams WB Acrolon 100 Series B65
 - c. Dunn Edwards Carboline Carbothane 134 Series

END OF SECTION

SECTION 31 10 00

SITE PREPARATION AND PLANT PROTECTION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Protecting improvements and vegetation to remain.
- B. Clearing and grubbing.
- C. Removal of existing site improvements including but not limited to concrete, utilities, curbs, fencing, and irrigation system.
- D. Preserve and protect adjoining properties during removal work, site preparation work and construction.
- E. Generally, this project includes construction of new building and associated improvements including but not limited to: Protection of existing improvements, demolition, staking, site preparation, storm drainage, earthwork, concrete work, asphalt work, site furnishings, irrigation, and all reasonably incidental and related work as shown on plans and as specified.

1.2 QUALITY ASSURANCE

- A. Stipulations – Site Preparation and Demolition:
 - 1. Work is in accordance with the Drawings and specifications and includes but is not necessarily limited to the following:
 - a. Clearing and grubbing.
 - b. Identification and protection of vegetation indicated to remain.
 - c. Removal of existing site improvements, such as, paving and bases, concrete curbs, fences, footings, foundations, irrigation system, underground pipes and utilities and structures.
 - 2. Locate and identify existing utility services and protect or disconnect, remove and cap as required for new work.
 - 3. Remove, clean, store and protect all items designated and directed to be salvaged to Owner.
 - 4. Remove, store and protect all items designated and directed to be reinstalled.
 - 5. Obtain and pay for permits required for execution of this work.

1.3 SUBMITTALS

- A. Photographs or videotape, sufficiently detailed, of existing conditions of adjacent streets, adjacent parking areas, trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site demolition.
- B. The Contractor is to submit a letter with the relevant material submittals certifying that the products used by the Contractor are consistent with the Environmental Safety Policy of the School District.

1.4 PROJECT CONDITIONS:

- A. Coordination: Coordinate this work with the work of other Sections to avoid delay and interference with other work. Refer to the Demolition Plan for site work requirements.
- B. Nuisances: Keep dirt, dust, noise and other objectionable nuisance to a minimum. Use temporary enclosures, coverings and sprinkling, and combinations thereof, as necessary to limit dust to lowest practicable level, except do not use water to the extent that it causes or contaminated run-off.
- C. Traffic: Conduct work to ensure minimum interference with vehicular and pedestrian traffic, and to permit unencumbered access to the school property located outside of the project areas including the track and field.
 - 1. Do not close or obstruct streets, sidewalks, or other public passageway without permission from authorities having jurisdiction.
 - 2. If required, by governing authorities, provide alternate routes around closed and obstructed traffic ways.
 - 3. Do not drive any type of vehicle or store products on asphalt that is curing unless the area has been protected. Vehicles and storage areas are limited to the areas of thickened asphalt pavement section as shown on the drawings or as designated by the District Representative. Submit a protection plan to the District for approval prior to start of demolition work.
- D. Dispose of cleared, grubbed, and removed material that will not be salvaged or recycled on Site.
- E. Salvable Improvements: Carefully remove items indicated to be salvaged and store where designed by the District Representative. Avoid damaging salvage material.
- F. Protections:
 - 1. Prevent movement and settlement of adjacent structures. Install temporary barriers, fences, guard rails, enclosures, shoring, bracing, planking, warning signs and other protections required to protect structures, utilities, landscaping and other items that are to remain in place.
 - 2. Protect benchmarks, monuments and reference points from displacement and damage; and if displaced or damaged, replace at no cost to the Owner.
 - 3. Install and maintain required bracing, shoring and supports when removing structural elements and be responsible for safety and support of structure. If safety of structure appears to be endangered, cease operations and immediately notify the District Representative. Do not resume operations until safety is restored.

PART 2 – PRODUCTS

2.1 SOILS MATERIALS

- A. Satisfactory Soil Materials. See Section 31 20 00, Earthwork for satisfactory soil material for backfilling excavations and depressions resulting from site clearing.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine areas in which work is to be performed. Report in writing to the District's Representative all prevailing conditions that will adversely affect satisfactory execution of work. Do not proceed with work until unsatisfactory conditions have been corrected.
- B. Starting work constitutes acceptance of the existing conditions and the Contractor shall then, at his expense, be responsible for correcting unsatisfactory and defective work encountered.
- C. For the duration the project, provide a construction fence at the perimeter of project(s) as required to secure the project from trespass and provide a safe construction site. Field verify the perimeter and gate locations with the Construction Manager. The fence location may be adjusted as the project progresses based on the approval of the District's Representative.

3.2 CLEARING

- A. Remove designated trees, stumps, rubbish, undergrowth and deadwood as well as fences and incidental structures that interfere with the construction as shown on the Drawings and as specified. Obtain verification from project inspector prior to removal.

3.3 GRUBBING

- A. Remove all stumps and roots in their entirety, brush, organic materials and debris. When indicated, such materials as topsoil and leaf mold, or other organic materials above the ground surface suitable for use as mulch or topsoil, shall be salvaged and stockpiled.
- B. Remove grasses and weeds. Apply systemic weed killer and confirm weed kill prior to removal.

3.4 TOPSOIL STRIPPING – As required

- A. Coordinate with Section 31 20 00, Earthwork, and Drawings. Strip topsoil to required depths in a manner to prevent intermingling with underlying subsoil or other waste materials.

3.5 UTILITIES

- A. Contract local utility companies 48 hours minimum prior to start of demolition work. Confirm verbal notices and written notices. Verify locations of all utilities entering site and their locations on site.
- B. Cooperate with the District's Representative, utility companies, adjacent property owners, and other building trades in maintaining, protecting, re-routing or extending utilities passing through work areas which serve structures located on project site and on adjacent properties.
- C. Verify that utilities that are to be removed, capped or abandoned are turned off, or are disconnected, or are re-routed to new locations before starting demolition.

3.6 REMOVAL

- A. General:
 - 1. Remove materials in an orderly and careful manner.
 - 2. Repair or replace all removal work performed in excess to that required at no cost to the District. Repair or replacement shall match and equal construction, condition and finish existing at time of award of Contract.
- B. Remove the following from locations to the extent required or directed for new construction.
 - 1. Fencing, including posts, fabric and footings. Backfill voids if required from removed footings with clean fill as defined in Section 31 20 00, Earthwork. Be careful of soil caving due to presence of groundwater intrusion.
 - 2. Electric underground wires and conduits occurring within removal areas except those shown as reused on Electrical Drawings. Refer to Utility Drawings and Specifications.
 - 3. Miscellaneous structural elements that interfere with the new construction as directed.
 - 4. Paving: remove asphalt and concrete paving including aggregate base rock completely to the minimum depth required for subgrade of new improvements. Dispose of demolished concrete, asphalt and base rock at a material recycling facility. Existing aggregate base may be reused on site if it meets requirements of 31 20 00 fill and the approval of the Geotechnical Engineer.
 - 5. Underground pipes and utilities.
 - 6. Other items noted on the drawings and required to be removed to install the new improvements.
- C. Cutting asphalt, concrete curbs and concrete pavement:
 - 1. All lines shall be marked and accepted by District's Representative before the cutting operation.
 - 2. Cut edges of pavement at 90-degree angle to the surface in a true and straight line in accordance with dimensions shown on the Drawings. Make cuts with a concrete saw, to a 1-1/2" minimum depth.
- D. Backfill and compact areas excavated and open pits and holes resulting from removal operations. Comply with requirements specified for backfill materials, compaction and installation methods.
- E. Rough grade site within removal areas to meet adjacent contours and to provide positive drainage. Leave site in clean condition acceptable for performance of subsequent construction operations.

3.7 CLEANUP AND DISPOSAL, per Section 01 70 00:

- A. Transport trash, rubbish and debris daily from site and legally dispose of:
 - 1. Demolish and waste materials encountered.
 - 2. Remove and promptly dispose of contaminated, vermin-infested and dangerous materials encountered.
 - 3. Do not burn or bury materials on site.
- B. Clean excess soil may be distributed on site as accepted by the Project Inspector, if it does not adversely affect specified finish grades. Coordinate with Section 31 20 00 Earthwork, Drawings and, Subgrade Preparation & Base Material.
- C. Excess soil may need to be legally disposed of off-site. Refer Existing Conditions. Coordinate with Section 31 20 00, Earthwork, Drawings.

- D. Upon completion of work under this Section, remove all tools, equipment and temporary enclosures and structures.

END OF SECTION

4/8/25

SECTION 31 20 00

EARTHWORK

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Provide earthwork complete, including removal work and clearing, grading, excavating and fill and dewatering.

1.2 REFERENCES

- A. Perform work in compliance with the rules and regulations of the Division of Industrial Safety and other local State agencies having jurisdiction. Nothing contained herein shall be constructed as permitting work that is contrary to such rules, regulations, and codes.
- B. Perform all work in accordance with all applicable laws, codes and regulations required by the State of California.
- C. Comply with State Water Resources Control Board.
- D. Work shall conform to local codes and regulations.
- E. References to "Standard Specifications" shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, Cal Trans.
- F. ASTM Standards.
- G. Relative compaction refers to the in-place dry density of the same soil expressed as a percentage of the maximum dry density of the same soil determined by ASTM D1557 laboratory test procedure. Optimum Moisture Content is the water content that corresponds to the maximum dry density as determined by the same procedure.

1.3 SUBMITTALS, per Section 01 33 00

- A. Submit a list of grading equipment to be used.
- B. Submit an analysis of physical and chemical properties and certificate of compliance of environmental clearance for import soil.
- C. Before the grading operation is underway, submit a letter identifying the approximate quantities and type of soil required to be imported and exported in order to accomplish a balance of the earthwork materials without additional compensation.
- D. The Contractor is to submit a letter with the relevant material submittals certifying that the products used by the Contractor are consistent with the Environmental Safety Policy of the School District.

1.4 CLOSEOUT SUBMITTALS

- A. The Contractor shall engage a California Registered Civil Engineer or licensed Land Surveyor to perform a conformance survey at completion of the project and provide a hard copy of the survey and an AutoCAD copy of the survey as part of the closeout documents.

1.5 SOILS BORINGS

- A. Subsurface soils investigations have been made at the site and logs of the test holes are available in the Soils Report. Such investigations have been made for the purposes of design only, and neither the Architect, the Owner, nor the Soils Engineers guarantee adequacy or accuracy of the data, or that data are representative of all conditions to be encountered. Such information is made available for general information only and shall not relieve the Contractor of the responsibility for making his own investigations.

