San Francisco Unified School District
Proposition ‘A’ Bond Project
CUPCCAA PROJECT $60K<$200K

Gordon J Lau ES Green Schoolyard Project
Project Number 11609
950 Clay Street
San Francisco, CA, 94108
Bid Date: March 3, 2020

CUPCCAA Project Documents

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### SPECIFICATIONS

#### Div 1 – GENERAL REQUIREMENTS
- 01 31 19 – Project Meetings
- 01 33 00 – Submittal Procedures
- 01 63 00 – Product Substitution Procedure
- 01 63 25 – Substitution Request Form
- 01 77 00 – Cleaning and Closeout Procedures

#### Div 02: EXISTING CONDITIONS
- Section 02 41 19 – Selective Demolition

#### Div 03: CONCRETE
- Section 03 30 00 – Cast-In-Place Concrete

#### Div 05: WOOD, PLASTICS AND COMPOSITES
- Section 06 20 13 – Exterior Finish Carpentry

#### Div 12: FURNISHINGS
- Section 12 93 00 – Site Furnishings

#### Div 31: EARTHWORK
- Section 31 10 00 – Site Clearing
- Section 31 20 00 – Earth Moving
- Section 31 25 00 – Erosion and Sedimentation Control

#### Div 32: EXTERIOR IMPROVEMENTS
- Section 32 11 23 – Aggregate Base Courses
- Section 32 13 13 – Concrete Paving
- Section 32 36 00 – Landscape Boulders
- Section 32 91 13 – Soil Preparation

### PROJECT PLANS
- G-1.0 Cover Sheet
- L-1.0 Ex Conditions & Demolition Plan
- L-2.0 Site Plan
- L-3.0 Layout & Grading Plan
- L-4.0 Construction Details
- L-4.1 Construction Details
- HM-1 HazMat Title Sheet
- HM-2 HazMat Demo-Site Plan

### Appendix ‘A’ (Hazmat Specifications)
- Sec 00 31 27 Existing Hazardous Materials Conditions
- Sec 01 11 10 Summary of Hazardous Materials and Work
- Sec 02 82 00 Asbestos Abatement
- Sec 02 83 00 Lead-impacted Construction and Abatement

CUPCCA - Contract Documents
CUPCCAA NOTICE CALLING FOR BIDS

San Francisco Unified School District
CUPCCAA PROJECT

BIDS DUE: Tuesday, March 3, 2020 AT __3:00 pm________.

For

Gordon J. Lau ES Green Schoolyard, SFUSD PROJECT #11609

The San Francisco Unified School District is requesting bids for GORDON J. LAU ES GREEN SCHOOLYARD PROJECT, SFUSD PROJECT #11609.

SCOPE OF WORK: The Project is generally described as: Green schoolyard improvements which include, but is not limited to, hazardous material abatement, demolition and removal of asphalt; carpentry, concrete work, construction of new planting areas and raised planters, and preparation of planting soil at the Gordon J Lau Elementary School. The estimated construction value of the Work is $140,000.

A mandatory Pre-bid Conferences will be held on: Thursday, February 20, 2020 at 10 am at Gordon J. Lau Elementary School, 950 Clay St. San Francisco, CA 94108

Bidders must attend the pre-bid meeting to qualify to bid on this project.

BID DOCUMENTS: Bidding documents, drawings and specifications for the GORDON J. LAU ES GREEN SCHOOLYARD PROJECT, SFUSD PROJECT #11609 can be downloaded from the District website at:


LICENSE REQUIREMENTS: Contractor’s license required for this work: Class A, General Engineering Contractor, C-27, Landscape, or Class B, General Building Contractor, with Asbestos and Lead Certification or Sub-Contractor with Asbestos and Lead Certification performing the work. Any Bidder not so duly and properly licensed shall be subject to all penalties imposed by law.

ALL BIDDERS MUST SUBMIT THE FOLLOWING DOCUMENTS BY THE BID DUE DATE AND TIME:

- Signed Bid Form
- Completed Subcontractor List (if applicable)
- Bid Bond or Bid Security for 10% of the Bid Value
- Non-Collusion Affidavit
- Site Visit Certification

LATE BIDS WILL NOT BE ACCEPTED.

THE DISTRICT WILL ONLY ACCEPT BIDS FROM BIDDERS WHO ARE CURRENTLY ON THE SFUSD’S APPROVED CUPCCAA CONTRACTOR LIST.

Project Manager: Chiye Azuma, 415-241-6152 x-1655
1. **Contractor’s License.** In accordance with the provisions of California Public Contract Code § 3300, the District requires that Bidders possess the requisite, current, valid California Contractors License(s) at the time of Bid. The successful bidder must maintain the requisite license throughout the duration of the contract. All subcontractors must have an active and valid California Contractor’s License issued by the Contractor’s State License Board at the time that the Contract for the Work is awarded, and must maintain the license throughout the duration of the contract.

2. **Contractor’s Registration with the California Department of Industrial Relations.** A contractor or subcontractor is not qualified to bid on, or be listed in a bid proposal, subject to the requirements of Section 4104 of the California Public Contract Code, or engage in the performance of any contract for public work, as defined by the California Labor Code, unless currently registered and qualified to perform public work pursuant to California Labor Code section 1725.5. However, it is not a violation of law if an unregistered contractor submits a bid that is authorized by California Business and Professions Code section 7029.1 or by Section 20103.5 of the California Public Contract Code, provided the contractor is registered to perform public work pursuant to California Labor Code section 1725.5 at the time the contract is awarded. A contract entered into with any contractor or subcontractor in violation of subdivision (a) of California Labor Code section 1771.1 is subject to cancellation, provided that a contract for public work shall not be unlawful, void, or voidable solely due to the failure of the District, contractor, or any subcontractor to comply with the requirements of California Labor Code section 1725.5 or Labor Code section 1771.1. This instruction applies to any bid proposal submitted on or after March 1, 2015, and any contract for public work entered into on or after April 1, 2015. The District will not accept or open a bid proposal submitted on or after March 1, 2015 from an unregistered contractor, nor will the District enter into any contract for public work as defined by the California Labor Code with an unregistered contractor on or after April 1, 2015.

3. **Bid Proposal Preparation.** All information required by the bid forms must be completely and accurately provided, without qualifications or alternates (unless called for), and with duly authorized signature in ink. Numbers shall be stated in both words and figures where so indicated in the bid forms. Partially completed Bid Proposals may be deemed non-responsive. Bid Proposals not conforming to these Instructions for Bidders and the Notice to Contractors Calling for Bids ("Call for Bids") may be rejected as non-responsive. In cases where there is a discrepancy between the words and figures, the District shall take the lower of the two.

4. **For Questions regarding obtaining Bid Documents contact:**

   Prop A Bond Program Department, San Francisco Unified School District
   135 Van Ness Avenue – Room bond
   San Francisco, CA 94102
   Tel: 415.241.6152 ext. 1528, Fax: 415.241.6148
   Contact: Fe Bongolan
   Email: BongolanF@sfusd.edu

   All questions about the meaning or intent of the Contract Documents are to be directed in writing to the District contact above. Interpretations or clarifications...
considered necessary by the District in response to such questions will be issued in writing by Addenda emailed or delivered to all parties recorded by the District as having received the Contract Documents. Questions received less than seven (7) 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.

5. **Date and Time of Bid Proposal Submittal.** The District will place a date/time stamp machine in a conspicuous location at the place designated for submittal of Bid Proposals. A Bid Proposal is submitted only if the outer envelope containing the Bid Proposal is stamped by the District's date/time stamp machine; Bid Proposals not so stamped as timely received will be rejected and returned to the Bidder unopened. The date/time stamp is controlling and determinative as to the date and time of the District’s receipt of the Bid Proposal. The foregoing notwithstanding, whether or not Bid Proposals are opened exactly at the time fixed in the Call for Bids, no Bid Proposals shall be received or considered by the District after it has commenced the public opening and reading of Bid Proposals; Bid Proposals submitted after such time are non-responsive and will be returned to the Bidder unopened.

6. **Bid Guarantee.** Each Bid Proposal shall be accompanied by Bid Security in the form of: (a) cash, (b) a certified or cashier's check made payable to the District or (c) an original Bid Bond in favor of the District executed by the Bidder as a principal and a Surety as surety (the "Bid Security") in an amount not less than ten (10%) percent of the amount of the Total Base Bid. Any Bid Proposal submitted without the required Bid Security is non-responsive and will be rejected. If the Bid Security is in the form of a Bid Bond, the Bidder's Bid Proposal shall be deemed responsive only if the Bid Bond Surety is an Admitted Surety Insurer under California Code of Civil Procedure § 995.310, et. seq. Any condition or limitation placed upon a check submitted as herein required, may result in the rejection of the bid for which said check or bond is submitted. Said check or Bid Bond shall be a guarantee that the bidder, if awarded the contract, will execute and deliver the required CONTRACTS, BONDS, INSURANCE, and SCHEDULES within the time required by the letter requesting execution of the contract (including, Saturdays, Sundays and legal Holidays).

The Bid Security for the three lowest responsible bidders will be returned to the bidders after a construction contract has been signed. Should the apparent lowest responsible bidder fail or refuse to enter into the contract or fail to furnish the required payment and performance bonds, the bidder shall forfeit the bid security. If a Bid Bond is submitted, the attorney-in-fact who executes the bond on behalf of the Surety shall attach to the Bond a certified, current copy of its Power of Attorney, and an acknowledgment from a notary that the Attorney in Fact is the one signing the bond.

7. **Documents Accompanying Bid Proposal.** The following forms need to be completed and signed with the submission of the bid:

   a. Bid Form with proper acknowledgement of Addenda
   b. Completed Subcontractor List (if applicable)
   c. Bidders Security
   d. Non-Collusion Affidavit
   e. Site-Visit Certification
8. **Modifications.** Changes to the bid forms that are not specifically called for or permitted may result in the District’s rejection of the Bid Proposal as being non-responsive. No oral or telephonic modification of any submitted Bid Proposal will be considered. A written modification may be considered only if received by the District prior to the scheduled closing time for receipt of Bid Proposals and the public opening thereof.

9. **Erasures; Inconsistent or Illegible Bid Proposals.** Bid Proposals must not contain any erasures, interlineations or other corrections unless the same are suitably authenticated by affixing in the margin immediately opposite such erasure, interlineation or correction the surname(s) of the person(s) signing the Bid Proposal. Any Bid Proposal not conforming to the foregoing may be deemed by the District non-responsive. If any Bid Proposal or portions thereof is determined by the District to be illegible, ambiguous or inconsistent, whether by virtue of any erasures, interlineations, corrections or otherwise, the District may reject such Bid Proposal as non-responsive.

10. **Examination of Site and Contract Documents.** Each Bidder shall, at its sole cost and expense, inspect the Site and become fully acquainted with the Contract Documents and conditions affecting the Work. The failure of a Bidder to receive or examine any of the Contract Documents or to inspect the Site shall not relieve such Bidder from any obligation with respect to the Bid Proposal, or the Work required under the Contract Documents. The District assumes no responsibility or liability to any Bidder for, nor shall the District be bound by, any understandings, representations or agreements of the District's agents, employees or officers concerning the Contract Documents or the Work made prior to execution of the Contract which are not in the form of Bid Addenda duly issued by the District. The submission of a Bid Proposal shall be deemed prima facie evidence of the Bidder's full compliance with the requirements of this section.

11. **Withdrawal of Bid Proposal.** Any Bidder may withdraw its Bid Proposal by written request received by the District prior to the scheduled closing time for the receipt of Bid Proposals and the District's public opening and reading of Bid Proposals.

   a. A bid may not be withdrawn by the bidder following the time and date designated for the receipt of bids, except in accordance with Section 5103 of the Public Contract Code.

   b. A request for modifications must be made in person and bidder must return the bid in a sealed envelope after modifications are made and prior to time and date designated for receipt of bid Withdrawals of bid prior to bid opening shall be in writing, requesting withdrawal of bid.

   c. Withdrawn bids may be resubmitted up to the time and date designated for receipt of bids.

12. **Agreement and Bonds.** The Agreement which the successful Bidder, as Contractor, will be required to execute along with the forms and amounts of the Payment Bond, Performance Bond and other documents and instruments which will be required to be furnished are included in the Contract Documents and shall be carefully examined by the Bidder. The required number of executed copies of the Agreement and the form and content of the Performance Bond and the Payment Bond and other documents or instruments required at the time of execution of the Agreement are specified in the Contract Documents.
13. **Interpretation of Drawings, Specifications or Contract Documents.** Any Bidder who needs clarification regarding the true meaning of any part of the Contract Documents; finds discrepancies, errors or omissions therein; or finds variances in any of the Contract Documents with applicable rules, regulations, ordinances and/or laws, shall submit a written request for an interpretation or correction thereof to the District. It is the sole and exclusive responsibility of the Bidder to submit such request not less than seven (7) days prior to the scheduled closing date for the receipt of Bid Proposals. Interpretations or corrections of the Contract Documents will be by written addendum. No person is authorized to render an oral interpretation or correction of any portion of the Contract Documents to any Bidder, and no Bidder is authorized to rely on any such oral interpretation or correction. Failure to request interpretation or clarification of any portion of the Contract Documents pursuant to the foregoing is a waiver of any discrepancy, defect or conflict therein.