1.6 PROJECT CONDITIONS

- A. Coordination: Coordinate this work with the work of other sections to avoid delay and interference with other work. Refer to Section 01 11 00 – Summary of Work for site work sequencing requirements.
- B. Protect excavations by shoring, bracing, sheeting, underpinning, or other methods as required to prevent cave-ins or loose dirt from entering excavations. Barricade open excavations and post warning lights at work adjacent to public streets and walks.
- C. Underpin adjacent structure(s), including utility service lines, which may be damaged by excavation operations.
- D. Promptly repair damage to adjacent facilities caused by earthwork operations. Cost of repair to Contractor's expense.
- E. Promptly notify the Inspector of unexpected subsurface conditions.
- F. If during the course of the earthwork operations, an area of pumping or otherwise unstable soil is encountered, the contractor shall immediately modify his operations in such a way as to limit the frequency and weight of vehicles traveling over the area and promptly notify the Inspection who will contact the Geotechnical Engineer for an evaluation.

1.7 EXISTING CONDITIONS

- A. A topographic survey of the property has been included in the drawings for reference only. Upon the beginning of the earthwork, Contractor represents that he has inspected the site and satisfied himself as to actual grades and levels and the true conditions under which the work is to be performed.

1.8 PROTECTION

- A. Furnish, place and maintain all supports, shoring and sheet piling which may be required for the earthwork operations.

- B. Maintain all benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed.
- C. Adequate protection measures shall be provided to protect workmen, passers-by, and the site. Streets and adjacent property shall be fully protected throughout the operations.
- D. In accordance with generally practiced construction practices, the Contractor shall be solely and completely responsible for working conditions on the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.
- E. Any construction review of the Contractor's performance conducted by the Inspector is not intended to review the adequacy of the Contractor's safety measures in, on, or near the construction site.
- F. Adjacent streets, sidewalks, and property shall be kept free of mud, dirt, or similar nuisances resulting from earthwork operations.
- G. Provide for surface drainage during the period of construction in a manner to avoid creating a nuisance to adjacent areas.
- H. Water as required to suppress dust nuisance.
- I. Protection of Existing Improvements:
 - 1. Provide barricades, covering, or other types of protection necessary to prevent damage to existing improvements indicated to remain in place. Protect improvements on adjoining properties. Repair damaged existing improvements to original condition as approved by authority having jurisdiction.
- J. Provide erosion control measures as required.
- K. Protection of Other Property: Excavation and other work over, under and adjacent to existing pipelines, cables, conduit ruins or structures of any kind shall be procured in such a manner as not to interfere with the safe operation and use of such installations. Should any damage be incurred to existing facilities during the Contractor's operations, the Contractor shall immediately notify the Owner's Representative and authorities, and shall arrange for the immediate repair of same at his expense.
- L. Underground Obstruction: The locations of existing underground utilities and structures, insofar as that are known from information furnished by the respective utility companies and agencies, have been shown on the drawings. The Owner assumes no responsibility for the accuracy or completeness of said data, which is offered solely for the convenience of the Contractor.
- M. Control of Water: Take measures as may be required to furnish, install and operate such pumps or other devices as may be necessary to remove any seepage, storm water, or sewage that may be found or may accumulate in the excavations during the progress of the work. Keep excavations entirely free from water at all times during the progress of the work, and until the Geotechnical Engineer gives permission to cease pumping.
- N. Pavement Restoration: Pavement, bases and compacted subgrade disturbed by the trenching operations shall be replaced in an acceptable manner with materials equal to the adjacent compacted subgrade, bases and pavement for a minimum of 12' on each side of the trench, and shall conform to the requirements of these Specifications or to local ordinances governing such replacement.

1.10 QUALITY ASSURANCE

- A. Contractor shall provide adequate notice, cooperate with, provide access to the work, and assist testing agency and their representative in the execution of their function.
- B. When, during the progress of work, field tests indicate that installed compacted materials do not meet specified requirements, provide additional compaction until specified density is achieved, or remove and replace defective materials with new materials as directed by the Inspector. Costs of additional labor, materials, and testing to attain specified density at Contractor's expense.
- C. The Contractor shall engage a California Registered Civil Engineer or licensed Land Surveyor to perform field engineering.
- D. The Contractor shall engage a California Registered Civil Engineer or licensed Land Surveyor to perform a conformance survey at completion of the project and provide a hard copy of the survey at completion of the project and an AutoCAD copy of the survey as part of the closeout documents.
- E. Perform all grading with hydraulically laser controlled grading machinery.

1.11 TESTING

- A. Testing and Inspection: Testing shall be performed by a qualified independent testing laboratory under the supervision of a registered professional engineer, specializing in soils engineering.
- B. The Owner will direct, provide, and pay for initial testing and inspection during earthwork operations.
- C. Provide and pay for re-testing and inspection during earthwork operations. Laboratory and inspection service shall be acceptable to the Owner.
- D. Where reference is made to relative compaction, it shall be in the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, determined by the ASTM D1557 laboratory test procedure. Optimum moisture is the water content that corresponds to the maximum dry density.
- E. For structural fills under footings, slabs or pavements. determine moisture density relationships in accordance with ASTM D1557.

PART 2 – PRODUCTS

2.1 FILL

- A. Structural Fill Materials: Inert subsoil material free of organic matter, rubbish, debris and rocks greater than 3" diameter, and meeting the following requirements:
 - 1. Liquid limit of less than 40.

2. Plastic index of less than 15, per ASTM D4318.
3. Minimum laboratory dry weight at optimum moisture content of 110 pounds per cubic foot.
4. Provide imported fill material as required to complete the work. Obtain rights and pay all cost for imported materials.
5. Proposed fill material shall be inspected, tested, and laboratory report issued prior to use in the work.
6. Suitable excavated material removed to accommodate new construction may be used as fill material subject to inspection and approval.
7. All fill material is subject to testing and inspection by the Geotechnical Engineer.

B. Filter Materials

1. Drain Rock: Per Section 31 23 33
2. Angular Washed Sand: Per section 31 23 33

2.2 TOPSOIL

- A. Topsoil is defined as on-site surface soil. Satisfactory topsoil shall be free of subsoil, clay, lumps, stones, and other objects over ½" diameter, without any weeds, roots and other objectionable material.
- B. If herbicide contamination is suspected, then a radish/ryegrass growth trial must be performed. Consult with Inspector prior to decision to test or not.

2.3 SOIL STERILANT

- A. Sterilizer shall be approved as a week and grass killer that is quick acting, short lived, non-selective, and not dangerous to installer.
- B. The Contractor is to submit a letter with the relevant material submittals certifying that the products used by the Contractor are consistent with the Environmental Safety Policy of San Rafael City Schools District.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Establish extent of grading and excavation by area and elevation. Designate and identify datum elevation and project engineering reference points. Set required lines, levels and elevations.
- B. Do no cover or enclose work of this Section before obtaining required inspections, tests and approvals and location recording.

3.2 EXISTING UTILITIES

- A. Notify the Underground Service Alert (U.S.A.) Center 48 hours in advance of performing any excavation works by calling (800) 227-2600. Verify the grade and location of existing utilities prior to any work where conflicts may arise by careful hand digging. Be responsible for the

protection of all existing utilities. Be responsible for the protection of all existing survey monuments.

- B. Before starting grading and excavation, establish the location and extent of underground utilities in the work area. Exercise care to protect existing utilities during earthwork operations. Perform the excavation work near utilities by hand and provide necessary shoring, sheeting, and supports as the work progresses.
- C. Maintain, protect, relocate or extend as required, existing utility lines which pass through the work area. Pay costs for this work, except as covered by the applicable utility companies.
- D. Protect active utility services uncovered by excavation.
- E. Remove abandoned utility service lines from the area of excavation. Cap, plug, or seal abandoned lines and identify termination points at grade level with markers.
- F. Accurately locate and record abandoned and active utility lines rerouted or extended on project record documents.

3.3 SITE GRADING

- A. Perform grading within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Provide subgrade surfaces parallel to finish surface grades. Provide uniform levels and slopes between new elevations and existing grades.
- B. Grade surfaces to assure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes and as follows:
 - 1. Rough Grading: Plus or minus 0.10 ft. subgrade tolerance. Finish required will be that ordinarily obtained from a laser controlled blade grader operations.
 - 2. Provide subgrade surface free of exposed boulders or stones exceeding 3" in greatest dimension in paved areas, 1" in athletic field areas.
 - 3. Subgrade: Grade subgrade surface smooth and even, free of voids to the required subgrade suitable to receive granular base materials.
 - 4. Drainage Swales: Grade as shown on drawings.

3.4 EXCAVATING

- A. Excavate for structure to elevations and dimensions shown. Extend excavation a sufficient distance from foundations to permit placing and removal of formwork, installation of materials, services and inspection. Hand trim foundation excavations to final grade just before concrete is placed. Remove loose, soft materials, and all organic matter. Footings shall bear on approved undisturbed bearing soil.
- B. Obtain inspection and testing of foundation excavations by the inspector before concrete is placed.
- C. Excavate for structures and paving to cross-sections, elevations and grades indicated. Allow for base material.

- D. Extra Excavation: Excavate unsatisfactory soil materials extending below required elevations to depth as directed. Such extra excavation will be paid for as a change in work. Obtain Architect's written authorization before performing extra excavation work.
- E. Unauthorized excavation: Backfill and fill all over-excavation to proper grades. Fill over-excavation at footings with 1,500 psi concrete. Additional labor and material for unauthorized excavation and remedial work at Contractor's expense.
- F. Shore, sheet or brace excavations as required to maintain them secure. Remove shoring and bracing as backfilling progresses, when banks are safe against caving.
- G. Do not excavate footings or slabs to the full depth when freezing temperature may be expected, unless footings or slabs are placed immediately after the excavation has been completed. Protect excavation bottoms from freezing when the placing of concrete is delayed.
- H. Rock Excavating:
 - 1. Rock: Material which cannot be removed with $\frac{3}{4}$ cu. yd. capacity power shovel without drilling or solid boulder with a volume of more than $\frac{1}{2}$ cu. yd.
 - 2. Rock Excavation: Material excavation of buried boulders and rock in excess of $\frac{1}{2}$ " cu. yd. that requires continuous use of ripper or other special equipment. All other excavation shall be classified as earth excavation.
 - 3. Contractor will be paid cost of rock excavation as a change in work. Obtain Inspector's written authorization prior to performing rock excavation work.

3.5 BACKFILLING

- A. Obtain inspection and approval of subgrade surfaces by Inspector prior to filling operations. Scarify, dry and compact soft and wet areas; remove and replace unsuitable subgrade materials with an approved compacted fill material. Take corrective measures before placing fill materials.
 - 1. Topsoil is not permitted as fill or backfill material under paved areas.
 - 2. Scarify the upper 6 inches of existing soil before placing any fill. In areas on which concrete, aggregate base, is to be placed, moisture condition and thoroughly mix the scarified material and re-compact to at least 90 percent relative compaction.
- B. Spread approved engineered fill material uniformly in layers not greater than 6" of loose thickness over entire area prior to compaction. Request monitoring of filling and compaction by Geotechnical Engineer.
 - 1. Lift thickness requirements may be modified by Inspector to suit equipment and materials or other conditions when required to assure satisfactory.
 - 2. Moisture-condition fill material to near Optimum Moisture Content by aerating or watering and thoroughly mix material to obtain moisture content permitting proper compaction.
 - 3. Place and compact each layer of fill to indicated density before placing additional fill material repeat filling until proposed grade, profile or contour is obtained.
 - 4. Suspend fill operations when satisfactory results cannot be obtained because of environmental or other unsatisfactory site conditions. Do not use muddy (or frozen) fill materials. Do not place fill material on muddy (or frozen) subgrade surface.
 - 5. Maintain surface conditions which permit adequate drainage of rainwater and prevent ponding of surface water in pockets. When fill placement is interrupted by rain, remove wet surface materials or permit to dry before placing additional fill material.

- C. Place backfill materials in uniform layers not greater than 6" loose thickness over entire backfill area.
 - 1. Use hand tampers at foundation retaining walls and similar locations. Do not use large rolling equipment adjacent to retaining walls.
 - 2. Do not backfill against retaining wall until walls for bearing surfaces have reached design strength or are properly braced, and backfilling operations approved. Provide clean backfill materials or granular materials as required; compact in maximum 6" layers.
- D. Fill all areas of settlement to proper grade before subsequent construction operations are performed.
- E. Compaction:
 - 1. Provide minimum and maximum compaction control for all fill and backfill.
 - 2. Engineered Fill
 - a. Compact each layer of engineered fill or backfill material to 90% relative compaction, unless otherwise specified. Extend compaction at last 5'-0" at both sides of foundations and retaining walls and at least 1'-0" beyond slabs on-grade and paving.
 - 3. Water settling, puddling, and jetting of fill and backfill materials as a compaction method is not acceptable.
 - 4. Maintain moisture content of materials during compaction operations within required moisture range to obtained indicated compaction density.
 - 5. Provide proper equipment to achieve consistent and uniform compaction of fill and backfill materials.
 - 6. Do not use heavy equipment that will over-compact planting soil. Compact topsoil to maximum 85 % relative compaction.
- F. Maintenance of Finished Grades:
 - 1. Protect finished graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and damaged areas.
 - 2. Where completed areas are disturbed by construction operations or adverse weather, scarify, reshape and compact or scarify to achieve required density.

3.6 FIELD QUALITY CONTROL

- A. The Owner will provide and pay for field quality control soils testing and inspection during earthwork operations.
- B. Contractor shall provide adequate notice, cooperate with, provide access to the work, obtain samples, and assist testing agency and their representatives in execution of their function.
- C. Fill Materials: The Owner will test proposed materials to verify suitability for use, gradation of material, moisture-density relation, design bearing value, and percent of materials.
- D. Subgrade Surfaces: Based on visual examination of the site, the Owner will provide and pay for bearing tests as required to verify subgrade surfaces are adequate and meet or exceed design bearing values.
 - 1. Paved Areas: Make at least one test for each 2000 sq. ft. of paved area.

- E. Compaction Operations: The Owner will provide and pay for inspection and testing during paved area filling and compaction operations. Test each lift of fill to verify compaction meets specified requirements. The owner will provide and pay for periodic inspection and testing during site area filling and compaction operations.
- F. When, during progress of work, filed tests indicate that installed compacted materials do not meet specified requirements, provide additional compaction until specified density is achieved, or removed and replace defective materials with new materials as directed by the inspector. Cost of additional labor, materials and testing to attain specified density is at Contractor's expense.

3.7 DISPOSAL OF WASTE MATERIALS

- 1. Stockpile, haul from site, and legally dispose of export and waste materials, including trash and debris.
- 2. Maintain disposal route clear, clean, and free of debris.
- 3. Clean excess soil may be distributed on site as accepted by Inspector, if it does not adversely affect specified finish grades. Coordinate with Drawings and Subgrade Preparation and Base Material.

3.8 CLEANING, per section 31 10 00

- A. Upon completion of earthwork operation, clean areas within contract limits, remove tools and equipment. Provide a clear, clean site, free of debris and suitable for site work operations.

END OF SECTION

4/8/25

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 – GENERAL**1.1 WORK INCLUDED**

- A. Erosion and sediment control through the use of the following:
 - 1. Dikes
 - 2. Swales
 - 3. Grade stabilization structures
 - 4. Sediment basins
 - 5. Sediment traps
 - 6. Silt fences
 - 7. Straw and bales
 - 8. Planting and ground coverage
 - 9. Maintenance of erosion control improvements
 - 10. Cleanup and removal of silt from roadways on-site and off-site
- B. Dust alleviation and control by watering, matting, planting, etc.
- C. Provision of all materials, equipment, and apparatus not specifically mentioned herein or noted on the plans, but which are obviously necessary to complete the dust and erosion control.

1.2 RELATED REQUIREMENTS: Not used**1.3 MEASUREMENT AND PAYMENT****A. Water Pollution Control**

The contract lump sum price paid for bid item "Water Pollution Control Program" shall include full compensation for furnishing transportation, labor, materials, tools, equipment, and incidentals, and for doing all work involved in Water Pollution Control Program. Work includes, but not limited to, submitting water pollution control plan for City's review and approval prior to project construction, participation in stormwater construction inspections, use of best management practices during construction to prevent construction related pollutants from entering the storm drain system, maintenance of storm water pollution prevention measures, and removal and disposal of measures after completion of work. All work shall be complete in place as accordance specifications, permits, and as directed by the Engineer.

1.4 REFERENCE STANDARDS

- A. Manual of Standards for Erosion and Sediment Control Measures - Association of Bay Area Governments (ABAG)
- B. State of California Department of Transportation Standard Specifications (SS) Section 21 Erosion Control.
- C. American Association of State Highway and Transportation Officials (AASHTO)

D. ABAG Manual of Standards for Erosion and Sediment Control Measures

1.5 QUALITY ASSURANCE

All work shall be done to the satisfaction of the designated representative of the geotechnical consultant, and shall meet the approval of the Engineer.

PART 2 - PRODUCTS

2.1 GENERAL

All materials shall conform to applicable requirements of SS Section 21, "Erosion Control", listed as follows and meeting the requirements of ABAG Manual of Standards for Erosion and Sediment Control Measures.

2.2 TOP SOIL

- A. The soil shall contain no more than seventy percent (70%) sand (as defined by USDA, Soil Conservation Service). This is to provide enough available water- holding capacity to support plant growth.
- B. The soil shall have sufficient porous base (greater than thirty percent (30%)) to permit adequate root penetration and provide for exchange of gases and water.
- C. The soil shall be free from any material harmful to plant growth.
- D. Topsoil that has been graded from the site shall be stockpiled, whenever possible, for reapplication on exposed graded slopes during the final grading stage. The soil shall be disked into the existing soil to provide for a good bond.

2.3 SEED

- A. A seed mix similar to the native plants and grasses or the following seed mix shall be applied at above the minimum rate specified below:

Seed Type	Minimum Application Rate (Pounds per Acre)
Blando Brome	30
Annual Ryegrass	20

- B. All seed shall be certified live and delivered to the site tagged and labeled in accordance with the California Agricultural Code and shall be acceptable to the County Agricultural Commissioner.

2.4 FERTILIZER

- A. Fertilizer shall contain a minimum of sixteen percent (16%) nitrogen, twenty percent (20%) available phosphoric acid, zero percent (0%) water soluble potash, and fifteen percent (15%) sulfur. It shall be uniform in composition, dry and free flowing, pellet or granular.
- B. All fertilizer shall be delivered in unbroken or unopened containers, labeled in accordance with the applicable State regulations, and bearing the warranty of the producer for the grade furnished.

2.5 STRAW MULCH

Straw mulch shall be of un-rotted small grain straw and shall be applied at the rate of four thousand pounds (4,000#) per acre. Mulch materials shall be relatively free of all noxious weeds. If the straw is applied with a blower, it shall be chopped in lengths not shorter than six inches (6").

2.6 STRAW BALES

Straw shall be derived from wheat, oats, or barley. The Contractor shall furnish evidence that clearance has been obtained from the County Agricultural Commissioner, as required by law, before straw obtained from outside the County in which it is to be used is delivered to the site of the work. Straw that has been used for stable bedding shall not be used.

2.7 SILT FENCE

- A. Filter fabric shall be a pervious sheet of synthetic polymer composed of at least eighty-five percent (85%) by weight ethylene, propylene, amide, ester, or vinylidene yarn, woven or non-woven, and shall contain stabilizers and/or inhibitors to resist deterioration by heat, water and ultra-violet light. The fabric shall conform to the following criteria:
 - 1. The equivalent opening size (U.S. Standard Sieve) shall be within the range 70-100.
 - 2. The tensile strength (ASTM D 1682 G "Test Method for Breaking Load and Elongation of Textile Fabric") shall be at least one hundred twenty pounds (120#). The strength of fabric required depends on the wire support fence. The strength given is the minimum for a six-inch (6") square mesh wire support fence. If extra strength fabric is used without a support fence, the strength required shall be two hundred pounds (200#) minimum with posts spaced on six foot (6') centers.
- B. Posts for silt fences shall be either four-inch (4") square wood or 1.33 pounds per linear-foot steel with a minimum length of five feet (5'). Steel posts shall have projections for fastening wire to them.
- C. Wire fence reinforcement for silt fences shall be a minimum of forty-two inches (42") in height, shall be a minimum of 14 gauge, and shall have a maximum mesh spacing of six inches (6").

2.8 LUMBER

Lumber shall be construction grade redwood rough finished, or approved equal.

2.9 PIPES

Pipes and conduits shall conform to applicable sections of these specifications and the requirement of the ABAG Manual of Standards for Erosion and Sediment Control Measures.