14. **District's Right to Modify Contract Documents.** Before the public opening and reading of Bid Proposals, the District may modify the Work, the Contract Documents, or any portion(s) thereof by the issuance of written addenda disseminated to all Bidders who have obtained a copy of the Specifications, Drawings and Contract Documents pursuant to the Call for Bids. If the District issues any addenda during the bidding, the failure of any Bidder to acknowledge such addenda in its Bid Proposal will render the Bid Proposal non-responsive and rejected.

15. **Bidders Interested in More Than One Bid Proposal; Non-Collusion Affidavit.** No person, firm, corporation or other entity shall submit or be interested in more than one Bid Proposal for the same Work; provided, however, that a person, firm or corporation that has submitted a sub proposal to a Bidder or who has quoted prices for materials to a Bidder is not thereby disqualified from submitting a sub proposal, quoting prices to other Bidders or submitting a Bid Proposal for the proposed Work to the District. The form of Non-Collusion Affidavit included in the Contract Documents must be completed and duly executed on behalf of the Bidder; failure of a Bidder to submit a completed and executed Non-Collusion Affidavit with its Bid Proposal may render the Bid Proposal non-responsive.

16. **Award of Contract.**

   a. **Waiver of Irregularities or Informalities.** The District reserves the right to reject any and all Bid Proposals or to waive any irregularities or informalities in any Bid Proposal or in the bidding.

   b. **Award to Lowest Responsive Responsible Bidder.** The award of the Contract, if made by the District through action of its Board of Education, will be to the responsible Bidder submitting the lowest responsive Bid Proposal on the basis of the Total Base Bid.

   c. **Alternate Bid Items.** The District may add or deduct from the contract any of the additive or deductive items after the lowest responsible bidder has been determined. The bidder further agrees that, should additional construction funds become available to the District, alternates not selected by the District at the time of award may be incorporated into the contract by change order, based on the bidder’s original alternate amount named on the Bid Form within 3 months from the date of the award by the Board of Education.
d. **Responsive Bid Proposal.** A responsive Bid Proposal shall mean a Bid Proposal which conforms, in all material respects, to the Bid and Contract Documents.

e. **Responsible Bidder.** A responsible Bidder is a Bidder who has the capability in all respects to perform fully the requirements of the Contract Documents and the moral and business integrity and reliability which will assure good faith performance. In determining responsibility, the following criteria will be considered: (i) the ability, capacity and skill of the Bidder to perform the Work of the Contract Documents; (ii) whether the Bidder can perform the Work promptly and within the time specified, without delay or interference; (iii) the character, integrity, reputation, judgment, experience and efficiency of the Bidder; (iv) the quality of performance of the Bidder on previous contracts, (v) the previous and existing compliance by the Bidder with laws and ordinances relating to contracts; (vi) the sufficiency of the financial resources and ability of the Bidder to perform the work of the Contract Documents; (vii) the quality, availability and adaptability of the goods or services to the particular use required; (viii) the ability of the Bidder to provide future maintenance and service for the warranty period of the Contract; (ix) whether the Bidder is in arrears on debt or contract or is a defaulter on any surety bond; (x) such other information as may be secured by the District having a bearing on the decision to award the Contract, to include without limitation the ability, experience and commitment of the Bidder to properly and reasonably plan, schedule, coordinate and execute the Work of the Contract Documents and whether the Bidder has ever been debarred from bidding or found ineligible for bidding on any other public project.

17. **Subcontractors.**

a. **Designation of Subcontractors List.** Each Bidder shall submit on its CUPCCAA Bid Form a list of its proposed Subcontractors doing work amounting to over one half (1/2) of one percent (1%) of the total bid, as required by the Subletting and Subcontracting Fair Practices Act (California Public Contract Code §§ 4100 to 4114 et seq.) on the form furnished. Every bidder shall set forth the following in its bid:

b. The portion of the work that will be done by each subcontractor. If the Bidder fails to specify a subcontractor for any portion of the work to be performed under the Contract in excess of one half (1/2) of one percent (1%) of the Bidder's total bid, then Bidder agrees to perform that portion with its own forces. The successful Bidder shall not, without written consent of the District either;

(1) Substitute any person as subcontractor in place of the subcontractor designated in the original bid as per Public Contract Code section 4107, or

(2) Sublet or subcontract any portion of the work in excess of one half (1/2) of one percent (1%) of the total bid for which its original bid did not designate a subcontractor.

c. Each Bidder is put on notice that an inadvertent error in listing a subcontractor who is not registered pursuant to California Labor Code section 1725.5 in a bid proposal 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) Within 24 hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in subparagraph (E) of paragraph (2) of subdivision (a) of California Labor Code section 1725.5.
(iii) The subcontractor is replaced by another registered subcontractor pursuant to California Public Contract Code section 4107.

d. **Work of Subcontractors.** All Bidders are referred to the Contract Documents and the notation therein that all Contract Documents are intended to be complimentary and that the organization or arrangements of the Specifications and Drawings shall not limit the extent of the Work of the Contract Documents. Accordingly, all Bidders are encouraged to disseminate all of the Specifications, Drawings and other Contract Documents to all persons or entities submitting sub-bids to the Bidder. The omission of any portion or item of Work from the Bid Proposal or from the sub-bidders’ sub-bids which is/are necessary to produce the intended results and/or which are reasonably inferable from the Contract Documents is not a basis for adjustment of the Contract Price or the Contract Time.

e. **Subcontractor Bonds.** In accordance with California Public Contract Code §4108, if a Bidder requires a bond or bonds of its Subcontractor(s), whether the expense of procuring such bond or bonds are to be borne by the Bidder or the Subcontractor(s), such requirements shall be specified in the Bidder's written or published request for sub-bids. Failure of the Bidder to comply with these requirements shall preclude the Bidder from imposing bonding requirements upon its Subcontractor(s) or rejection of a Subcontractor’s bid under California Public Contract Code §4108(b).

18. **Workers' Compensation Insurance.** Pursuant to California Labor Code §3700, the successful Bidder shall secure Workers' Compensation Insurance for its employees engaged in the Work of the Contract. The successful bidder shall sign and deliver to the District a certificate prior to performing any of the Work under the Contract:

a. The form of such Certificate is included as part of the Contract Documents.

19. **Bid Security Return.** The Bid Security of three or more low Bidders, the number being solely at the discretion of the District, will be held by the District until posting by the successful Bidder(s) of the bonds, certificates of insurance required and return of executed copies of the Agreement,, at which time the Bid Security of such other Bidders will be returned to them.

20. **Forfeiture of Bid Security.** If the Bidder awarded the Contract fails or refuses to execute the Agreement within seven (7) calendar days from the date of receiving notification that it is the Bidder to whom the Contract has been awarded, the District may declare the Bidder's Bid Security forfeited as damages caused by the failure of the Bidder to enter into the Contract and may thereupon award the Contract for the Work to the responsible Bidder submitting the next lowest priced Bid Proposal or may call for new bids, in its sole and exclusive discretion.

21. **Contractor's License.** No Bid Proposal will be considered from a Bidder who, at the time Bid Proposals are opened, is not licensed to perform the Work of the Contract Documents, in accordance with the Contractor's License Law, California
Business & Professions Code §§ 7000 et seq. This requirement is not a mere formality and will not be waived by the District or its Board of Education. The required California Contractor’s License classification(s) for the Work is set forth in the Call for Bids.

22. **Anti-Discrimination.** It is the policy of the District that there be no discrimination against any prospective or active employee engaged in the Work because of race, color, ancestry, national origin, religious creed, sex, age or marital status. All Bidders agree to comply with the District’s anti-discrimination policy and all applicable Federal and California anti-discrimination laws including but not limited to the California Fair Employment & Housing Act beginning with California Government Code §§ 12940 et seq. and California Labor Code § 1735. In addition, all Bidders agree to require like compliance by any Subcontractor employed by them on the Work of the Contract.

23. **Prevailing Wage.** BIDDERS ARE HEREBY PUT ON NOTICE THAT ANY PROJECTS AWARDED ON OR AFTER JANUARY 1, 2015 ARE SUBJECT TO COMPLIANCE MONITORING AND ENFORCEMENT BY THE DEPARTMENT OF INDUSTRIAL RELATIONS. The successful bidder shall not pay less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Bidders are advised to inspect the prevailing wage rates (available at www.dir.ca.gov/dlse) for this project. The wage rates may be updated prior to award of the contract and during the course of the project. Any actual or alleged prevailing wage violations on this Project will be reported to the Department of Industrial Relations in accordance with California Labor Code section 1726.

24. **Payroll Document Submission.** The successful bidder will be required to complete and submit documents relating to California Labor Codes. The successful bidder should take cognizance of, and comply with California Labor Code section 1776. Certified payrolls for both the contractor and all subcontractors must be submitted on, or supply all information required by, Public Works Payroll Reporting Form A-1-131 (available at www.dir.ca.gov/dlse) with progress payment requests. For all projects awarded by the District on or after April 1, 2015, successful bidders will be required to submit certified payrolls for both the contractor and all subcontractors directly to the Labor Commissioner and to the District to effect progress payments. On or after January 1, 2016, for all projects, whether new or ongoing, successful bidders will have to submit certified payrolls for both the contractor and all subcontractors directly to the Labor Commissioner and the District.

25. **Apprenticeship Requirements.** Pursuant to Sections 1777.5 and 1777.7 of the California Labor Code, contracts of specialty contractors not bidding through a general contractor and involving less than twenty (20) working days or $30,000 are exempted from the provisions of Section 1777.5.; this is the same exemption that applies to contracts of general contractors. A subcontractor bidding through a general contractor must comply with Section 1777.5 (no matter how small the subcontract), if the contract between the general contractor and District is covered by Section 1777.5

26. **False and Misleading Statements.** 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, Cal. 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. 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.

27. **Job-Walk.** The District will conduct a Job-Walk at the time(s) and place(s) designated in the Call for Bids. If attendance at the Job Walk is indicated in the Call for Bids as being mandatory, the failure of any Bidder to have its authorized representative present at the entirety of the Job-Walk will render the Bid Proposal of such Bidder to be non-responsive. Where the Job-Walk is mandatory, a Bidder may have more than one authorized representative and/or representatives of its Subcontractors present at the Job-Walk; provided, however that attendance by representatives of the Bidder's Subcontractors without attendance by a representative of the Bidder shall not be sufficient to meet the Bidder's obligations hereunder and will render the Bid Proposal of such Bidder to be non-responsive.

28. **Bidding Documents.** The Bidding Documents shall be examined carefully, including any addenda. Bidder agrees that it has familiarized itself with them, and that its bid includes all work described in the Project. Failure to acknowledge all addenda shall be grounds for rejection of the bid.

   a. Bidders shall immediately notify (in writing) District of any apparent omissions or discrepancies discovered in the Contract Documents. Any request for interpretation of an item in the bid package must be received a minimum of seven (7) days prior to bid opening. Interpretations, clarifications, or changes in the Bidding Documents issued before the bid opening will be in the form of addenda, sent in writing to each known Bidder. It is Bidder's responsibility to determine if any addenda have been issued prior to submitting its bid.

   b. The “Bidding Documents” for this Project shall include:

   - Notice Calling for Bids
   - Instructions to Bidders
   - CUPCCA A Bid Form
   - Bidders Security
   - Non-Collusion Affidavit
   - Site Visit Certification

   c. Bidding Documents are provided to bidders for bidding only; no other use is permitted.

   d. Base Bids are sums stipulated in Bid Proposals for which bidders offer to perform the work required.

   e. Alternate bids are sums which may be added to or deleted from Base Bids for the performance of Alternate Work, as delineated in the Bidding Documents. All requested Alternates should be bid, or the Bid Proposal may be considered non-responsive.

   f. Unit Prices are the sums included in the Bid Proposals as cost per unit measure of materials and/or services, as required in the Bidding Documents. Only unit prices that have an estimated quantity tied to them are required to be filled out. If there is a quantity and a unit list on the Bid Proposal, they must be completed for the Bid Proposal to be responsive as the total cost of the quantities times the units will be added to the Base Bid Proposal, plus or minus any alternates to arrive at the Low Bid Proposal.
29. **NO ORAL INTERPRETATION OF THE BIDDING DOCUMENTS WILL BE BINDING.** If awarded the Contract, the “Contract Documents” for this Project shall include “CUPPCCA Project Documents” (where marked) on the **COVER PAGE** of this package.