PART 3 - EXECUTION

3.1 JOB CONDITIONS

- A. Equipment and materials shall be stored as to ensure the preservation of its quality and fitness for the work. Equipment and materials shall be located on the construction site so it can be used on short notice.
- B. Erosion and sediment control measures shall be in place during the rainy season (October 1st through April 30th) and shall be frequently serviced to maintain their full function. However, for projects having the potential to cause water pollution, the Storm Water Pollution Prevention Plan (SWPPP) must be available on site and at all times and must be implemented year-round throughout the duration of the construction project. For the foregoing type of projects, no construction activity shall be performed until the SWPPP has been certified and appropriate Best Management Practices (BMPs) have been implemented in accordance with Section 2 of the California Storm Water BMP Handbook for Construction as developed by the California Storm Water Quality Association (CASQA), and such other storm water pollution regulatory agency implementing guidelines.
- C. Dust control measures shall be implemented at all times during the construction period until no longer required. Contractor shall pay for the removal of all silt from the storm drain system and the inspection thereof.

3.2 TEMPORARY AND PERMANENT PLANTING OF EXPOSED SOILS

- A. Before seeding, necessary drainage controls such as dikes at tops of slopes and swales on slope benches shall be installed to prevent runoff from eroding slopes before grass is established. Temporary drainage controls shall remain in place until permanent drainage facilities are installed or until slopes are stabilized and temporary controls are no longer necessary for continued slope stability.
- B. The area to be seeded shall have a firm seed bed that has previously been roughened by scarifying, disking, harrowing, chiseling, or track-walking, or otherwise worked to a depth of two inches (2") to four inches (4") unless a roughed condition already exists. No implement shall be used that will create an excessive amount of downward movement of soil or clods on sloping areas. The seedbeds may be prepared at the time of completion of earth-moving work.
- C. Seeding, fertilizing, and mulching shall be done by October 1st of any year.
- D. Slopes above critical areas, such as a water supply reservoir or an existing residence, shall be stabilized by October 1st of any year. Irrigation shall be used if rainfall is insufficient to establish protection by this date.
- E. Seed shall be distributed uniformly over the seedbed by hand broadcasting, hydro-seeding or other approved method. Seed shall be covered to a depth of one-quarter to one-half inch (1/4"-1/2"), except when seed is hydraulically applied with a mulch. Seed shall not have a soil cover greater than one inch (1").

- F. Fertilizer shall be distributed uniformly over the seedbed at a rate of not less than five hundred pounds (500#) per acre. Fertilizer shall be applied in any way that will result in uniform distribution. Fertilizer shall be incorporated into the soil if possible. Incorporation may be as part of the seedbed preparation or as part of the seeding operation. Fertilizer may also be applied as a mix with seed and fiber in a slurry (see Paragraph H below).
- G. A mulch cover shall be distributed uniformly over the surface of the seeded area. Mulching shall follow immediately after the seeding.
1. For slopes flatter than 2:1 and within a fifty-foot (50') access of a straw blower, the following procedure shall be used: Straw mulch shall be applied at the rate of four thousand pounds (4,000#) per acre. The mulch shall be applied by hand, blower or other suitable equipment. The mulch shall be anchored in place using hand tools, mulching rollers, disks, nets, chemical tackifiers or other suitable means.
 2. For slopes steeper than two to one (2:1), mulch shall be applied hydraulically as specified in Item H, below.
- H. Hydro-seeding is defined as the simultaneous application of seed, fertilizer, and mulch in a slurry.
1. The hydro-seeder shall be equipped with a built-in continuous agitation system of sufficient operating capacity to produce a homogeneous slurry and with a discharge system that applies the slurry to the slopes at a continuous and uniform rate. Seed shall not remain in the slurry longer than thirty (30) minutes. The slurry shall contain the required fertilizer (see preceding Item F) and shall also contain wood fiber to be applied at the rate of one thousand five hundred pounds (1,500#) of wood fiber per acre.
 2. The water used shall be potable water or Class 1 or 2 agricultural irrigation water.
 3. The slurry shall be continuously mixed and shall be mixed for at least five (5) minutes after the last addition before application starts. The slurry shall be applied at a rate that is non-erosive and minimizes runoff. The slurry must have fibrous and/or chemical adhesives to ensure retention of seed mix on soil slopes.
- I. Irrigation is optional, except on critical areas (see Paragraph D above).
1. If irrigation is required or desired, the following procedure shall be used. The top one-inch (1") of soil of all seeded areas shall be kept moist for the first twenty-one (21) days after seeding. Moisture needs will be determined by visual observation. After twenty-one (21) days, the top six inches (6") of soil shall be kept moist until the first major rainstorm (minimum 1.0-inch per 24- hour period). The moisture level shall not be allowed to drop below fifty percent (50%) available moisture capacity.
 2. Irrigation shall not exceed one-half inch (0.5") of water applied per acre per irrigation on sandy soils, and one-inch (1.0") of water applied per acre per irrigation on loam- and clay-type soils.
 3. Irrigation water shall be potable or Class 1 or 2 agricultural irrigation water. Water shall be applied by sprinklers or similar devices at a non-erosive rate using the above criteria as a guide.
- J. Seeded areas shall be inspected no more than thirty (30) days after planting and no more than thirty (30) days after the first rain. Follow-up inspections shall be done between sixty (60) and ninety (90) days after the first inspection and again in the spring. The spring inspection shall establish any corrective measures necessary before the next rainy season. If, at the sixty (60) day inspections, the vegetation is not established and/or erosion is expected to continue, slopes shall be reseeded and/or repaired. Eroded slopes shall be smoothed over, including the

filling of rills and/or gullies, before reseeding starts. The reseeding operation shall follow the specifications given above.

3.3 TEMPORARY DIKES

- A. The top width shall be a minimum of two feet (2').
- B. The height of compacted earth fill dike shall be a minimum of eighteen inches (18") measured from the existing ground at the upslope toe to the top of the dike and at least twelve inches (12") above any outlet pipe. The maximum allowable water depth in the diked areas shall not exceed thirty inches (30").
- C. The side slopes shall be 2:1 or flatter.
- D. The grade along the face of the dike (flow area) shall be dependent on topography, but shall be a minimum of one percent (1%) (sufficient grade to drain) to an adequate outlet. Drainage must be positive. The "flow area" of the dike is defined as the upslope portion of the dike face and adjacent ground surface over which diverted runoff water flows.
- E. The flow area shall be stabilized:
 1. Where the slope of the flow area exceeds five percent (5%); or
 2. Where the slope of the flow area is one percent (1%) to five percent (5%) and the maximum flow velocity from the ten (10) year frequency storm is exceeded as specified below:

Flow Area Surface	Maximum Velocity (Feet per Second)
Sand and Sandy Loam	2.5
Silt Loam	3.0
Sandy Clay Loam	3.5
Clay Loam	4.0
Clay, Fine Gravel, Graded Loam to Gravel	5.5
Graded Silt to Cobbles	5.5
Shale, Hardpan, and Course Gravel	6.0

- F. Stabilization, when required by Paragraph E above, shall be:
 1. In accordance with the ABAG Standard and Sample Specifications for Grass Protection of Waterways, Swales and Dikes, when the dike intercepts runoff from a protected or stabilized area; or
 2. By lining the flow area with stone that meets AASHTO M43 size No. 2 or 24 in a layer at least three inches (3") thick and pressed into the soil. The lining shall extend up the upslope side of the dike to a height of at least eight inches (8") measured vertically from the upslope toe and shall extend upslope from the upslope toe a distance sufficient to include the flow area.
- G. Diverted runoff from a protected or stabilized area shall flow directly to a grade stabilization structure and/or receiving water channel. Diverted water from a disturbed or exposed upland area shall flow to a sediment trap or a sediment basin or to an area protected by these practices.

- H. All dikes shall be machine-compacted with the tires or tracks going over at least ninety percent (90%) of the surface. There shall be a maximum of six inches (6") of lift between each compaction.
- I. The dike shall be inspected periodically and maintained as required.

3.4 TEMPORARY SWALE

- A. The bottom width shall be a minimum of seven feet (7') and the bottom shall be level.
- B. The depth shall be a minimum of one-foot (1').
- C. The side slope shall be two to one (2:1) or flatter (flat enough to allow construction traffic to cross if desired).
- D. The grade shall be dependent on topography, but shall be a minimum of one percent (1%) (sufficient grade to drain) to an adequate outlet. Drainage must be positive.
- E. The swale shall be stabilized:
 - 1. Where the slope of the swale bottom exceeds five percent (5%), or
 - 2. Where the slope of the swale bottom is one percent (1%) to five percent (5%) and the maximum flow velocity from the 10-year frequency storm is exceeded as specified below:

Swale Surface	Maximum Velocity (Feet per Second)
Sand and Sandy Loam	2.5
Silt Loam	3.0
Sandy Clay Loam	3.5
Clay Loam	4.0
Clay, Fine Gravel, Graded Loam to Gravel	5.5
Graded Silt to Cobbles	5.5
Shale, Hardpan, and Course Gravel	6.0

- F. Stabilization, when required by Paragraph E above, shall be:
 - 1. With grass protection when the swale receives runoff from a stabilized area; or
 - 2. By lining the flow area with stone that meets AASHTO M43 size No. 2 or 24 in a layer at least three inches (3") thick and pressed into the soil. The lining shall extend across the bottom and up both sides of the channel to a height at least eight inches (8") vertically above the bottom.
- G. At all points where the swale will be crossed by vehicles several times a day, the swale shall be stabilized according to preceding Paragraph 3.04 (F) 2, above, except that the stone lining shall be at least six inches (6") thick for the whole width of the traffic crossing.
- H. The swale shall be located to take advantage of the most suitable outlet. The swale shall discharge without causing erosion at its outlet.
- I. All trees, brush, stumps, obstructions and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.

- J. The swale shall be excavated and/or shaped to line, grade, and cross-section as required to meet the criteria specified herein, and be free of bank projections or other irregularities that will impede normal flow.
- K. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the completed swale.
- L. All earth removed and not needed in construction shall be spread or disposed of so it will not interfere with the functioning of the swale.
- M. The swale shall be inspected periodically and maintained as required.

3.5 TEMPORARY GRADE STABILIZATION STRUCTURE

A. Rigid Pipe Slope Drain

- 1. The inlet pipe shall have a slope of three percent (3%) or steeper.
- 2. The top of the earth dike over the inlet pipe, and those dikes carrying water to the pipe, shall be at least one foot (1') higher at all points than the top of the inlet pipe.
- 3. The pipe shall be corrugated metal pipe with watertight connecting bands.
- 4. A riprap apron shall be provided at the outlet. This shall consist of six-inch (6") diameter rocks placed as shown on the plans.
- 5. The soil around and under the inlet pipe and entrance section shall be hand tamped in four-inch (4") lifts to the top of the earth dike.
- 6. Follow-up inspection and any needed maintenance shall be performed after each storm.