30. **Substitution of Specified Items.** Pursuant to Public Contract Code §§ 3400(a), any Bidder who has timely submitted a Bid Proposal may submit data to the District to substantiate a request to substitute an "or equal" item for any item specified in the Contract Documents ("Substitution Substantiation Data"). Substitution Substantiation Data may be submitted to the District at any time twenty-four (24) hours after the public opening and reading of Bid Proposals and 5:00 p.m. of the day immediately preceding the date of the District's Board of Education meeting for consideration of the award of the Contract as noted in the

a. Notice of Intent to Award Contract issued by the District pursuant to these Instructions for Bidders. Substitution Substantiation Data submitted by any Bidder with its Bid Proposal will not be considered by the District nor be deemed a submission of Substitution Substantiation Data. Notwithstanding the submission of any Substitution Substantiation Data by any Bidder pursuant to the foregoing, no action will be taken in connection with any Substitution Substantiation Data or request of any Bidder to substitute an "or equal" item for an item specified in the Contract Documents until after the District's Board of Education has taken action to award the Contract without any conditions or reservations. In addition to the rights conferred hereunder to submit Substitution Substantiation Data after the opening of Bid Proposals and prior to award of the Contract, the Bidder awarded the Contract may request the substitution of "or equal" items for items specified in the Contract Documents upon strict compliance with the applicable terms of the Contract Documents.

31. **Allowances.** Allowances if called for shall be included in the bid.

32. **Public Records.** Bid Proposals and other documents responding to the Call for Bids become the exclusive property of the District upon submittal to the District. At such time as the District opens bids pursuant to these Instructions to Bidders, all Bid Proposals and other documents submitted in response to the Call for Bids become a matter of public record and shall thereupon be considered public records, except for information contained in such Bid Proposals deemed to be Trade Secrets (as defined in California Civil Code § 3426.1) and financial information provided in response to the Statement of Qualifications. If the District is required to defend or otherwise respond to any action or proceeding wherein request is made for the disclosure of the contents of any portion of a Bid Proposal deemed exempt from disclosure hereunder, the Bidder submitting the materials sought by such action or proceeding agrees to defend, indemnify and hold harmless the District in any action or proceeding from and against any liability, including without limitation attorneys' fees arising therefrom. The party submitting materials sought by any other party shall be solely responsible for the cost and defense in any action or proceeding seeking to compel disclosure of such materials; the District's sole involvement in any such action shall be that of a stakeholder, retaining the requested materials until otherwise ordered by a court of competent jurisdiction.

33. **Drug Free Workplace Certificate.** In accordance with California Government Code §§ 8350 et seq., the Drug Free Workplace Act of 1990, the successful Bidder will be required to execute a Drug Free Workplace Certificate concurrently with execution of the Agreement. The successful Bidder will be required to implement
and take the affirmative measures outlined in the Drug Free Workplace Certificate and in California Government Code 8350 et seq. Failure of the successful Bidder to comply with the measures outlined in the Drug Free Workplace Certificate and in California Government Code §§ 8350 et seq. may result in penalties, including without limitation, the termination of the Agreement, the suspension of any payment of the Contract Price otherwise due under the Contract Documents and/or debarment of the successful Bidder.

34. **Compliance with Immigration Reform and Control Act of 1986.** The Bidder is solely and exclusively responsible for employment of individuals for the Work of the Contract in conformity with the Immigration Reform and Control Act of 1986, 8 USC §§1101 et seq. (the “IRCA”); the successful Bidder shall also require that any person or entity employing labor in connection with any of the Work of the Contract shall so similarly comply with the IRCA.

35. **Fingerprint Certificate.** In accordance with Education Code § 45125.1, the successful Bidder will be required to execute the Fingerprint Certificate included with the Contract Documents concurrently with the Bidder’s execution of the Agreement. The successful Bidder shall comply with the terms and requirements of the Fingerprint Certificate and Education Code § 45125.1; failure to comply will result in penalties, including without limitation, termination of the Agreement and the suspension of payments of the Contract Price otherwise due under the Contract Documents.

36. **Bid Protest Procedures.**

   a. Any protest of the proposed award of Bid to the bidder deemed the apparent lowest responsible bidder must be submitted in writing to the District, no later than 5:00 pm of the second (2nd) business day following the date of the Bid opening.

   b. The initial protest must contain a complete statement of the basis for the protest. The protest must state the facts and refer to the specific portion of the bid documents or the specific statute that form the basis for the protest. The protest must include the name, address, and telephone number of the person representing the protesting party. The protest must be signed and submitted under penalty of perjury.

   c. The party filing the protest must concurrently transmit a copy of the initial protest to the bidder deemed the apparent lowest responsible bidder. Fax and email copies are acceptable.

   d. The party filing the protest must have actually submitted a Bid on the Project or have been specifically excluded from filing a Bid due to an action by the District. A subcontractor of a party filing a Bid on the Project may not submit a Bid Protest. A party may not rely on the Bid Protest submitted by another Bidder, but must timely pursue its own protest. A party that is not the second apparent lowest responsible bidder must file a bid protest on all apparent low bidders in front of it for its protest to be valid and reviewed for merit.

   e. The procedure and time limits set forth in this Section are mandatory and are the Bidder’s sole and exclusive remedy in the event of a Bid Protest. The Bidder’s failure to fully comply with these procedures shall constitute a waiver of any right to further pursue a Bid Protest.
f. The District’s Chief Facilities Officer or his designee shall review the Bid Protest and shall issue his or her determination within a reasonable amount of time prior to bid award. The decision shall be final, and the completion of all administrative remedies.

37. **District Standards.** In accordance with California Public Contract Code Section 3400, a designee of the District has made a finding that particular materials, products, things, and/or services are to be designated in the Contract Documents by specific brand or trade name for the following purpose: in order to match other products in use on a particular public improvement either completed or in the course of completion (“District Standards”).

38. **Escrow.** As a condition for approving progress payments, the District requires a 5% retainage to be deducted from each progress payment, unless the District finds the Work to be of sufficient complexity and difficulty to justify increasing retainage to 10% deducted from each progress payment. In accordance with the provisions of Public Contract Code Section 22300, substitution of eligible and equivalent securities for any monies withheld to ensure performance under this contract will be permitted at the request and expense of the Contractor.

39. **Documents Required for Execution of the Contract.** Once staff completes its processes for determining which bidder submitted the lowest responsive, responsible bid, the selected Contractor must, within five working days, excluding Saturdays, Sundays, and state holidays, execute the Contract and furnish all of the following (on District supplied forms). Please note: All surety bond providers and insurance carriers must hold a valid Certificate of Authority (Admitted in CA) from the California Department of Insurance before the San Francisco Unified School District’s Board of Education will execute the contract:

a. Signed Contract by a person with the authority to bind the parties to the agreement.

b. Performance Bond (Admitted in CA)

c. Payment Bond (Admitted in CA)

d. Certificates of Insurance (Admitted in CA) for:

i. Public Liability Insurance, including Comprehensive General Liability

ii. Automobile Liability

iii. See Section “CUPCCAA Contract” for Insurance for Others as Additional Insured and reference the specific project on the certificates

iv. Worker’s Compensation

v. Name San Francisco Unified School District as additional insured / loss payee. All certificates must give thirty (30) days’ notice to San Francisco Unified School District of insurance policy cancellation or reduction in coverage

e. W-9 Form

f. Criminal Background Investigation Certification

40. **Business Tax Certificate.** In order to receive an award, a Contractor must have a current Business Tax Certificate from the City and County of San Francisco.

END OF SECTION
SAN FRANCISCO UNIFIED SCHOOL DISTRICT
CUPCCAA BID FORM

FOR REPAIRS, MAINTENANCE OR CONSTRUCTION SERVICES AWARDED PURSUANT TO THE “INFORMAL BIDDING” PROCEDURES OF THE PUBLIC CONTRACT CODE § 22000, ET SEQ. (THE UNIFORM PUBLIC CONSTRUCTION COST ACCOUNTING ACT (“CUPCCAA”) -- INFORMAL BID

PROJECT: Gordon J. Lau ES Green Schooyard Project (“Project” or “Contract”)

Contractor will perform the Work defined in the Contract Documents and fully understands the scope of Work required in this bid and accepts in full payment for that Work the following total lump sum or TOTAL BASE BID AMOUNT, all taxes included:

1. **Work.** Contractor has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this bid, understands the construction and project management function(s) is described in the Contract Documents.

2. **Schedule.** Contractor 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.

3. **Subcontractors.** Contractor shall identify the name, location of the place of business, California Contractor State License Number, DIR Registration Number, and kind of work of each subcontractor that will perform work or labor or render service in or about the construction of the Work or improvement in an amount in excess of one-half of 1 percent (0.5%) of the Contractor’s total bid. Use extra sheets extra space as needed.

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<th>NAME</th>
<th>LOCATION</th>
<th>CSLB LIC #</th>
<th>DIR REG#</th>
<th>TYPE OF WORK</th>
<th>VALUE</th>
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4. **Addenda.** Receipt and acceptance of the following addenda is hereby acknowledged.

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<th>ADDENDA #</th>
<th>DATE</th>
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5. **CONTRACT FORM.** DISTRICT’S CONTRACT FORM IS PART OF THE CONTRACT DOCUMENTS. THE SCOPE OF THE PROJECT IS AS DESCRIBED IN EXHIBIT “A” TO THE CONTRACT. THE SUCCESSFUL CONTRACTOR SHALL, WITHIN SEVEN (7) CALENDAR DAYS OF NOTICE THAT IT HAS BEEN AWARDED THE CONTRACT, BE REQUIRED TO PROVIDE TO THE DISTRICT ALL CERTIFICATIONS, BONDS, INSURANCE DOCUMENTS, CONSTRUCTION SCHEDULE, SUBCONTRACTOR LIST AND ALL OTHER REQUIRED DOCUMENTATION AS INDICATED IN THE CONTRACT.

Contractor hereby certifies to the District that all representations, certifications, and statements made by Contractor, 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 Contractor ____________________________________________________

Signed by _____________________________________________________________

Title of Signer _________________________________________________________

Address of Contractor __________________________________________________

Taxpayer’s Identification No. of Contractor ________________________________

Department of Industrial Relations (DIR) Registration No. of Contractor ________

Telephone Number ______________________________________________________

Fax Number __________________________________________________________________

E-mail ___________________________________________ Web page __________________

Contractor’s License No(s): No.: ______ Class: _____ Expiration Date: __________

No.: ______________ Class: _____ Expiration Date: __________
CUPCCAA BIDDERS SECURITY

(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 _____________________________ as Principal ("Principal"),
and _____________________________ as Surety ("Surety"),
a corporation organized and existing under and by virtue of the laws of the State of ________
and authorized to do business as a surety in the State of California, are held and firmly bound
unto the San Francisco Unified School District ("District") of the City and County of San
Francisco, State of California as Obligee, in the sum of _____________________________ ($ _________)
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;

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 duty 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
CUPCCAA NON-COLLUSION AFFIDAVIT
Public Bid Code § 7106

TO BE EXECUTED BY CONTRACTOR BIDDER

STATE OF CALIFORNIA )
COUNTY OF ______________________ ) ss.

________________________________________________________________________

being first duly sworn
deposes and says that he or she is _____________________________
of _____________________________,

the Contractor making the foregoing Bid, that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham proposal, or that anyone shall refrain from proposing; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix its proposal or the Bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the proposal or the Bid price, or of that of any other Bidder, or to secure any advantage against the District of anyone interested in the proposed Bid; that all statements contained in its proposal and Bid are true; and, further, that the Bidder has not, directly or indirectly, submitted his or her proposal or the Bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham proposal or Bid.

I certify and declare under penalty of perjury under the laws of the State of California that all the foregoing information in this Non-collusion Affidavit is true and correct.

Date: ____________________________________________

Proper Name of Contractor: ____________________________________________

Signature: ____________________________________________

Print Name: ____________________________________________

Title: ____________________________________________

(ATTACH NOTARIAL ACKNOWLEDGMENT FOR THE ABOVE SIGNATURE)

END OF SECTION
CUPCAA SITE-VISIT CERTIFICATION

Check whichever option applies:

_____ I certify that I visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

_____ I certify that __________________________ (Bidder's representative) visited the Site of the proposed Work and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

I fully indemnify the San Francisco Unified School District, its Architect, its Engineer, its Construction Manager, and all of their respective officers, agents, employees, and consultants from any damage, or omissions, related to conditions that could have been identified during my visit and/or the Bidder's representative’s visit to the Site.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: ___________________________________________________________________
Proper Name of Bidder: _________________________________________________
Signature: ____________________________________________________________
Print Name: __________________________________________________________
Title: ________________________________________________________________

END OF SECTION
CONTRACT DOCUMENTS

(Contract to be issued after bid opening by contract department)
CUPCCAA CONTRACT
CONTRACT (#XXXX) FOR REPAIRS, MAINTENANCE OR SMALL CONSTRUCTION PROJECTS
AWARDED PURSUANT TO THE “INFORMAL BIDDING” PROCEDURES OF THE PUBLIC CONTRACT CODE § 22000, ET SEQ. (THE UNIFORM PUBLIC CONSTRUCTION COST ACCOUNTING ACT (“CUPCCAA”).