B. Flexible Pipe Slope Drain

- 1. The inlet pipe shall have a slope of three percent (3%) or steeper.
- 2. The top of the earth dike over the inlet pipe, and those dikes carrying water to the pipe, shall be at least one foot (1') higher at all points than the top of the inlet pipe.
- 3. The inlet pipe shall be corrugated metal pipe with watertight connecting bands.
- 4. The flexible tubing shall be the same diameter as the inlet pipe and shall be constructed of durable material with hold-down grommets spaced no more than ten feet (10') on centers.
- 5. The flexible tubing shall be securely fastened to the corrugated metal pipe with metal strapping or watertight collars.
- 6. The flexible tubing shall be securely anchored to the slope by staking at grommets provided.
- 7. A riprap apron shall be provided at the outlet. This shall consist of six-inch (6") diameter rocks placed as shown on the plans.
- 8. The soil around and under the inlet pipe and entrance section shall be hand tamped in four-inch (4") lifts to the top of the earth dike.
- 9. Follow-up inspection and any needed maintenance shall be performed after each storm.

C. Paved Chute or Flume

- 1. The structure shall be placed on undisturbed soil or on well-compacted fill.
- 2. The cut or fill slope shall not be steeper than two-to-one (2:1) and shall not be flatter than twenty-to-one (20:1).
- 3. The top of the earth dike at the entrance, and those dikes carrying water to it, shall not be lower at any point than the top of the lining at the entrance of the structure.
- 4. The lining at the entrance to the structure shall extend above the crest as shown on the plans.

5. The lining shall be placed beginning at the lower end and proceeding up the slope to the upper end. The lining shall be well compacted and free of voids. The lining surface shall be reasonably smooth.
6. The entrance floor at the upper end of the structure shall have a slope toward the outlet of one-quarter to one-half inch (1/4" - 1/2") per foot.
7. The cut-off walls at the entrance and at the end of the discharge aprons shall be continuous with the lining.
8. The lining shall consist of Type 2 Portland cement concrete (3,000 psi), bituminous concrete or comparable non-erodible material.
9. An energy dissipater of adequate design shall be used to prevent erosion at the outlet.

3.6 SEDIMENT BASINS

- A. Areas under the embankment and any structural works shall be cleared, grubbed, and stripped of any vegetation and root mat. In order to facilitate cleanup and restoration, the basin area shall be cleared also.
- B. A cut-off trench shall be excavated along the centerline of earth-fill embankments. The minimum depth shall be two feet (2'). The cut-off trench shall extend up both abutments to the riser crest elevation. The bottom width shall be wide enough to permit operation of excavation and compaction equipment and a minimum of four feet (4') in width. The side slopes shall be no steeper than one to one (1:1). Compaction requirements shall be the same as those for the embankment. The trench shall be dewatered during the backfilling and compacting operations.
- C. Fill material for the embankment shall be taken from approved fill areas. It shall be clean material soil free of roots, woody vegetation, oversized stones, rocks or other objectionable material. Relatively pervious materials such as sand or gravel (Unified Soil Classes GW, GP, SW, and SP) shall not be placed in the embankment. Areas on which fill is to be placed shall be scarified prior to placement of fill. The fill material shall contain sufficient moisture so that it can be formed by hand into a ball without crumbling. If water can be squeezed out of the ball, it is too wet for proper compaction. Fill material shall be placed in six to eight inch (6" - 8") thick continuous layers over the entire length of the fill. Compaction shall be obtained by routing the hauling equipment over the fill so that the entire surface of each layer of the fill is traversed by at least one wheel or tread track of the equipment, or by the use of a compactor. The embankment shall be constructed to an elevation ten percent (10%) higher than the design height to allow for settlement if compaction is obtained with hauling equipment. If compactors are used for compaction, the overbuild may be reduced to not less than five percent (5%).
- D. The principal spillway riser shall be securely attached to the discharge pipe by welding all around and all connections shall be watertight. The pipe and riser shall be placed on a firm, smooth soil foundation. The connection between the riser and the riser base shall be watertight. Pervious materials such as sand, gravel or crushed stone shall not be used as backfill around the pipe or anti-seep collars. The fill material around the pipe spillway shall be placed in four inch (4") layers and compacted under the shoulders and around the pipe to at least the same density as the adjacent embankment. A minimum of two feet (2') of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment. Steel base plates shall have at least two and one-half feet (2-1/2') of compacted earth, stone or gravel placed over them to prevent flotation.
- E. The emergency spillway shall not be installed in fill. Elevations, design width, and entrance and exit channel slopes are critical to the successful operation of the emergency spillway.
- F. Baffles shall be constructed of four-inch by four-inch (4" x 4") posts and four-feet by eight-feet (4' x 8') by one-half inch (1/2") exterior plywood. The posts shall be set at least three feet (3')

into the ground, no further apart than eight feet (8') center to center, and shall reach a height six inches (6") below the riser crest elevation. The plywood shall be securely fastened to the upstream side of the posts.

- G. The embankment and emergency spillway shall be stabilized with vegetation immediately following construction.
- H. Construction operations shall be carried out in such a manner that erosion and water pollution will be minimized. State and local laws concerning pollution abatement shall be complied with.
- I. State and local requirements shall be met concerning fencing and signs warning the public of hazards of soft sediment and floodwater.
- J. Maintenance and repairs shall be carried out as follows:
 - 1. All damages caused by soil erosion or construction equipment shall be repaired before the end of each working day.
 - 2. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser. This sediment shall be placed in such a manner that it will not erode from the site. The sediment shall not be deposited downstream from the embankment or in or adjacent to a stream or floodplain.
- K. When temporary structures have served their intended purpose and the contributing drainage area has been properly stabilized, the embankment and resulting sediment deposits shall be leveled or otherwise disposed of in accordance with the approved erosion and sediment control plan.

3.7 SEDIMENT TRAPS

- A. The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. The pool area shall be cleared.
- B. The fill material for the embankment shall be free of roots or other woody vegetation, as well, as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- C. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to within one foot (1') of the outlet elevation. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- D. The structure shall be inspected after each rain and repairs made as needed.
- E. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- F. The structure shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.
- G. All cut-and-fill slopes shall be two-to-one (2:1) or flatter.
- H. When a riser is used, all pipe joints shall be watertight.

- I. When a riser is used, at least the top two-thirds of the riser shall be perforated with one-half inch (1/2") diameter holes spaced eight inches (8") vertically and ten to twelve inches (10"-12") horizontally.
- J. When a pipe outlet is used, fill material around the pipe spillway shall be hand compacted in four-inch (4") layers. A minimum of one and one half feet (1.5') of hand-compacted backfill shall be placed over the pipe spillway. At least two feet (2') of backfill shall be placed if construction equipment will cross over the pipe spillway.
- K. When an earth or stone outlet is used, outlet crest elevation shall be at least one foot (1') below the top of the embankment. Pipe outlets shall be at least one-and one-half feet (1.5') below the top of the embankment.
- L. When a crushed stone outlet is used, the crushed stone used in the outlet shall meet AASHTO M43, size No. 2, 24, or its equivalent such as MSHA NO. 2 Gravel meeting the above gradation may be used if crushed stone is not available. Crusher run is not acceptable.

3.8 TEMPORARY STRAW BALE DIKES

- A. Bales shall be placed in a row with ends tightly abutting as shown on the Plan.
- B. Each bale shall be embedded in the soil a minimum of four inches (4").
- C. Bales shall be securely anchored in place by two (2) wood stakes driven through the bales. The first stake in each bale shall be driven toward the previously laid bale to force bale together.
- D. The dike shall be inspected after each storm, and repair or replacement shall be made promptly as needed.
- E. Bales shall be removed when they have served their purpose so as not to block or impede storm flow or drainage.

3.9 TEMPORARY SILT FENCE

- A. The height of silt fence shall not exceed thirty-six inches (36"). On slopes, the fence line shall follow the contour as closely as possible. In small swales, the fence line shall be curved upstream at the sides to direct the flow toward the middle of the fence.
- B. If possible, the filter fabric shall be cut from a continuous roll to avoid the use of joints. When joints are necessary, filter cloth shall be spliced only at a support post, with a minimum six-inch (6") overlap and both ends securely fastened to the post.
- C. Posts shall be spaced a maximum of ten feet (10') apart and driven securely into the ground, a minimum of twelve inches (12"). When extra strength fabric is used without the wire support fence, post spacing shall not exceed six feet (6').
- D. A trench shall be excavated approximately four inches (4") wide and four inches (4") deep along the line of posts and upslope from the barrier.
- E. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one inch (1") long, tie wires or hog rings. The wire shall extend into the trench a minimum of two inches (2") and shall not extend more than thirty-six inches (36") inches above the original ground surface.

- F. The standard strength filter fabric shall be stapled or wired to the fence, and eight inches (8") of the fabric shall extend into the trench. The fabric shall not extend more than thirty-six inches (36") above the original ground surface. Filter fabric shall not be stapled to existing trees.
- G. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of Subparagraph F, above, applying.
- H. The trench shall be backfilled and the soil compacted over the toe of the filter fabric.
- I. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
- J. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- K. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the barriers expected usable life and the barrier is still necessary, the fabric shall be replaced promptly.
- L. Sediment deposits should be removed when deposits reach approximately one-half (1/2) the height of the barrier.
- M. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

3.10 SPECIAL REQUIREMENTS

- A. All basins and check dams shall have been pumped dry, and all debris and silt removed within twenty-four (24) hours after each storm.
- B. Hydro-seed all fill and cut slopes as approved by the Engineer, with a vertical height of five feet (5') or more.
- C. Changes to the erosion and sediment control plans to meet field conditions will be made only with the approval of, or at the direction of, the Engineer.
- D. During the rainy season, all paved areas will be kept clear of earth material and debris. The site will be maintained so that a minimum of sediment-laden runoff enters the storm drainage system.

3.11 CONTROL OF GROUND WATER

The Contractor shall be solely responsible for dewatering excavations and subsequent control of ground water. The Contractor shall provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage, to the satisfaction of the Engineer, until backfilling is completed.

END OF SECTION

4/8/25

SECTION 32 11 23

AGGREGATE BASE COURSES

PART 1 – GENERAL

1.1 SUMMARY

A. Related Documents:

1. Drawings and general provisions of the contract apply to this Section.
2. Review these documents for coordination with additional requirements and information that apply to work under this Section.

B. Section includes:

1. Aggregate base.
2. Subgrade Preparation.

C. Related Sections:

1. Division 01 – General Requirements
2. Division 32 Section 32 12 16 – Asphalt Paving and Surfacing

1.2 REFERENCES

A. General:

1. The following documents form part of the Specifications to the extent stated. Where differences exist between codes and standards, the one affording the greatest protection shall apply.