THIS CONTRACT #XXXX is made and entered into this XXth day of XXXX, 20XX (“Contract”), by and between Contractor (“Contractor”) and San Francisco Unified School District (“District”). Contractor and District may be referred to herein individually as a “Party” or collectively as the “Parties.”

1. **Contract Price & Services.** After the District has issued a Notice to Proceed, the Contractor shall furnish to the District for a total price of XXXXXXXXXXXXXXX (US $XXXXXX) (“Contract Price”), the following repairs, maintenance or construction services (“Services” or “Work”): PROJECT NAME AND DESCRIPTION.

2. **Payment.** Payment for the Work shall be made in accordance with the Terms and Conditions attached hereto.

3. **Site.** Contractor shall perform the Work at STREET ADDRESS, San Francisco, CA 94XXX (“Premises” or “Site”). The Project is the scope of Work performed at the Site.

4. **Contract Time & Liquidated Damages.** Work shall be completed by XX,XXX,20XX . Work shall be completed within XXXX (99) consecutive calendar days from the date specified in the District’s Notice to Proceed. (“Contract Time”) Contractor agrees that if the Work is not completed within the Contract Time and/or pursuant to the completion schedule, construction schedule, or project milestones developed pursuant to provisions of the Contract, it is understood, acknowledged, and agreed that the District will suffer damage which is not capable of being calculated. Pursuant to Government Code section 53069.85, Contractor shall pay to the District, as fixed and liquidated damages for these incalculable damages, the sum of zero dollars ($ 0.00) per day for each and every calendar day of delay beyond the Contract Time or beyond any completion schedule, construction schedule, or Project milestones established pursuant to the Contract.

5. **Bonds & Insurance.**

   a. **Payment Bond & Performance Bond:** Contractor shall not commence the Work until it has provided to the District, a Payment (Labor and Material) Bond and a Performance Bond, in the forms attached hereto, each in an amount equivalent to one hundred percent (100%) of the Contract Price issued by a surety admitted to issue bonds in the State of California and otherwise acceptable to the District.

   **Insurance:** Contractor shall have and maintain in force during the term of this Contract, with the minimum indicated limits, the following insurance:

<table>
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<th>Insurance</th>
<th>Limits</th>
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<tr>
<td><strong>Commercial General Liability,</strong></td>
<td>$1,000,000 per occurrence;</td>
</tr>
<tr>
<td>with Products and Completed Operations Coverage</td>
<td>$2,000,000 aggregate</td>
</tr>
<tr>
<td><strong>Automobile Liability, Any Auto,</strong></td>
<td>$1,000,000 per occurrence;</td>
</tr>
<tr>
<td>Combined Single Limit</td>
<td>$2,000,000 aggregate</td>
</tr>
<tr>
<td><strong>Workers Compensation</strong></td>
<td>Statutory limits pursuant to State law</td>
</tr>
<tr>
<td><strong>Employers’ Liability</strong></td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

Contractor shall provide to the District certificate(s) of insurance and endorsements.
satisfactory to the District. The policy(ies) shall not be amended or modified and the coverage amounts shall not be reduced without thirty (30) days written notice to the District prior to cancellation. Except for worker’s compensation insurance, the District, the Architect, and the Project Manager shall be named as an additional insured on all policies. Contractor’s policy(ies) shall be primary; any insurance carried by the District shall only be secondary and supplemental. Contractor shall not allow any subcontractor, employee, or agent to commence Work on this Contract or any subcontract until the insurance required of Contractor, subcontractor, or agent has been obtained.

6. **Project Oversight.** Inspection and acceptance of the Work shall be performed by NA of the Bond Program Department of the District. The architect for the Project is NA (“Architect”) and the project manager on the Project is PROJECT MANAGER (“Project Manager”)

7. **Terms & Conditions.** The Contractor agrees to comply with the Terms and Conditions.

8. **Contract Documents.** The Contract Documents for this Project include and incorporate the following documents (where checked):

| ✓ Notice Calling for Bids | ✓ Lead-Product(s) Certification |
| ✓ Instructions to Bidders | ✓ Insurance Certificates and Endorsements |
| ✓ CUPCCAA Bid Form | ✓ Performance Bond |
| ✓ Non-collusion Affidavit | ✓ Payment Bond |
| ✓ Bidders Security | ✓ District Standards |
| ✓ Terms and Conditions to Contract | ✓ Format for Proposed Change Order |
| ✓ Scope of Work | ✓ W-9 |
| ✓ Prevailing Wage Certification | ✓ Business Tax Certificate |
| ✓ Workers’ Compensation Certification | ✓ Project Plans |
| ✓ Criminal Background Investigation Certification | ✓ Special Conditions |
| ✓ Drug-Free Workplace Certification | ✓ Roofing Contract Financial Interest Certification |
| ✓ Smoke-Free Workplace Certification | ✓ Specifications |
| ✓ Asbestos & Other Hazardous Materials Certification | ✓ [Other ] |

ACCEPTED AND AGREED on the date indicated below. By signing this Contract, Contractor certifies, under penalty of perjury, that all the information provided in the Contract Documents is true, complete, and correct:

Dated: ________________________, 20___  Dated: ________________________, 20___

**San Francisco Unified School District**

**Contractor**

By: ________________________  By: ________________________
Print Name: Yonko Radonov  Print Name: ________________________
Print Title: Interim Chief Facilities Officer, SFUSD  Print Title: ________________________
### Information regarding Contractor:

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<th>Type of Business Entity:</th>
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<td>☐ Corporation</td>
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<tr>
<td>☐ Limited Liability Company</td>
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Employer Identification and/or Social Security Number

NOTE: United States Code, title 26, sections 6041 and 6109 require non-corporate recipients of $600 or more to furnish their taxpayer identification number to the payer. The United States Code also provides that a penalty may be imposed for failure to furnish the taxpayer identification number. In order to comply with these rules, the District requires your federal tax identification number or Social Security number, whichever is applicable.
CUPCCAA TERMS AND CONDITIONS TO CONTRACT

1. **NOTICE TO PROCEED:** District shall provide a Notice to Proceed to Contractor pursuant to the Contract at which time Contractor shall proceed with the Work.

2. **SITE EXAMINATION:** Contractor has examined the Site and certifies that it accepts all measurements, specifications and conditions affecting the Work to be performed at the Site. By submitting its quote, Contractor warrants that it has made all Site examination(s) that it deems necessary as to the condition of the Site, its accessibility for materials, workers and utilities, and Contractor's ability to protect existing surface and subsurface improvements. No claim for allowance of time or money will be allowed as to any other undiscovered condition on the Site.

3. **EQUIPMENT AND LABOR:** The Contractor shall furnish all tools, equipment, apparatus, facilities, transportation, labor, and material necessary to furnish the Services, the Services to be performed at such times and places as directed by and subject to the approval of the authorized District representative indicated in the Work specifications attached hereto.

4. **SUBCONTRACTORS:** Contractor shall comply with the Subletting and Subcontracting Fair Practices Act (Public Contract Code, section 4100 et. seq.) Contractor shall identify by name and location of the place of business of each subcontractor who will perform work or labor or render service in or about the construction of the Project in an amount in excess of one-half of 1 percent of the Contractor’s contract price or ten thousand dollars ($10,000) whichever is greater. Subcontractors, if any, engaged by the Contractor for any Service or Work under this Contract shall be subject to the approval of the District. Contractor agrees to bind every subcontractor by the terms of the Contract as far as such terms are applicable to subcontractor’s work, including, without limitation, all indemnification, insurance, bond, and warranty requirements. If Contractor subcontracts any part of this Contract, Contractor shall be fully responsible to the District for acts and omissions of its subcontractor and of persons either directly or indirectly employed by itself. Nothing contained in the Contract Documents shall create any contractual relations between any subcontractor and the District.

5. **NOTICE OF LABOR DISPUTES:** Whenever the Contractor has knowledge that any actual or potential labor dispute is delaying or is threatening to delay the timely performance of its Contract, the Contractor shall immediately give notice thereof, including all relevant information with respect thereto, to the District. In addition, the Contractor shall take all appropriate measures to eliminate or minimize the effect of such labor dispute on the currently accepted construction Schedule, including but not limited to such measures as: promptly seeking appropriate injunctive relief; filing appropriate charges with the National Labor Relations Board under the applicable provisions of the Labor Management Relations Act of 1947, as amended; filing appropriate damage actions; taking such measures as establishing a reserved gate, as appropriate; if reasonably feasible, seeking other sources of supply or service; or any other measures that may be appropriately utilized to limit or eliminate the effect of the labor dispute. To the extent the Contractor fails to initiate measures that are appropriate, it is not entitled to an extension of time. In addition, any delay impact on any other Contractor's schedule or on the Construction Schedule will be considered as a Contractor-caused delay under any and all applicable provisions of the Contract.

6. **TERMINATION:** If Contractor fails to perform the Services and Contractor's duties to the satisfaction of the District, or if Contractor fails to fulfill in a timely and professional manner Contractor's obligations under this Contract, or if Contractor violates any of the Terms or Provisions of this Contract, the District shall have the right to terminate this Contract effective immediately upon the District giving written notice thereof to the Contractor. District shall also have the right in its sole discretion to terminate the
Contract for its own convenience. Termination shall have no effect upon any of the rights and obligations of the parties arising out of any transaction occurring prior to the effective date of termination.

7. **SAFETY AND SECURITY:** Contractor is responsible for maintaining safety in the performance of this Contract. Contractor shall be responsible for complying with the District's rules and regulations pertaining to safety, security, and driving on school grounds, particularly when children are present.

8. **CHANGE IN SCOPE OF WORK:** Any change in the scope of the Work, method of performance, nature of materials or price thereof, or any other matter materially affecting the performance or nature of the Work shall not be paid for or accepted by District unless such change, addition, or deletion is approved in advance and in writing by a valid change order executed by the District. Contractor specifically understands, acknowledges, and agrees that the District shall have the right to request any alterations, deviations, reductions, or additions to the Project or Work, and the cost thereof shall be added to or deducted from the amount of the Contract Price by fair and reasonable valuations. Contractor also agrees to provide the District with all information requested to substantiate the cost of any change order and to inform the District whether the Work will be done by the Contractor or a subcontractor. In addition to any other information requested, Contractor shall submit, prior to approval of any change order, its request for a time extension (if any), as well as all information necessary to substantiate Contractor's belief that such change will delay the completion of the Work. If Contractor fails to submit its request for a time extension or the necessary supporting information, it shall be deemed to have waived its right to request such extension. Please refer to the District's Format for Proposed Change Order form for maximum allowable labor and material mark-up.

9. **TRENCH SHORING:** If this Contract is in excess of $25,000 and is for the excavation of any trench deeper than five (5) feet, Contractor must submit and obtain District's approval and acceptance, in advance of excavation, of a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If the plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer.

10. **ENCOUNTERING HAZARDOUS MATERIALS:**
   - **Excavations over Four Feet:** If this Contract includes excavations over four (4) feet, Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any: (1) Material that the Contractor believes may be material that is hazardous waste, 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) Subsurface or latent physical conditions at the Site differing from those indicated; or (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.

   - **All other Hazardous Materials or Conditions:** The Contractor shall promptly notify the District, in writing, of any materials or conditions it believes constitute hazardous waste, and 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 in the
Contract. In the event that a dispute arises between the District and the Contractor regarding 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. Contractor shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

11. **LEAD-BASED PAINT:** Pursuant to the Lead-Safe Schools Protection Act (Education Code Section 32240 et seq.) and other applicable law, no lead-based paint, lead plumbing and solders, or other potential sources of lead contamination shall be utilized on this Project, and only trained and state-certified contractors, inspectors and workers shall undertake any action to abate existing risk factors for lead. Contractor must execute the Lead-Based Paint Certification, if applicable.

12. **WORKERS:** Contractor shall at all times enforce strict discipline and good order among its employees and the employees of its subcontractors and shall not employ or work any unfit person or anyone not skilled in work assigned to him or her. Any person in the employ of the Contractor or a subcontractor whom the District may deem incompetent or unfit shall be dismissed from the Site and shall not again be employed at Site without written consent from the District.