B. State of California – California Department of Transportation (CALTRANS):

1. Standard Specifications: Section 26 Aggregate Bases.

1.3 DEFINITIONS

A. Acceptance: Wherever the terms acceptance or accepted are used herein, they mean acceptance of the Architect-Engineer in writing.

B. Subgrade: The soil surface on which aggregate base or cement-treated base is placed.

1.4 SUBMITTALS

A. Submit under provisions of Division 01 – General Requirements

B. Test Results:

1. Compaction Tests.

1.5 QUALITY ASSURANCE

- A. Single Source: Furnished from single source throughout Work.
- B. Certification: Arrange with District to have District's Geotechnical Engineer certify that source materials for this Work meets these Specifications and provide tests required to prove that Work-in-progress meets requirements of these specifications.

1.6 DELIVERY, STORAGE AND HANDLING

- A. On Site Storage: Store aggregate-base material on-site covered or in a location where material will not be contaminated.

1.7 SITE CONDITIONS

- A. Unfavorable Weather: When weather is such that satisfactory results cannot be secured, suspend operations until the weather is considered favorable.
- B. Wet Subgrades: Do not place material on wet or muddy subgrade.

1.8 WARRANTY

- A. General Description: In addition to manufacturer's warranties, warrant Work for a period of one year from the Date of Final Completion against defects in materials and workmanship.
- B. Additional Items Covered: Warranty shall also cover repair of damage to other materials and workmanship resulting from defects in materials and workmanship.
- C. Exceptions: Subcontractor shall not be held responsible for failures due to ordinary wear, neglect by the District, vandalism, or other causes beyond the Subcontractor's control.

PART 2 – PRODUCTS

2.1 FORM MATERIALS

- A. Aggregate Base: SS Section 26-1.02A, Class 2, meeting requirements of ¾-inch (20 mm) maximum size from a single source.
- B. Water: Fresh, clean, potable.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verification of General Conditions: Examine site and verify that conditions are suitable to receive Work and that no defects or errors are present which would cause defective installation of products or cause latent defects in workmanship and function.
- B. Subgrade: Review to verify that it has been inspected, graded to the correct grades, and compacted as required for correct installation of aggregate base.
- C. Notification of Unsuitable Conditions: Before proceeding with Work, notify the Project Manager in writing of unsuitable conditions and conflicts.

3.2 PREPARATION

- A. Protection of Existing Conditions:
 - 1. Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, plant materials and walks on or adjacent to the site of the Work. Provide barricades, fences or other barriers to protect existing conditions to remain from damage during construction.
 - 2. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants to remain.
 - 3. Submit written notification of damaged plants and structures to the Project Manager.
- B. Subgrade Preparation:
 - 1. Meet requirements of Project Geotechnical Report recommendations for subgrade preparation prior to placement of aggregate base or cement-treated base.
 - 2. Grade subgrade with uniform slope between points where elevations are given.
 - 3. Use equipment of proper size and appropriate type to achieve grades required.
 - 4. Grade subgrade surface to within 0.05-foot (15 mm) of elevations indicated by the Drawing details.
 - 5. Fill and compact any depressions and remove loose material to finish true to line and grade, presenting a smooth, compacted and unyielding surface, except where indicated otherwise.
 - 6. Remove debris, loose dirt and other extraneous materials.

3.3 AGGREGATE BASE

- A. Pre-wetting Aggregate Base: Meet requirements of CALTRANS Specifications Section 26.
- B. Hauling:
 - 1. Use of dragline equipment to transport aggregate from stockpiles to elevators or other loading devices will not be permitted.
 - 2. Distribute hauling over the area to be paved in such a manner as to be most effective in the compacting of the surfacing.
 - 3. Hauling over any of the surfacing in process of construction will not be permitted when, in the opinion of the District, the effect will be detrimental.
 - 4. Uniformly load hauling vehicles when it is practicable.
- C. Placement of Aggregate Base:

1. Spread base in an even distribution of material without perceptible segregation.
2. Method of spreading and field operation shall be acceptable to the District at all times and in accordance with of CALTRANS Specifications Section 26.
3. Construct base course in lifts not exceeding 6 inches (150 mm) in depth so that when compacted to the specified density, the finished surface will conform to grades and dimensions shown, with proper allowance for subsequent courses where specified.
4. Construct the base course in an orderly manner so that reasonable size areas will be ready for testing and a reasonable length of time will be allowed for the District to perform tests and obtain the test results during normal working hours.
5. Equipment such as scrapers, and other equipment essentially used for earth excavation, will not be permitted.
6. Compaction equipment shall be adequate in design and number to obtain the specified density for each layer while still moist.
7. Apply water as needed to obtain the specific densities.
8. Place each layer of base course and compact to the specified density before a succeeding layer is placed.

D. Compacting of Aggregate Base:

1. Compact each lift of base as soon after spreading operations as practicable and continue until a density of 95 percent of the maximum density has been achieved as determined in accordance with ASTM D1557.
2. Roll each course of surfacing until the material does not creep under the roller before a succeeding course of surfacing material is applied.
3. At the outer edges of the surfacing and continue toward the center.
4. Correction of Surface Defects: Should irregularities develop in any surface during or after rolling, they shall be remedied by loosening the surface and correcting the defects, after which the entire area, including surrounding surfaces, shall be rerolled until thoroughly compacted. Finished surfaces shall be true to grade and crown before proceeding with surfacing.

E. Patrolling: Surfacing in progress of construction shall be bladed and otherwise worked as may be necessary to maintain proper grade and cross section at all times and to keep the surface smooth and thoroughly compacted.

F. Final Clean-up:

1. After work is completed, the entire area shall be neatly finished and trimmed to lines, grades and cross sections shown.
2. Unused construction material shall be removed, and stockpile areas shall be cleaned of aggregate and left in an acceptable condition.

3.4 TOLERANCES

- A. Subgrade Surface: Plus or minus 0.05-foot or elevations indicated by the Drawing details.
- B. Aggregate Base Course Variation from Thickness: Plus or minus 0.05-foot.
- C. Aggregate Base Course Finished Surface Smoothness: Plus or minus ¼-inch.

END OF SECTION

4/8/25

SECTION 32 12 16

ASPHALT PAVING AND SURFACING

PART 1 – GENERAL

1.1 SUMMARY

- A. This section describes general requirements, products, and methods of execution relating to on-site paving and surfacing. Any work within the Public right-of-way shall be done to the standards of the local City or County or the State of California Department of Transportation. Paving and surfacing includes but is not limited to:
 - 1. Asphalt Concrete Paving.
 - 2. Liquid Asphalt and Asphalt Emulsion.
 - 3. Aggregate Base.
- B. Related work furnished under other sections but conforming to the provisions of this section:
 - 1. Section 31 20 00 – Earthwork.
 - 2. Section 32 11 23 - Aggregate Base Courses.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM International):
 - 1. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 2. ASTM D1557-12e1 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³)
 - 3. ASTM D5035 - 11(2015) - Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method).
- B. California Code of Regulations (CCR): Title 24, Chapter 2-71, Site development Requirements for Handicapped Accessibility.
- C. California Department of Transportation (CalTrans):
 - 1. Standard Specifications:
 - a. Section 26 Aggregate Bases.
 - b. Section 37 Bituminous Seals.
 - c. Section 39 Asphalt Concrete.
 - d. Section 92 Asphalts.
 - e. Section 93 Liquid Asphalts.
 - f. Section 94 Asphaltic Emulsions.
 - 2. Traffic Manual.
 - 3. Highway Design.
- D. Institute of Transportation Engineers: Transportation and Traffic Engineering Handbook.

1.3 SUBMITTALS

- A. Requirements: Refer to Section 01 33 00 – Submittals.
- B. Asphalt Concrete Paving:
 - 1. Provide two copies of material certificates signed by the material producer and the Contractor, certifying that each material item complies with or exceeds specified requirements.
 - 2. The Contractor shall furnish a certified weight or load slip for each load of material used in the construction of the asphalt concrete pavement.
- C. Asphalt Paving: The Contractor shall furnish material test reports showing compliance with the respective specifications. The Test Engineer may determine to compliance with specifications.
- D. Product Data:
 - 1. Liquid Asphalt.
 - 2. Pavement Reinforcement Fabric.
 - 3. Tack Coat.
 - 4. Aggregate base.
 - 5. Paint.

1.4 PROJECT CONDITIONS

- A. Liquid Asphalt and Asphalt Emulsion:
 - 1. Prime coat, seal coat, and paint binder shall be applied only when the ambient temperature is above 50° Fahrenheit and when temperature has not been below 35° Fahrenheit for 12 hours immediately prior to application.
 - 2. Prime coat, fog coat, seal coat, and paint binder shall not be applied when base or surfaces are wet or contain excess moisture.
- B. Asphalt Concrete Paving:
 - 1. Asphalt concrete surfaces shall be constructed only when ambient temperature is above 50° Fahrenheit and when base is dry.

1.5 GENERAL DESIGN CRITERIA:

- A. Services Areas: Approach ramps, driveways, and paved work areas in excess of 4 percent slope shall be provided with a rough texture for non-skid surface.
- B. Walks and Paths: Concrete exterior slabs (walks, terraces, etc.) shall have a pitch of at least 2 percent. (unless otherwise noted on the drawings)
- C. Pavement Markings: All traffic control striping and pavement markings shall conform to the standards illustrated in the CalTrans Standard Plans Book current edition.