13. **DRUG-FREE / SMOKE FREE POLICY:** No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, consultants or contractors are to use drugs on these sites. No Smoking is allowed onsite within fifteen (15) feet from any exit, entrance, operable window or vents. (SFHC Art. 19(f).)

14. **CORRECTION OF ERRORS:** Contractor shall perform, at its own cost and expense and without reimbursement from the District, any work necessary to correct errors or omissions which are caused by the Contractor’s failure to comply with the standard of care required herein.

15. **SUBSTITUTIONS:** No substitutions of material from those specified in the Work Specifications shall be made without the prior written approval of the District.

16. **CONTRACTOR SUPERVISION:** Contractor shall provide competent supervision of personnel employed on the job Site, use of equipment, and quality of workmanship.

17. **CLEAN UP:** Debris shall be removed from the Premises. The Site shall be in order at all times when work is not actually being performed and shall be maintained in a reasonably clean condition.

18. **ACCESS TO WORK:** District representatives shall at all times have access to the Work wherever it is in preparation or in progress. Contractor shall provide safe and proper facilities for such access.

19. **PROTECTION OF WORK AND PROPERTY:** Contractor shall erect and properly maintain at all times, as required by conditions and progress of the Work, all necessary safeguards, signs, barriers, lights, and security persons for protection of workers and the public, and shall post danger signs warning against hazards created by the Work. In an emergency affecting life and safety of life or of Work or of adjoining property, Contractor, without special instruction or authorization from District, is permitted to act at his discretion to prevent such threatened loss or injury. 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 the Contract and shall take all
necessary measures and be responsible for the proper care and completion and final acceptance by District.

20. **ASSIGNMENT OF CONTRACT:** Contractor shall not assign or transfer in any way any or all of its rights, burdens, duties, or obligations under this Contract without the prior written consent of the District.

21. **TIME IS OF THE ESSENCE:** Time is of the essence in the performance of and compliance with each of the provisions and conditions of this Contract.

22. **WEATHER DAYS.** Delays due to adverse weather conditions will only be permitted only if the number of days of adverse weather exceeds the following parameters and only if Contractor can verify that adverse weather caused delays exceeds the following number of calendar days: January, [11]; February [10]; March [10]; April [6]; May [3]; June [1]; July [0]; August [0]; September [1]; October [4]; November [7]; December [10].

23. **OCCUPANCY:** District reserves the right to occupy buildings at any time before formal Contract completion and such occupancy shall not constitute final acceptance or approval of any part of the Work covered by this Contract, nor shall such occupancy extend the date specified for completion of the Work.

24. **FORCE MAJEURE CLAUSE:** Contractor shall be excused from performance hereunder during the time and to the extent that it is prevented from obtaining delivery, or performing by act of God, fire, strike, loss, or shortage of transportation facilities, lock-out, commandeering of materials, product, plant, or facilities by the government, when satisfactory evidence thereof is presented to the District, provided that it is satisfactorily established that the non-performance is not due to the fault or neglect of Contractor.

25. **INDEMNIFICATION / HOLD HARMLESS CLAUSE:** To the furthest extent permitted by California law, Contractor shall defend, indemnify, and hold harmless the District, their agents, representatives, officers, consultants, employees, and volunteers (the “indemnified parties”) from any and all demands, losses, liabilities, claims, suits, and actions (the “claims”) of any kind, nature, and description, including, but not limited to, attorneys’ fees and costs, directly or indirectly arising from personal or bodily injuries, death, property damage, or otherwise arising out of, connected with, or resulting from the performance of this Contract unless the claims are caused wholly by the sole negligence or willful misconduct of the indemnified parties. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the District.

26. **PAYMENT:** On a monthly basis, Contractor shall submit an application for payment based upon the estimated value for materials delivered or services performed under the Contract as of the date of submission (“Application for Payment”). Within thirty (30) days after District’s 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 District may deduct from any payment an amount necessary to protect the District from loss because of: (1) liquidated damages which have accrued as of the date of the application for payment; (2) any sums expended by the District in performing any of Contractor’s obligations under the Contract which Contractor has failed to perform or has performed inadequately; (3) defective Work not remedied; (4) stop notices as allowed by state law; (5) reasonable doubt that the Work can be completed for the unpaid balance of the Total Contract price or by the scheduled completion date; (6) unsatisfactory prosecution of the Work by Contractor; (7) unauthorized deviations from
the Contract; (8) failure of the Contractor to maintain or submit on a timely basis proper and sufficient documentation as required by the Contract or by District during the prosecution of the Work; (9) erroneous or false estimates by the Contractor of the value of the Work performed; (10) any sums representing expenses, losses, or damages, as determined by the District, incurred by the District for which Contractor is liable under the Contract; and (11) any other sums which the District is entitled to recover from Contractor under the terms of the Contract or pursuant to state law, including section 1727 of the California Labor Code. The failure by the District to deduct any of these sums from a progress payment shall not constitute a waiver of the District’s right to such sums. The District shall retain five percent (5%) from all amounts owing as retention. Retention shall be paid pursuant to Public Contract Code sections 7107, 7200, 7201 and 9200, et seq.

27. **PERMITS AND LICENSES:** Contractor and all of its employees, agents, and subcontractors shall secure and maintain in force, at Contractor’s sole cost and expense, all licenses and permits as are required by law, in connection with the furnishing of materials, supplies, or Services herein listed.

28. **INDEPENDENT CONTRACTOR STATUS:** While engaged in carrying out the Services of this Contract, the Contractor is an independent contractor, and not an officer, employee, agent, partner, or joint venture of the District. Contractor shall be solely responsible for its own Worker's Compensation insurance, taxes, and other similar charges or obligations. Contractor shall be liable for its own actions, including its negligence or gross negligence, and shall be liable for the acts, omissions, or errors of its agents or employees.

29. **ANTI-DISCRIMINATION:** It is the policy of the District that in connection with all work performed under contracts there be no discrimination against any employee engaged in the work because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, military and veteran status, or any other protected characteristic, and therefore the Contractor agrees to comply with applicable Federal and California laws including, but not limited to the California Fair Employment Practice Act beginning with Government Code Section 12900 and Labor Code Section 1735. In addition, the Contractor agrees to require like compliance by all its subcontractor(s).

30. **DISABLED VETERAN BUSINESS ENTERPRISES:** N/A

31. **WARRANTY/QUALITY:** Unless a longer warranty is called for elsewhere in the Contract, Contractor, manufacturer, or their assigned agents shall guarantee the workmanship, product or Services performed against defective workmanship, defects or failures of materials for a minimum period of two (2) years from District’s written approval of the Work. All workmanship and merchandise must be warranted to be in compliance with applicable California energy, conservation, environmental, and educational standards.

32. **INSTRUCTIONS AND MANUALS:** Three (3) copies each of all maintenance instructions, application/installation instructions and service materials called for in the Contract Documents shall be provided by the Contractor. These shall be complete as to drawings, details parts lists, performance data and other information that may be required for the District to easily maintain and service the materials and equipment installed under this Contract. All manufacturers’ application/installation instructions shall be given to the Inspector at least ten (10) days prior to first material application or installation of the item by the Contractor. The maintenance instructions and manuals, along with any specified guarantees, shall be delivered by the Contractor to the Architect for review prior to submission to the District. The Contractor or
appropriate Subcontractors shall instruct District’s personnel in the operation and maintenance of the more complex equipment prior to final acceptance of the Project.

33. **CONFIDENTIALITY:** Contractor shall maintain the confidentiality of all information, documents, programs, procedures, and all other items that Contractor encounters while performing the Contractor’s Services to the extent allowed by law. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes all student, parent, and disciplinary information.

34. **COMPLIANCE WITH LAWS:** Contractor shall give all notices and comply with all laws, ordinance, rules and regulations bearing on conduct of the Work as indicated or specified. If Contractor observes that any of the Work required by this Contract is at variance with any such laws, ordinance, rules or regulations, Contractor shall notify the District, in writing, and, at the sole option of the District, any necessary changes to the scope of the Work shall be made and this Contract shall be appropriately amended in writing, or this Contract shall be terminated effective upon Contractor’s receipt of a written termination notice from the District. If Contractor performs any work that is in violation of any laws, ordinances, rules or regulations, without first notifying the District of the violation, Contractor shall bear all costs arising therefrom.

35. **DISPUTES:** In the event of a dispute 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 the dispute by those procedures set forth in Public Contract Code section 20104, et seq., if applicable. Pending resolution of the dispute, Contractor agrees it will neither rescind the Contract nor stop the progress of the Work, but will allow determination by the court of the State of California, in the county in which the District’s administration office is located, having competent jurisdiction of the dispute. All claims over Three Hundred Seventy-Five Thousand Dollars ($375,000), which are outside the scope of Public Contract Code section 20104, et seq., may be determined by independent arbitration if mutually agreeable, otherwise by litigation.

- Notice of the demand for arbitration of a dispute shall be filed in writing with the other Party.
- The demand for arbitration of any claim of over Three Hundred Seventy-five Thousand Dollars ($375,000) shall be made within a reasonable time after written notice of the dispute has been provided to the other Party, but in no case longer than ninety (90) days after initial written notice, and the demand shall not be made later than the time of Contractor submission of the request for final payment.

36. **LABOR CODE REQUIREMENTS:** Provided that the Contract Price is more than $1,000, and the Work is a “public works” under the Labor Code, the Parties agree as follows:

- The Work is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
- District hereby provides notice of the requirements described in Labor Code § 1771.1(a) that a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code § 1725.5.
- Contractor acknowledges that all or a portion of the Services under this
Contract are a public work, and that it and its subcontractors have
cомplied with Labor Code § 1725.5, including, without limitation, the
registration requirements thereof.

- Contractor shall post all required job site notices and shall comply with
all applicable requirements prescribed thereby, including but not limited
to Labor Code § 1771.4.

- Contractor shall comply with all applicable provisions of the Labor Code,
Division 3, Part 7, Chapter 1, Articles 1-5, including, without limitation,
the payment of the general prevailing per diem wage rates for public
work projects of more than one thousand dollars ($1,000).

- Copies of the prevailing rate of per diem wages are on file with the
District.

- Contractor and each subcontractor shall comply with Chapter 1 of
Division 2, Part 7 of the Labor Code, beginning with § 1720, and
including §§ 1735, 1777.5 and 1777.6, forbidding discrimination, and
§§ 1776, 1777.5 and 1777.6 concerning the employment of apprentices
by Contractor or subcontractors. Willful failure to comply may result in
penalties, including loss of the right to bid on or receive public works
contracts.

37. ANTI-TRUST CLAIM: Contractor and its subcontractor(s) agree to assign to the District
all rights, title, and interest in and to all causes of action they 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, services, or materials pursuant to the Contract
or a subcontract. This assignment shall be made and become effective at the time the
District tenders final payment to the Contractor, without further acknowledgment by the
Parties.

38. GOVERNING LAW: This Contract shall be governed by and construed in accordance
with the laws of the State of California with venue of any action in a in the county in
which the District's administration office is located.

39. PROVISIONS REQUIRED BY LAW DEEMED INSERTED: Each and every provision of
law and clause required by law to be inserted in this Contract shall be deemed to be
inserted herein and this Contract shall be read and enforced as though it were included
therein.

40. BINDING CONTRACT: This Contract shall be binding upon the Parties hereto and upon
their successors and assigns, and shall inure to the benefit of the Parties and their
successors and assigns.

41. DISTRICT WAIVER: District's waiver of any term, condition, covenant or waiver of a
breach of any term, condition or covenant shall not constitute the waiver of any other
term, condition or covenant or the waiver of a breach of any other term, condition or
covenant.

42. INVALID TERM: If any provision of this Contract is declared or determined by any court
of competent jurisdiction to be illegal, invalid or unenforceable, the legality, validity or
enforceability of the remaining parts, terms and provisions shall not be affected thereby,
and said illegal, unenforceable or invalid part, term or provision will be deemed not to be
a part of this Contract.

43. ENTIRE CONTRACT: This Contract sets forth the entire Contract between the Parties
hereto and fully supersedes any and all prior agreements, understanding, written or oral,
between the Parties hereto pertaining to the subject matter thereof. This Contract may
be modified only by a writing evidencing the Parties’ mutual consent.

**SCOPE OF WORK**

**PROJECT**

DURATION: _XX_ CALENDAR DAYS FROM NOTICE TO PROCEED.