PART 2 - PRODUCTS

2.1 PAVING MATERIALS

- A. Aggregate Base: Aggregate base shall conform to Caltrans Class 2 (R value 78 min) aggregate base, 3/4" maximum size, as specified in Section 26 of the CalTrans Standard Specifications.
- B. Asphalt Concrete Paving:
 - 1. Paving asphalt to be mixed with aggregate shall be steam-refined asphalt, AR-4000, conforming to Section 92 of the CalTrans Standard Specifications.
 - 2. Mineral aggregate shall be Type B mineral aggregate as specified in Section 39 of the CalTrans Standard Specifications.
 - 3. Maximum aggregate size shall be as follows:
 - a. Pathways: 1/2" Fine
 - b. Drive Aisle: 3/4" Medium
 - 4. Asphaltic emulsion for paint binder, fog coat, and seal coat shall be emulsified asphalt, Type SS-1h, conforming to Section 94 of the CalTrans Standard Specifications.
- C. Pavement Reinforcement Fabric: Pavement reinforcement fabric shall meet Caltrans Section 88-1.02, BP Petromat or approved equivalent.
- D. Crack Sealant:
 - 1. Crack sealant: Rubberized hot-pour type and shall meet ASTM D 3405, Husky 1611 or approved equivalent.
 - 2. Blotting Agent: One of: Screened sand, cement, or fly ash.
- E. Tack coat: Meet Caltrans Section 39-4.02.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Subgrade and Aggregate Base:
 - 1. Prepare a subgrade and over-excavation per Section 31 20 00 – Earthwork.
 - 2. Aggregate base shall be compacted to 95 percent ASTM D1557. Sections 26-1.04B and 26-1.05 of the CalTrans Standard Specifications shall apply.
 - 3. Apply soil sterilant to prepared subgrade in areas indicated by soils engineer or after installation of rock or aggregate base uniformly at the rate recommended by the manufacturer.
- B. Crack Sealing:
 - 1. Before sealing, clear cracks of dirt, dust, and all other deleterious materials to a depth of 1/4-inch to 1/2-inch.
 - 2. Seal cracks 1/8-inch in width and greater.
 - 3. Apply crack sealer accordance with the manufacturer's recommendations unless otherwise directed.

3.2 ASPHALT CONCRETE PAVING

- A. General:

1. Proportion, mix, place, spread, and compact asphalt concrete in conformance with Section 39 of the CalTrans Standard Specifications.
2. Before placing asphalt concrete, apply an asphalt emulsion tack coat to all vertical surfaces of existing pavement, curbs, gutters, construction joints, and all existing pavement to be surfaced, in conformance with Section 39 of the CalTrans Standard Specifications.
3. Perform spreading and compacting of asphalt concrete in accordance with Section 39 of the CalTrans Standard Specifications.
4. Apply fog seal to all finished surfaces of asphalt concrete pavement at a rate of 0.05 gallons per square yard, in accordance with Section 37 of the CalTrans Standard Specifications.
5. After fog seal has been applied, allow ample time for drying before traffic is allowed on the pavement or paint striping is applied.

3.3 FIELD QUALITY CONTROL

- A. Asphalt Base: The surface of finished aggregate base shall vary no more than 0.05 feet above or below the grade established as shown on the drawings.
- B. Asphalt Concrete Paving:
 1. The finished pavement, where not controlled by adjacent structures or features, shall not vary more than 0.05 feet above or below the planned grade, providing it is uniform and free of sharp breaks.
 2. The cross section of the finished pavement shall be free of ridges and valleys and shall not vary more than 0.02 feet above or below the theoretical section at any point on the cross section.
 3. The specified thickness of the finished pavement shall be the minimum acceptable.
 4. Conforms shall form a smooth, pond free transition between exiting and new pavement.
 5. Depressions in paving between high points are not to exceed 1/8 inch when measured below 10 feet long straight edged placed anywhere on the surface in any direction.

3.4 CLEANUP

- A. General:
 1. Surplus material remaining upon completion of paving operations shall become the property of the Contractor, to be removed from the work site and disposed of in a lawful manner.
 2. Leave surfaces in a clean, neat, and workmanlike condition, and remove all construction waste, rubbish, and debris from the work site and dispose of in a lawful manner.

END OF SECTION

4/22/25

SECTION 32 13 16

DECORATIVE CONCRETE PAVING

PART 1 – GENERAL

1.1 SUMMARY

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to Work of this Section.
- B. Section Includes:
 - 1. Integrally colored concrete sidewalks and patios.
 - 2. Stamping/Imprinting.
 - 3. Curing of integrally colored and imprinted concrete.
- C. Related Sections:
 - 1. Division 3 Section "Cast-in-Place Concrete" for general applications of concrete and coordination of sample submittal [and color selection].
 - 2. Division 7 Section "Joint Sealants" for colored sealants for joints.

1.2 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 301 "Specification for Structural Concrete for Buildings."
 - 2. ACI 302 IR "Recommended Practice for Concrete Floor and Slab Construction."
 - 3. ACI 303.1 "Standard Specification for Cast-In-Place Architectural Concrete."
 - 4. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete."
 - 5. ACI 305R "Recommended Practice for Hot Weather Concreting."
 - 6. ACI 306R "Recommended Practice for Cold Weather Concreting."
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM C309 "Liquid Membrane-Forming Compounds for Curing Concrete."
 - 2. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
 - 3. ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete."
- C. American Association of State Highway and Transportation Officials (AASHTO):
 - 1. AASHTO M194 "Chemical Admixtures."

- D. PCA PA124 - Finishing Concrete Slabs with Color and Texture.
- E. PCA SP021 - Color and Texture in Architectural Concrete.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's complete technical data sheets for the following:
 - 1. Colored admixture.
 - 2. Powder antiquing release agent.
 - 3. Imprinting/Texturing tools.
 - 4. Curing compound.
- B. Design Mixes: For each type of integrally colored concrete.
- C. Samples for Initial Selection: Manufacturer's color charts showing full range of colors available.
- D. Qualification Data: For firms indicated in "Quality Assurance" Article, including list of completed projects.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer with 10-years experience in production of specified products.
- B. Installer Qualifications: An installer with 5- years experience with work of similar scope and quality.
- C. Comply with the requirements of ACI 301.
- D. Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.
- E. Notification of manufacturer's authorized representative shall be given at least 1-week before start of Work.
- F. Integrally Colored Concrete Mockups:
 - 1. Provide under provisions of Division 1 Section 01 45 00 Quality Control.
 - 2. At location on Project selected by Architect, place and finish 4 by 4 feet (1.2 by 1.2 m) area.
 - 3. For accurate color, the quantity of concrete mixed to produce the sample should not be less than 3 cubic yards (or not less than 1/3 the capacity of the mixing drum on the ready-mix truck) and should always be in full cubic yard increments. Excess material shall be discarded according to local regulations.
 - 4. Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels. Mockup shall be produced by the individual workers who will perform the work for the Project.

5. Retain samples of cements, sands, aggregates and color additives used in mockup for comparison with materials used in remaining work.
6. Accepted mockup provides visual standard for work of Section.
7. Mockup shall remain through completion of the work for use as a quality standard for finished work.
8. Remove mockup when directed.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Colored Admixture: Comply with manufacturer's instructions. Deliver colored admixtures in original, unopened packaging. Store in dry conditions.

1.6 PROJECT CONDITIONS

- A. Integrally Colored Concrete Environmental Requirements:
 1. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
 2. Avoid placing concrete if rain, snow, or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.
 3. Comply with professional practices described in ACI 305R and ACI 306R.
- B. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer's written recommendations.

1.7 PRE-JOB CONFERENCE

- A. One week prior to placement of integrally colored concrete, a meeting shall be held to discuss the Project and application methods.
- B. It is suggested that the Architect, General Contractor, Construction Manager, Subcontractor, Ready-Mix Concrete Representative, and a Manufacturer's Representative be present.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. Sika Corporation (Scofield brand).

2.2 MATERIALS

- A. Colored Admixture for Integrally Colored Concrete: CHROMIX® P Admixtures, CHROMIX® G Admixtures, and CHROMIX® L Admixtures, Sika Corporation.

1. Admixture shall be a colored, water-reducing, admixture containing no calcium chloride with coloring agents that are lime proof and UV resistant.
 2. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494, and AASHTO M194.
- B. Stamping/Imprinting Tools and Materials: As noted in drawings.
- C. Powder Antiquing Release Agent: LITHOCHROME® Antiquing Release Pro, Sika Corporation.
1. Powder antiquing release agent shall be recommended by pattern tool manufacturer and compatible with integral color additives.
- D. Curing Compound for Integrally Colored Concrete: Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete.
- E. Exterior Integrally Colored Concrete: LITHOCHROME® Colorwax, Sika Corporation. Use to cure exterior flatwork that will be allowed to cure naturally with only occasional maintenance.
- F. SUBSTITUTIONS: The use of products other than those specified will be considered providing that the Contractor requests its use in writing within 14-days prior to bid date. This request shall be accompanied by the following:
1. A certificate of compliance from the material manufacturer stating that proposed products meet or exceed requirements of this Section, including standards ACI 303.1, ASTM C979, ASTM C494 and AASHTO M194.
 2. Documented proof that proposed materials have a 10-year proven record of performance for staining concrete substrates, confirmed by at least 5 local projects that Architect can examine.

2.3 COLORS AND PATTERNS

- A. Concrete Colors:
1. Cement: Color shall be gray.
 2. Sand: Color shall be locally available natural sand.
 3. Aggregate: Concrete producer's standard aggregate complying with specifications.
 4. Colored Admixture: As selected by Architect from Scofield Color Chart A-312P.
 5. Stamp/Imprinting Pattern: As selected by Architect and noted in drawings.
 6. Powder Antiquing Release Agent: As selected by Architect from manufacturer's standard colors.
- B. Concrete Colors: Provide cement, sand, aggregate and colored admixture as required to match specified finishes and existing site conditions.
- C. Curing Compound: Color to match colored concrete.

2.4 CONCRETE MIX DESIGN

- A. Minimum Cement Content: 5 sacks per cubic yard of concrete.
- B. Slump of concrete shall be consistent throughout Project at 4-inches or less. At no time shall slump exceed 5-inches.
- C. Do not add calcium chloride to mix as it causes mottling and surface discoloration.
- D. Supplemental admixtures shall not be used unless approved by manufacturer.
- E. Do not add water to the mix in the field.
- F. Add colored admixture to the mix according to manufacturer's written instructions in premeasured bags, not by weight of cement content.

PART 3 – EXECUTION**3.1 INSTALLATION**

- A. Install concrete according to requirements of Division 3 Section "Cast-In-Place Concrete."
- B. Do not add water to the mix in the field.
- C. Surfaces shall be finished uniformly with the following finish:
 - 1. Broomed: Pull broom across freshly floated concrete to produce fine texture in straight lines perpendicular to main line of traffic. Do not dampen brooms.
 - 2. Rock Salt: Float concrete. Then sprinkle salt on concrete and press into surface leaving only tops of salt grains exposed. After 24 hours, wash salt away with water and brush. Allow surface and impressions to dry before applying curing compound.
 - 3. Stamped/Imprinted: Apply pattern according to tool manufacturer's instructions. Touch-up pattern and finish edges with hand tools as necessary.

3.2 CURING

- A. Integrally Colored Concrete: Apply curing and sealing compound for integrally colored concrete according to manufacturer's instructions using manufacturer's recommended application techniques. Apply curing and sealing compound at consistent time for each pour to maintain close color consistency.
- B. Curing compound shall be same color as the colored concrete and supplied by same manufacturer of the colored admixture.
- C. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 Plastic Shrinkage Cracking published by the National Ready Mixed Concrete Association.
- D. Do not cover concrete with plastic sheeting.