**PLANS**

(ATTACHED)

**WORK SPECIFICATIONS**

SEE ATTACHED
CUPCCAA PAYMENT BOND

PAYMENT BOND -- Contractor’s Labor & Material Bond (100% of Contract Price)
(Note: Contractors must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board (“Board”) of the San Francisco Unified School District (“District”) and CONTRACTOR ____________________________ (“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:

XXXXXXXXXXXXXXXXXXXX Project

which Contract dated MM DD, 20XX, 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 100 percent (100%) of the Contract price, to secure the claims to which reference is made in sections 3179 through 3214 and 3247 through 3252 of the Civil Code of California, and division 2, part 7, of the Labor Code of California.

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 penal 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 bond is that if the Principal or any of his or its subcontractors, of the heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, provender, 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 due under the Unemployment Insurance Act 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 sections 3179 through 3214 and 3247 through 3252 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.

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 shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the Contract Documents or to the Work.
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

(Name of Principal)

(Signature of Person with Authority)

(Print Name)

(Surety)

(Name of Surety)

(Signature of Person with Authority)

(Print Name)

(Name of California Agent of Surety)

(Address of California Agent of Surety)

(Telephone Number 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.
CUPCCAA PERFORMANCE BOND

PERFORMANCE BOND (100% of Contract Price)
(Note: Contractors must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the Governing Board ("Board") of the San Francisco 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:

which Contract dated ____________, 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:

- 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.

The condition of the obligation is such that, if the above bounden Principal, his or 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 his or 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.

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 Principal shall fail to make full, complete, and satisfactory repair, replace, 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 Principal remains. Nothing herein shall limit the District’s rights or the Contractor’s 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 shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the Contract Documents or to the Work.

Any claims under this bond may be addressed to the Surety at the following address.

This cannot be the Contractor’s broker for this bond, but must be an employee of the

CUPCCAA Contract - Performance Bond
Updated 03/30/2018
Surety or the Surety’s legal counsel:

________________________________________

________________________________________

Attention:

Telephone No.: ( ) -

Fax No.: ( ) -

E-mail Address:

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

(Name of Principal)

(Signature of Person with Authority)

(Print Name)

(Signature of Person with Authority)

(Print Name)

Surety

(Name of Surety)

(Name of California Agent of Surety)

(Address of California Agent of Surety)

(Telephone Number 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.
CUPCCAA W-9 FORMS
CUPCCAA BUSINESS TAX CERTIFICATES
CUPCCAA PREVAILING WAGE CERTIFICATION

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.

Date: 
Proper Name of Contractor: 
Signature: 
Print Name: 
Title: 

________________________________________

________________________________________
CUPCCAA WORKERS’ COMPENSATION CERTIFICATION

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.

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 Article 5 - commencing at section 1860, chapter 1, part 7, division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)
CUPCCAA CRIMINAL BACKGROUND INVESTIGATION CERTIFICATION

The undersigned does hereby certify to the governing board of the District that (1) he/she is a representative of the Contractor, (2) he/she is familiar with the facts herein certified, (3) he/she is authorized and qualified to execute this certificate on behalf of Contractor; and (4) that the following is true and correct:

1. **Education Code.** Contractor has taken at least one of the following actions with respect to the Project (check all that apply):

   - The Contractor 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 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 Project 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 has not been convicted of a violent or serious felony. The name and title of the employee who will be supervising Contractor's employees and its subcontractors' employees is:
     
     **Name:**
     **Title:**

     - [X] The Work on the Contract is at an unoccupied school site and no employee and/or subcontractor or supplier of any tier of Contract shall come in contact with the District pupils.

2. **Megan’s Law (Sex Offenders).** I have verified and will continue to verify that the employees of Contractor that will be on the Project site and the employees of the Subcontractor(s) that will be on the Project site are **not** listed on California’s “Megan’s Law” Website (http://www.meganslaw.ca.gov/).

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: __________________________________________

CUPCCAA Contract – Criminal Background Investigation Certification
Updated 01/19/2015
Page 1 of 1
CUPCCAA DRUG-FREE WORKPLACE CERTIFICATION

PROJECT NO.: XXXXX (Contract #XXXX) between San Francisco Unified School District (the “District” or the “Owner”) and XXXXXXXX (the “Contractor” or “Bidder”) XXXXXXXXXXXX, (the “Contract” or the “Project”).

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 Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

1. 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;

2. Establishing a drug-free awareness program to inform employees about all of the following:
   a. The dangers of drug abuse in the workplace.
   b. The person’s or organization’s policy of maintaining a drug-free workplace.
   c. The availability of drug counseling, rehabilitation, and employee-assistance programs.
   d. The penalties that may be imposed upon employees for drug abuse violations.

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

Date:  

Proper Name of Contractor:  

Signature:  

Print Name:  

Title:  
CUPCCAA LEAD-PRODUCT(S) CERTIFICATION

California Occupational Safety and Health Administration (CalOSHA), Environmental Protection Agency (EPA), California Department of Health Services (DHS), California Department of Education (CDE), and the Consumer Product Safety Commission (CPSC) regulate lead-containing paint and lead products. 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 1993 are presumed to contain some lead-based paint until sampling proves otherwise.

The CDE mandates that school districts utilize DHS lead-certified personnel when a lead-based hazard is identified. Examples of lead-certified personnel include: project designers, inspectors, and abatement workers. Furthermore, since 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). Any and all Work which may result in the disturbance of lead-containing building materials must be coordinated through the District.

The California Education Code also prohibits the use or import of lead-containing paint, lead plumbing and solders, or other potential sources of lead contamination in the construction of any new school facility or in the modernization or renovation of any existing school facility. 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.

If failure to comply with these laws, rules, and regulations 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 UNDERSIGNED HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT HE OR SHE HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER’S PROPERTY, AS WELL AS THE EXISTENCE OF APPLICABLE LAWS, RULES AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL OF, SUCH MATERIALS WITH WHICH IT MUST COMPLY. THE UNDERSIGNED ALSO WARRANTS THAT HE OR SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR.

Date: 

Proper Name of Contractor: 

Signature: 

Print Name: 

Title: 
CUPCCAA SMOKE-FREE ENVIRONMENT CERTIFICATION

PROJECT NO.: XXXXX (Contract #XXXX) between San Francisco Unified School District (the “District” or the “Owner”) and CONTRACTOR (the “Contractor” or “Bidder”) CUPCCAA PROJECT, (the “Contract” or the “Project”).

This Smoke-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. No Smoking is allowed onsite within fifteen (15) feet from any exit, entrance, operable window or vents. (SFHC Art. 19(f).)

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: ________________________________
CUPCCAA ASBESTOS & OTHER HAZARDOUS MATERIALS CERTIFICATION

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 Material Hazardous”, 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.

Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.

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 (.1%) asbestos shall be defined as asbestos-containing material.

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.

All Work or materials found to be New Hazardous Material or Work or material installed with “New Hazardous Material” containing equipment will be immediately rejected and this Work will be removed at Contractor’s expense at no additional cost to the District.

Contractor has read and understood the document Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein.

Date: ___________________________________________________________________

Proper Name of Contractor: ___________________________________________________________________

Signature: ___________________________________________________________________

Print Name: ___________________________________________________________________

Title: ___________________________________________________________________
CUPCCAA CONSTRUCTION SAFETY POLICY

General Safety and Security Standards for Construction Projects:

1) Construction workers should be required to wear photo-identification badges at all times for security purposes while working on school sites.
2) As much as possible, noisy, dusty, odorous work should be performed before and after-hours, on students’ days off, weekends, and during vacations.
3) All construction materials should be stored in a safe and secure manner and kept dry to prevent mold growth.
4) Fences around construction supplies or debris should be inspected daily and maintained.
5) Gates should always be locked unless a worker is in attendance to prevent unauthorized entry.
6) During exterior renovation work, overhead protection should be provided for any sidewalks or areas immediately beneath a work zone unless such areas are fenced off and provided with signs warning against entry.
7) Signs should be posted identifying the construction management company, General Contractor (GC) and at least one, preferably several, emergency telephone number(s) to call in the case of vandalism or other problems.

Separation of Construction Areas from Occupied Spaces:

Construction areas that are under the control of a contractor and not occupied by District staff or students should be separated from occupied areas. Required fire ratings should be maintained.

1) Provisions should be made to prevent the passage of dust and contaminants into occupied parts of a building by sealing construction work areas and placing them under negative pressure relative to occupied areas. Air exhausted from work areas should be ducted at least 25 feet from any doors, windows, or air intakes into occupied areas before being released. Release should be at as high a level as possible to facilitate quick dispersion. A temporary stack can be devised for this purpose.
2) Heavy-duty plastic sheeting may be used only for a vapor, fine dust or air infiltration barrier, and should not be used solely to separate occupied spaces from construction areas.
3) A specific stairwell and/or elevator should be assigned for construction worker use during school hours. In general, construction workers should not use corridors, stairs or elevators designated for students or school staff.
4) Large amounts of debris should be removed by using enclosed chutes or a similar sealed system. Movement of debris through hallways of occupied spaces of the building should be minimized. No material should be dropped or thrown outside the walls of the building.
5) All occupied parts of the building affected by renovation activity should be cleaned at the close of each workday. School buildings occupied during a construction project must be maintained at a level to allow for proper educational delivery and consideration of the health and safety of all occupants at all times.

Emergency procedures: The contractor should comply with any and all District and school site Emergency Action Plan(s), policies, or procedures as well as all emergency procedures required by DSA and Cal/OSHA, including, but not limited to, contacting appropriate emergency personnel, building evacuation procedures, and spill clean-up procedures.

Fire and Hazard Prevention:

1) No smoking is allowed on public school property, including construction areas.
2) During construction, daily inspections of District occupied areas should be conducted by
school district personnel to assure that construction materials, equipment and debris do not block fire exits or emergency egress windows.

3) Proper operation of fire extinguishers, fire alarm, and smoke/fire detection systems should be maintained throughout the project.

**Noise Abatement during Construction:** Based on the District’s anticipation that there will be times when construction noise is unacceptable, the contractor shall comply with all "no work" periods incorporated into the contract documents. Construction and maintenance operations should not produce noise in excess of 60 dBA in occupied spaces at any time. If necessary, these activities should be scheduled for times when the building or affected building spaces are not occupied or noise control measures should be taken. Noise level measurements (dBA) should be taken with a type 2 sound level meter in the occupied space closest to the source of the noise.

**Control of Chemical Fumes, Gases, and Other Contaminants:** Large volumes of dust and other airborne contaminants released during construction work may pose a problem for people, computers, and other sensitive equipment. The contractor shall comply with any bid specifications and construction documents indicating how and where welding, gasoline engine, diesel engine, roofing, paving, painting or other contaminants will be exhausted. Care should be taken to ensure that outdoor air intakes do not draw in exhausted contaminants.

1) All diesel and/or gasoline powered equipment should be a minimum of 25 feet away from the building prior to being started.
2) Building materials or furnishings which "off-gas" chemical fumes, gases, or other contaminants should be “aired out” in a well-ventilated, heated warehouse before they are brought to the project for installation or the manufacturer's recommended "off-gassing" periods should be scheduled between installation and occupancy of the space. If the work will generate contaminants that cannot be contained in an isolated area, the work should be done when school classes and programs are not in session. The building should be properly ventilated and the material should be given proper time to cure or "off-gas" before re-occupancy.
3) Manufacturer's Material Safety Data Sheets (MSDS) should be maintained at the site for all products used in the project. Copies of MSDS should be provided to anyone who requests them. MSDS contain information on the chemical ingredients used in the product, product toxicity, typical effects of exposure to the product and precautions for safe use of the product.

**Procedures to Control Dust:** The contractor shall comply with all requirements to minimize dust creation. Equipment should be wrapped with dust-proof coverings as far as possible. Clean-up of dust on floors, carpeting, desks, shelves, and other exposed surfaces should be complete before any construction area is re-entered by staff and students. Ordinary dust can be a health hazard to sensitive staff and students and is a common trigger of asthma. Dust may contain a variety of materials that increase its danger, such as pesticides and herbicides; insect, rodent, and bird/bat droppings; chalk dust; fiberglass, mold; cleaning and housekeeping chemical residues, asbestos and lead. The District may inspect all such areas before re-occupancy and require additional cleaning if needed.

**Procedures to Control Water Intrusion:** The contractor shall comply with all requirements to assure that building materials and partially constructed buildings do not become wet during construction. Ongoing construction must be protected with tarps fastened with furring strips that effectively keep materials and partially constructed buildings dry. Tarps must also be used effectively during roof renovations. If these precautions fail, all wet materials must be dried or disposed of within 48 hours to prevent mold growth.
## CUPCCAA FORMAT FOR PROPOSED CHANGE ORDERS

<table>
<thead>
<tr>
<th>Line</th>
<th>Item</th>
<th>Amount ($) (+/-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Direct Labor and allowable Fringe Benefit Costs (1A and 1B):</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attach applicable supporting documentation with itemized breakdowns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of Total Basic Labor / Total Basic Fringe Benefits for each trade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>classification.</td>
<td></td>
</tr>
<tr>
<td>1A.</td>
<td>Total Basic Labor, per applicable DIR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Published Determination(s) $</td>
<td></td>
</tr>
<tr>
<td>1B.</td>
<td>Total Basic Fringe Benefits, per applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DIR Published Determination(s)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Line 1 ▶ Subtotal of Lines: 1A + 1B =</strong></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>Materials:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attach itemized quantity and unit cost plus sales tax and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>invoice(s) from vendor(s).</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><strong>Equipment:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attach invoice(s) from supplier(s).</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td><strong>Line 4 ▶ Subtotal of Lines: 1 + 2 + 3 =</strong></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>**Markup on Self-Performed Work - Single markup not-to-exceed 10% of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Line 4. (Applies to Contractor or Sub, regardless of tier)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td><strong>Prime Contractor or First Tier Sub Markup on Lower-Tier Subcontractor(s) Work-</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>not-to-exceed 5% of Line 4.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td><strong>Line 7 ▶ Subtotal of Lines: 4 + 5 + 6 =</strong></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td><strong>Markup for Labor Burden</strong> on Direct Labor Costs (payroll taxes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and premiums), not-to-exceed 25% of <strong>Line 1A</strong>, absent supporting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>documentation. (FICA, FUTA, SUTA, WC, etc.)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td><strong>Bonds &amp; Insurance</strong> for Prime/General Contractor Only, Applied</td>
<td></td>
</tr>
<tr>
<td></td>
<td>only to <strong>Line 4</strong> (Max 2%):</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td><strong>TOTAL ▶ Subtotal of Lines: 7 + 8 + 9 =</strong></td>
<td></td>
</tr>
</tbody>
</table>

- **LINE 1A** Basic/Direct Labor
- **LINE 1B** Fringe Benefits

- Labor breakdown by trade classification, basic hourly rate and employer payments (e.g., fringe benefits) as published by the DIR, and estimated hours. Labor costs shall only include fringe benefits indicated by governing trade organizations. Wages shall not exceed current prevailing wages in the locality for performance of the changes.
Maximum Allowable Labor Burden.

- The allowable labor burden ("Labor Burden") on changes shall be defined as including only (i) Contractor's net actual cost of payroll taxes (including FICA, Medicare, SUTA, FUTA) and (ii) Contractor’s net actual cost for worker’s compensation insurance (taking into consideration, without limitation, adjustments for experience modifiers, premium discounts, dividends, rebates, expense constants, assigned risk pool costs, net cost reductions due to policies with deductibles for self-insured losses, assigned risk rebates, etc.).

- With respect to pricing Labor Burden of PCOs and Change Orders, District has established a maximum allowable amount of twenty-five percent (25%) of the Labor Burden associated with the work of the change as a reasonable percentage to be used for pricing PCOs and Change Orders. However, the percentage-amount of Labor Burden allowed for the work of a change may be examined and adjusted by District, in its sole discretion, if documentation justifiably establishes the percentage-amount should be so adjusted; in no event shall the percentage-amount applied to a PCO or Change Order exceed thirty percent (30%).

➤ **LINE 2** **Material.**

- Material quantities, and types of products, and transportation costs, if applicable.

➤ **LINE 3** **Equipment.** Equipment breakdown by make, type, size, rental rates, equipment hours and transportation costs, if applicable.

- The equipment costs shall not exceed one hundred percent (100%) of the Association of Equipment Distributors (AED) rental rates or Caltrans rates, whichever is less. Hourly, daily, weekly, or monthly rates shall be used, whichever is lower. Hourly rates including operator shall not be used.

- The actual time to be paid for equipment shall be the time that the equipment is in productive operation on the Work under Contract Modification. In computing the hourly rental of equipment, any time less than thirty (30) minutes shall be considered one-half (1/2) hour. No payment will be made for time while equipment is inoperative due to breakdown, or for non-workdays. In addition, the rental time shall not include the time required to move the equipment to and from the project site. No mobilization or demobilization will be allowed for equipment already on site. If such equipment is not moved by its own power, then loading and transportation costs will be paid in lieu of rental time thereof. However, neither moving time nor loading and transportation costs will be paid if the equipment is used on the Project Site in any other way than upon the work directly related to the Contract Modification.

- Individual pieces of equipment having a replacement value of one thousand dollars ($1,000) or less shall be considered to be small tools or small equipment, and no payment will be made since the costs of these tools and equipment is included as part of the markup for overhead and profit defined herein.
- Payment to the Contractor for the use of equipment as set forth above shall constitute full compensation to the Contractor for the cost of fuel, power, oil, lubricants, supplies, small equipment, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, labor (except for equipment operators), and any and all costs to the Contractor incidental to the use of the equipment.

- Should Contractor, or any of its owners, officers, directors or agents, hold any ownership interest in any company, organization, association or corporation from whom rental equipment is secured. Contractor shall immediately notify District of such and the price set for any such rental shall be agreed upon in advance by the Contractor and the District.

- **LINE 5  Maximum Allowable Markup on Self-Performed Work.** With respect to pricing the portion of PCOs and Change Orders involving self-performed work, the maximum markup percentage fee to be paid for self-performed work by Contractor or its Subcontractor (regardless of tier) for a change shall be a single markup percentage not-to-exceed ten percent (10%) of the net direct cost of the sum of: (i) direct labor and allowable fringe benefit costs (Format for Proposed Change, Lines 1A + 1B); (ii) the net cost of material and installed equipment incorporated into the change or extra work And (iii) net rental cost of major equipment and related fuel costs necessary to complete the change in the work.

- **LINE 6  Maximum Allowable Markup on Lower-Tier Subcontractor(s)-Performed Work.** With respect to pricing the portion of PCOs and Change Orders involving work performed by lower-tier Subcontractors, the maximum markup percentage fee allowable to the Contractor or Subcontractor supervising the lower-tier Subcontractor’s work for a change shall be a single markup percentage not-to-exceed five percent (5%) of the net of all approved work of a Change Order performed by all Subcontractors combined on any particular PCO or Change Order.

- **Markup for Overhead and Profit.** Markup allowed for changes in work is inclusive of and shall be used to compensate Contractor for overhead and profit for all costs for all administration, general conditions, and supervision, including, without limitation:

  - All field, field office and home office personnel including, but not limited to, principals, project managers, superintendents, supervisory foremen, estimators, project engineers, detailers, draftsmen, schedulers, consultants, watchmen, payroll clerks, administrative assistants, labor compliance costs and secretaries.

  - All field, field office and home office expenses including, but not limited to, field trailers, parking, storage sheds, office equipment and supplies, telephone service and long distance telephone calls, fax machines, temporary utilities, sanitary facilities and services, janitorial services, small tools and equipment with a cost under $1000 each, portable scaffolding, blocking, shores, appliances, job vehicles, security and fencing, conformance to regulatory requirements including compliance to safety regulations, safety programs and meetings, cartage, warranties, As-Built Drawings, as well as any related maintenance costs.
- Administrative functions such as, but not limited to, reviewing, coordinating, distributing, processing, posting, recording, estimating, negotiating, expediting, engineering, drawing, detailing, revising shop drawings, carting, cleaning, protecting the work, and other incidental Work related to the change.

- All other costs and taxes required to be paid, but not included under direct costs as defined above including, without limitation, payroll taxes, social security, etc.

**LINE 8  Maximum Allowable Labor Burden on Basic Labor LINE 1A.**

- The allowable labor burden ("Labor Burden") on changes shall be defined as including only (i) Contractor’s net actual cost of payroll taxes (including FICA, Medicare, SUTA, FUTA) and (ii) Contractor's net actual cost for worker's compensation insurance (taking into consideration, without limitation, adjustments for experience modifiers, premium discounts, dividends, rebates, expense constants, assigned risk pool costs, net cost reductions due to policies with deductibles for self-insured losses, assigned risk rebates, etc.).

- With respect to pricing Labor Burden of PCOs and Change Orders, District has established a maximum allowable amount of twenty-five percent (25%) of the Labor Burden associated with the work of the change as a reasonable percentage to be used for pricing PCOs and Change Orders. However, the percentage-amount of Labor Burden allowed for the work of a change may be examined and adjusted by District, in its sole discretion, if documentation justifiably establishes the percentage-amount should be so adjusted; in no event shall the percentage-amount applied to a PCO or Change Order exceed thirty percent (30%).

**LINE 9  Contractor’s Additional Bonds and Insurance, if any.** All costs for Contractor’s additional bonds and insurance, if any applicable to the change. Contractor shall not include any markup for these costs. The maximum allowable percentage for bonds and insurance for a change shall not exceed two percent (2%) of the direct labor and allowable fringe benefit costs (Format for Proposed Change, Lines 1A + 1B).

**Taxes.** Federal excise tax shall not be included. District will issue an exemption on request.

**Time.** Justification for any adjustment in Contract Time including a schedule analysis identifying critical schedule activities delayed by the request.
CONSTRUCTION DOCUMENTS
CUPCCAA SCOPE OF WORK

SITE: Gordon J Lau Elementary School
950 Clay St.
San Francisco, CA 94108

CONSTRUCTION SCHEDULE:
- Notice to Proceed (NTP): 3/11/20
- Phase 1: 3/11/20 – 6/2/20 (Last Day of School)
- Phase 2: 6/3/20 – 8/3/20
- Beneficial Occupancy: 8/3/20
- Final Completion: 9/2/20, 175 calendar days from Notice to Proceed. Thirty (30 calendar days from the end of the last phase.

SCOPE OF WORK
The Work consists of preparing school grounds and constructing schoolyard greening elements on site.

1. The Work includes, but is not limited to: demolition of asphalt; carpentry, concrete work, construction of new planting areas and raised planter boxes, installation of new site furnishings including unit pavers, soil importation for new planting areas and containers, and color coating of asphalt surfaces.

2. The Work also includes hazardous material abatement as described and specified in Appendix A of the Contract Documents.

PLANS
- L-1.0 EXISTING CONDITIONS & DEMOLITION PLAN
- L-2.0 SITE PLAN
- L-3.0 LAYOUT & GRADING PLAN
- L-4.0 CONSTRUCTION DETAILS
- L-4.1 CONSTRUCTION DETAILS
- HM-1 HAZMAT TITLE SHEET
- HM-2 HAZMAT DEMO-SITE PLAN

WORK SPECIFICATIONS
Refer to Specifications.
PROJECT MANUAL
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The following construction products, materials, and systems have been approved as a District Standard by the Board of Education or the Board of Education’s official designee. In accordance with the Public Contract Code, the products, materials, and systems listed below are specified to match others in use on District sites, either completed or in the course of construction. No substitutions will be allowed or permitted for these District construction standards unless approved in writing by the District. Substitutions from these standards will only be granted if the specific products, materials, or systems are no longer manufactured or are unavailable. District construction standards include the following:

**DIVISION 0**

None

**DIVISION 1 - GENERAL REQUIREMENTS**

None

**DIVISION 2 - SITE WORK**

None

**DIVISION 3 - CONCRETE**

None

**DIVISION 4 - MASONRY**

None

**DIVISION 5 - METALS**

None

**DIVISION 6 - WOOD AND PLASTIC**

**CASEWORK**

1. Cabinet door and drawer locks: National Cabinet Lock, C8173, C8174, C8175 for cabinets and C8177, C8178, and C8179 for drawers

**DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

None
DIVISION 8 - DOORS AND WINDOWS

DOOR HARDWARE


2. Locksets: Schlage Lock
   a. General Cylindrical Locksets: Schlage Lock ND Vandlgard Series, Rhodes Trim
   b. All instructional rooms and other rooms with 5 or more occupants without exit devices: ND95PD Vandlgard, Rhodes Trim

3. Privacy Lockset at Adult/Staff Single-Occupant Restrooms: Schlage L9496

4. Exit Devices:
   a. Interior Single Door Rim Exit Devices:
      Unrated – Von Duprin 99L-2 / 20-057
      Fire-rated – Von Duprin 99L-F-2 / 20-057
   b. Interior Pair of Doors Rim Exit Devices with Mullion:
      Unrated – Von Duprin 99L-2 x 4954 Mullion / 20-057
      Fire-rated – Von Duprin 99L-F-2 x 4954 Mullion / 20-057
   c. Exterior Single Door Rim Exit Devices:
      Unrated – Von Duprin CD99NL Series x VR 900 Series Trim
      Fire-Rated – Von Duprin 99L-F-2 x VR 900 Series Trim
   d. Exterior Pair of Doors Rim Exit Devices:
      Unrated – Von Duprin CD99NL x 98EO Series x VR 900 Series Trim
      x 4954 Mullion
      Fire-rated – Von Duprin 99L-F-2 x 98EO Series x VR 900 Series
      Trim x 4954 Mullion