3.3 TOLERANCES

- A. As with any natural material, some variation in appearance is a normal design feature of concrete, whether colored or not. It is normal for the color of concrete to lighten as it cures; allow up to 28-days for process to occur.
- B. Minor variations in appearance of colored concrete, which are similar to natural variations in color and appearance of uncolored concrete, are acceptable.

3.4 APPLICATORS

- A. For a list of qualified contractors, contact your local Scofield representative.

END OF SECTION

SECTION 32 13 16.23

STAMPED CONCRETE PAVING

PART 1 – GENERAL

1.1 SUMMARY

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to Work of this Section.
- B. Section Includes:
 - 1. Stamping concrete patterns with special imprinting tools.
 - 2. Curing of colored and imprinted concrete.
- C. Related Sections:
 - 1. Section 033000 "Cast-In-Place Concrete" for general concrete applications.
 - 2. Section 079200 "Joint Sealants" for colored sealant installed in paving joints.
 - 3. Section 321316 "Colored Concrete Paving" for basic concrete paving requirements.

1.2 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 301 "Specification for Structural Concrete for Buildings."
 - 2. ACI 302 IR "Recommended Practice for Concrete Floor and Slab Construction."
 - 3. ACI 303.1 "Standard Specification for Cast-In-Place Architectural Concrete."
 - 4. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete."
 - 5. ACI 305R "Recommended Practice for Hot Weather Concreting."
 - 6. ACI 306R "Recommended Practice for Cold Weather Concreting."
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM C309 "Liquid Membrane-Forming Compounds for Curing Concrete."
 - 2. ASTM C494 "Standard Specification for Chemical Admixtures for Concrete."
 - 3. ASTM C979 "Standard Specification for Pigments for Integrally Colored Concrete."
- C. Portland Cement Association (PCA):
 - 1. PA124: Finishing Concrete with Color and Texture

1.3 SUBMITTALS

- A. Product Data: For the following products:
 - 1. Antiquing release agent
 - 2. Liquid release agent
 - 3. Imprinting/Texturing tools
 - 4. Curing compound and sealer
- B. Design Mixes: For each type of integrally colored concrete.
- C. Samples for Initial Selection: Manufacturer's color charts showing full range of colors available.
- D. Qualification Data: For manufacturer and Installer.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer with 10-years experience in production of specified products.
- B. Installer Qualifications: An installer with 5- years experience with work of similar scope and quality.
- C. Comply with the requirements of ACI 301.
- D. Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.
- E. Notification of manufacturer's authorized representative shall be given at least 1-week before start of Work.
- F. Integrally Colored Concrete Mockups:
 - 1. Provide under provisions of Division 1 Section 01 45 00 Quality Control.
 - 2. At location on Project selected by Architect, place and finish 4 by 4 feet (1.2 by 1.2 m) area.
 - 3. Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in sample panels. Mockup shall be produced by the individual workers who will perform the work for the Project.
 - 4. Notify Architect and Owner a minimum of seven calendar days in advance of the date scheduled for each mockup construction.
 - 5. Obtain the Architect's and Owner's acceptance of each mockup prior to commencement of the work.
 - 6. Each mockup to remain until completion of the work to serve as a quality control standard for the work. Provide suitable protections to preclude damage to mockup.
 - 7. Demolish and remove each mockup from site when directed.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in original factory unopened, undamaged packaging bearing identification of product, manufacturer, batch number, and expiration date as applicable.
- B. Store products in a location protected from damage, construction activity, and adverse environmental conditions according to manufacturer's current recommendations.
 - 1. Imprinting tools must be stored flat, textured face up, with no objects resting on top.
- C. Handle products according to manufacturer's printed instructions.

1.6 PROJECT CONDITIONS

- A. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
- B. Do not place concrete if rain, frost, or snow is forecast within 24 hours of placement. Protect fresh concrete from moisture and freezing conditions.
- C. Compliance Standards: ACI 305R and ACI 306R.

1.7 PREINSTALLATION CONFERENCE

- A. Seven calendar days prior to scheduled date of concrete placement, conduct a meeting at Project site to discuss requirements, including application methods. Attendees to include Architect, Owner, Contractor, Installer, concrete supplier, and manufacturer's authorized field representative.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. Basis of Design: Provide products specified herein manufactured by Sika Corporation.

2.2 MATERIALS

- A. Antiquing Release Agent: Colored, finely powdered material formulated to break the bond between imprinting tools and surface of color-hardened concrete while imparting an antiqued appearance.
 - 1. Product: "LITHOCHROME Antiquing Release Pro", Sika Corporation.
 - 2. Colors: As noted in drawings
- B. Liquid Release Agent, where antiquing not specified: Colorless, scented liquid formulated to break the bond between imprinting tools and surface of color-hardened concrete. Evaporates completely, leaving no residue.
 - 1. Product: "SCOFIELD Liquid Release BG", Sika Corporation.

- C. Select curing and sealing compound from available choices in following two paragraphs, and to suit Project requirements.
- D. Waterborne Curing Compound and Sealer: Low VOC waterborne modified acrylic formulation. Complies with ASTM C 309.
 - 1. Product: "SCOFIELD Cureseal-W", Sika Corporation.

PART 3 – EXECUTION

3.1 SUBGRADE PREPARATION

- A. Subgrade to receive stamped concrete paving work must be well drained and have adequate, uniform loadbearing characteristics.
 - 1. Verify grading will ensure a uniform concrete thickness during concrete placement.
- B. At the time of concrete placement, subgrade must be moist, completely consolidated, and free from frost. If necessary, subgrade may be dampened with water prior to placement; however, freestanding water or soft, muddy, or frozen ground is not permissible.

3.2 CONCRETE PLACEMENT

- A. General: Place and spread concrete to completely fill all space inside forms. Move concrete into place with square-tipped shovels or concrete rakes.
- B. Consolidate concrete by tamping or vibrating to provide a suitable surface for finishing.
- C. Prior to appearance of excess moisture or bleed water, screed concrete with wood or magnesium straight edge or mechanical vibrating screed.
- D. Continue concrete surface leveling and consolidation with highway magnesium straight edge and (or) magnesium bull float.
- E. Mechanically float concrete surfaces to required flatness and levelness as soon as concrete surface has taken its initial set and will support weight of a power float machine equipped with float shoes or combination blades and operator.
 - 1. Comply with ACI 302.1R for acceptable tolerances.
- F. Completed concrete placement to result in an open surface suitable to receive colored hardener.

3.3 STAMPED CONCRETE PAVING INSTALLATION

- A. Apply 2/3 of dry-shake colored hardener at specified application rate to freshly floated concrete surface. Bleed water must not be present during or following application of first and second dry-shake applications.
- B. Do not throw dry-shake colored hardener material; distribute evenly by hand or mechanical spreader designed to apply floor hardeners. Mechanical spreader manufacturer as acceptable to stamped concrete paving manufacturer.

- C. As soon as dry-shake material has absorbed moisture, indicated by uniform darkening of surface, mechanically float concrete surface a second time, just enough to bring moisture from base slab through dry-shake color hardener.
- D. Immediately following second floating, apply remaining 1/3 of dry-shake colored hardener at specified application rate. If applied by hand, broadcast in opposite direction of first application for a more uniform coverage. If a mechanical spreader is used, apply in same manner as previously described.
- E. As soon as dry-shake material has absorbed moisture, mechanically float concrete surface a third time.
- F. Do not add water to the surface.
- G. Begin imprinting operations immediately after applying dry-shake colored hardener, according to manufacturer's written instructions, including application of powder antiquing release agent.

3.4 SEALING

- A. Prior to sealing, the following conditions must be present:
 - 1. Release agent has been removed.
 - 2. Moisture content of concrete is low enough that alkali and other salts do not become trapped beneath sealer. This will require a minimum of 28 days subsequent to concrete placement, or longer if required.
 - 3. No evidence of free water on concrete surfaces to receive curing and sealing compound.
- B. Seal imprinted concrete with liquid membrane curing and sealing compounds as recommended by manufacturer.
- C. Apply two coats of specified curing and sealing compound according to manufacturer's written instructions.

3.5 PROTECTION OF FINISHED WORK

- A. Prohibit foot or vehicular traffic on the newly imprinted concrete surface.
- B. Protect floor surface from damage throughout remainder of construction period until Final Acceptance of the work. If a covering material is necessary, surfaces must remain uncovered for a minimum of four days after which they may be covered with a new, smooth, nonstaining reinforced kraft curing paper. Plastic sheeting is unacceptable as a covering material.

3.6 SCHEDULE

- A. Refer to Drawings for locations of stamped concrete paving applications

END OF SECTION

SECTION 32 17 24
PAVEMENT MARKINGS AND CONCRETE WHEEL STOPS

The General Conditions, Supplementary Conditions and Division 1 General Requirements are hereby made a part of this Section as fully as if repeated herein.

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. Work Included: Pavement Markings and Pre-Cast Concrete Wheel Stops.

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Pavement Markings: Fuller-O'Brien 382-XX, Dunn-Edwards W-801, or approved equal. Use white color unless otherwise noted except make handicapped reserved symbol blue.
- B. Concrete wheel stops; Precast manufacturing company, Plan-It Company, Safe-T-Park Company, Teichart Precast, or equal. Fully reinforced concrete, size as shown on drawings, provide 1" pin holes for mounting rods. 4,000 psi concrete with 2-3# rebar minimum. 72" long x 9" wide x 6" tall with front and back faces chamfered 3" or as otherwise sized on Drawings

PART 3 - EXECUTION

3.1 CONDITION OF SURFACES:

- A. Surface to receive markings shall be dry, free of dust, loose material and oil.

3.2 LAYOUT:

- A. Accurately lay out and align markings as per Drawing requirements.

3.3 INSTALLATION:

- A. Markings: Make parking stripe widths 4" and game line stripe width 2" unless otherwise noted. Apply paint by brush or spray. Use marking templates unless approved mobile device is used. Markings, regardless of application method shall have clearly defined edges with no spatter on adjacent surfaces. Apply paint at manufacturer's recommended rate so as to fully cover in one operation.
- B. Do not apply pavement markings until after final seal coat or just prior to acceptance of project in asphalt areas.
- C. Wheel Stops: Set in full bed of epoxy adhesive (Standard Set Epoxy for Pavement Markers, State Spec. 8040-21M-09) and drive (2) 5/8" diameter galvanized steel rods x 1'-0" long and flush with top of stop.

END OF SECTION

4/22/22