5. Surface Closers: LCN 4040XP x EDA x ST3596

6. Floor Closers and Offset Pivots: Rixson 27 Series @ 90º, 25 Series @ 180º

7. Automatic Door Openers: LCN 4800

8. Rated Hold-Open Electromagnetic Holders: LCN SEM 7800 Series

WINDOW HARDWARE

1. Window Handles:
   a. Cam Handles: Bronze Craft
   b. Project-Out Vent (Awning Type): Bronze Craft #162-001-4504 (right handle) #162-003-4504 (left handle) in conjunction with #282 series strikes
   c. Project-In Vent (Hopper Type):
      i. Hand-Operated Handles: Bronze Craft #156-001-4504 (right handle) #156-003-4504 (left handle)
      ii. Pole-Operated Handles: Bronze Craft #158-001-4504 (right handle) #158-003-4504 (left handle) in conjunction with #210 series keepers

2. Window Hinges: Bronze Craft 851 Series stainless steel storm hinges

3. Pole:
   a. Pole Ring: Bronze Craft #233-005-4504 (aluminum bronze)
b. Pole Hook Assembly (aluminum tube with rubber end): Bronze Craft #234-007-4504 (7 feet long)
c. Pole Hanger: Bronze Craft #231-002-0125
d. Pole Tip: Bronze Craft #232-004-0125

DIVISION 9 - FINISHES

None

DIVISION 10 - SPECIALTIES

TOILET ACCESSORIES

1. Paper Towel Dispensers:
   a. EES, Elementary, Middle and High Schools, all locations: Georgia Pacific SofPull Dispenser Model #59010 (Black)

2. Toilet Paper Dispensers:
   a. Georgia Pacific Rollmastr 3000 Vertical 2 Roll High Capacity Bathroom Tissue Dispenser model 56716/01 for standard (not accessible) toilet stall locations
   b. Multi-roll toilet paper dispensers for accessible toilet stalls:
      i. Recessed, wall-mounted: Bobrick B-3888
      ii. Recessed, wall-mounted: Bobrick B-6977 (Pre-K restrooms)

3. Soap Dispensers: Bobrick B-2111 (vertical) or B-2112 (horizontal) 40 oz. stainless steel tank liquid soap dispenser

4. Grab Bars: Bobrick B-6806 – 42” long at rear and 48” long at side

DIVISION 11 - EQUIPMENT

EVACUATION CHAIRS

1. Garaventa Evacu-Trac CD7 with manufacturer-supplied storage cabinet and manufacturer-provided labeling

DIVISION 12 - FURNISHINGS

None

DIVISION 13 - SPECIALTIES

None

DIVISION 14 - CONVEYING SYSTEMS

HYDRAULIC ELEVATORS

1. Control Manufacturers: Motion Control Engineering
2. Motion 2000 Hydraulic Elevator Control as manufactured by Motion Control Engineering, Inc.
3. Door Operating Equipment: G.A.L. Manufacturing Corporation

5. Lock box keyed to the San Francisco Fire Department standards from E.M. Hundley Hardware, 617 Bryant St., San Francisco, (415) 777-5050

DIVISION 15 - MECHANICAL

MECHANICAL EQUIPMENT
1. Domestic Hot Water Circulating Pumps: Grundfos
2. In-Line Circulators: Grundfos Pump UP Series100
3. Hot Water Boilers: Cast iron by Peerless Heater Company
4. Expansion Tanks: Bell & Gossett
5. Chemical Feeder: J.L. Wingert
6. Energy Management System: Vykon JACE-545 router, as manufactured by Tridium
7. Controls: Any upgrade or new addition to the existing system shall be fully integrated with the graphical user interface of the existing Circon controls system and the Wide Area Network of the San Francisco Unified School District.

PLUMBING FIXTURES
1. Drinking Fountains:
   a. Exterior and Interior Wall-Mounted Fixture: Haws 1117L with lead filter for interior and exterior wall-mounted installations and Envirogard bubbler for exterior installations
   b. Free-Standing Fixture: Haws 3150 adjustable-height pedestal fountain with exposed aggregate finish, or Haws 3300, pedestal fountain with powdercoat finish; Envirogard bubbler, and lead filter when no building wall surfaces are available
2. Eyewashes: HAWS 7460BT with acid-resistant drains and dust cover 9102 for middle school and high school science labs that use chemicals
3. Emergency Showers: Combination Unit HAWS 8300-8309 with emergency test kit 9010 and dust cover 9102
4. Faucets:
   a. Single-Temperature Metering: Chicago 3400-ABCP (ECAST) (3-hole, 4” centers, 4¾” spout)
   b. Single-Temperature Metering for retrofits at existing single-hole lavatories only: Chicago 333-665PSHVPAAABCP (ECAST) (single-hole, 3-3/8” spout) for use at existing single-hole lavatory retrofits only
   c. Single wrist blade handle, single-hole, deck-mounted gooseneck: Chicago 350-317VPAAABCP (ECAST)
   d. Dual wrist blade handles, single-hole, deck-mounted gooseneck: Chicago 50-317VPAAABCP (ECAST)
   e. Dual wrist blade handles, 2-hole, 8” centers, deck-mounted gooseneck: Chicago 1100-GN2AE3-317ABCP (ECAST)
5. Service Sinks:
   a. Fixture: Fiat MSB-2424 24"x24"x10" molded stone mop service basin with 3" drain
   b. Faucet: Lever style handles with hot and cold indicators, vacuum-breaker spout with garden hose thread, wall bracket, backflow preventer, chrome finish (at service sinks-custodial closets): Moen M-Dura 8124

6. Encased/Recessed Narrow Wall Hydrant: Zurn Z1350VB encased narrow wall hydrant type keyed hose bib

7. Floor or Shower Drains: Jay R. Smith 2005Y floor drain with adjustable strainer heads, vandal proof screws, nickel bronze strainer

8. Toilets, Wall-Hung – Elementary (K-5), Middle, and High School student restrooms, adult/staff restrooms:
   a. Fixtures – white vitreous china, elongated bowl, 1.28-gallon, 1½” top spud:
      i. New construction or full restroom remodel: American Standard Afwall FloWise 3351.128
      ii. Retrofit in existing wall: American Standard Afwall FloWise ADA Retrofit 3355.128
   b. Toilet Seats – 1” total thickness including bumper, stainless steel hinge, concealed check, solid plastic, open front: Bemis 1955SSCT-047 black
   c. Flush valve: Sloan Royal 111-1.28
   d. Carrier: Jay R. Smith for siphon jet toilets. Waste 4", vent 2", CW 1"

9. Toilets, Floor-Mounted:
   a. Fixtures – white vitreous china, elongated bowl, 1.28-gallon, 1½” top spud
      i. Pre-K (EES): American Standards “Baby Devoro” – Flowise: 2282.001
      ii. Elementary student restrooms (K-5): American Standards “Madera Youth” – Flowise: 2599.001 14
      iii. Middle and High School student restrooms, adult/staff restrooms: American Standard Madera FloWise 3461.128
   b. Toilet Seats – 1¾” total thickness including bumper, stainless steel hinge, concealed check, solid plastic, open front:
      i. Pre-K (EES): Bemis 126-CC white
      ii. Elementary (K-5), Middle, and High Schools, adult/staff toilets: Bemis 1955SSCT-047, black
   c. Flush valve: Sloan Royal 111-1.28. Waste 4", vent 2", CW 1"

10. Urinals:
    a. Fixtures – 1/8-gallon (1-pint)
       i. Elementary student restrooms (K-5, new construction or full restroom remodel only): Zurn Z5738.207 “The Small Pint”
       ii. Middle and High School student restrooms, adult/staff restrooms (new construction or full restroom remodel only): American Standard Washbrook FloWise 6590.125
    b. Flush valve (manual): Sloan Royal 186-0.125
c. Carrier: Manufactured by Jay R. Smith, waste 2", vent 2", CW ¾”

11. Water Heaters:
   a. Local Instantaneous Type: AO Smith, electric 10 gallon, 110 volt.
   b. Local Gas Type Heaters: AO Smith BT Series water heater.
12. Plaster Trap (for art classrooms): Zurn solid intercepter Z-1181
13. Differential Pressure Switches: Honeywell

DIVISION 16 - ELECTRICAL

CLOCK/BELL/PUBLIC ADDRESS
1. Integrated Clock/Bell/PA: Simplex 5110 Building Communication System (BCS), wired, low-voltage, with Valcom 24V round analog clocks
2. Wireless Clocks: American Time and Signal SiteSync IQ round analog clocks

FIRE ALARM SYSTEM
1. Fire Alarm Control Panel Simplex 4100ES and related addressable components:
   a. Smoke Detectors – 4098 Series
   b. Heat Detectors – 4098 Series
   d. Monitoring Modules – 4090 Series
   e. Control Modules – 4090 Series
   f. Horn/Strobe Units – 4906 Series
   g. Strobe Only Units – 4906 Series
   h. Remote Power Supplies – 4009 Series
   i. Remote Annunciator Panels – 4603 Series

SECURITY SYSTEM
1. Security Integration, Inc. Camera System
   a. Software Package SI-VI.76
   b. Digital Video Recording Management and Network Software
   c. DVR Hardware
   d. Camera models 3895IR and SI-PTZ-DN-MT
2. Door Contacts: Sentrol 2505A by GE
3. Control Panels: Ademco Vista 50P by Honeywell
4. Keypads: Ademco Alpha #6160 by Honeywell

END OF SECTION
CUPCCAA ROOFING CONTRACT FINANCIAL INTEREST CERTIFICATION
(Public Contract Code § 3006)

PROJECT/CONTRACT NO.: [PROJECT NUMBER] between San Francisco Unified School District (the “District” or the “Owner”) and _______________ (the “Contractor” or the “Bidder”) (the “Contract” or the “Project”).

I, __________________________ [Your Name], __________________________ [Firm Name] certify that I have not offered, given, or agreed to give, received, accepted, or agreed to accept, any gift, contribution, or any financial incentive whatsoever to or from any person in connection with a roof project contract or subcontract on the Project. As used in this certification, “person” means any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

I, __________________________ [Your Name], __________________________ [Firm Name] certify that I do not have, and throughout the duration of the Contract, I will not have, any financial relationship in connection with the performance of the Contract with any architect, engineer, roofing consultant, materials manufacturer, distributor, or vendor that is not disclosed below.

I, __________________________ [Your Name], __________________________ [Firm Name] have the following financial relationships with an architect, engineer, roofing consultant, materials manufacturer, distributor, or vendor, or other person in connection with the following roof project contract:

Name of firm ("Firm"): __________________________
Mailing address: __________________________
Address of branch office used for this Project: __________________________

If subsidiary, name and address of parent company: __________________________

For Projects without substantive roofing components, check the following box and execute this certification:

☐ The Work on the Contract (1) does not include the replacement or repair of a roof or (2) is a repair of twenty five percent (25%) or less of the roof, (3) or is a repair project that has a total cost of twenty one thousand dollars ($21,000) or less.
I certify that to the best of my knowledge, the contents of this disclosure are true, or are believed to be true.

Date: __________________________________________

Proper Name of Contractor: __________________________________________

Signature: __________________________________________

Print Name: __________________________________________

Title: __________________________________________

END OF SECTION
CUPCCAA IMPORTED MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: ___________ between San Francisco Unified District (“District”) and ________________________________ (“Contractor” or “Bidder”)

This form shall be executed by the Contractor and by all entities that, in any way, provide or deliver and/or supply any soils, aggregate, or related materials (“Fill”) to the Project Site. All Fill shall satisfy all requirements of any environmental review of the Project performed pursuant to the statutes and guidelines of the California Environmental Quality Act, section 21000 et seq. of the Public Resources Code (“CEQA”), and all requirements of section 17210 et seq. of the Education Code, including requirements for a Phase I environmental assessment acceptable to the State of California Department of Education and Department of Toxic Substance Control.

Type of fill:
- □ Baserock
- □ Aggregate
- □ Soil
- □ Recycled Aggregate
- □ Recycled baserock
- □ Other ________________

Certification of:
- □ Delivery Firm/Transporter
- □ Supplier □ Manufacturer
- □ Wholesaler □ Broker □ Retailer
- □ Distributor □ Other ________________

Type of Entity
- □ Corporation
- □ General Partnership
- □ Limited Partnership
- □ Limited Liability Company
- □ Sole Proprietorship
- □ Other ________________

Name of firm (“Firm”): ________________________________

Mailing address: ________________________________

Addresses of branch office used for this Project: ________________________________

If subsidiary, name and address of parent company: ________________________________

By my signature below, I hereby certify that I am aware of section 25260 of the Health and Safety Code and the sections referenced therein regarding the definition of hazardous material. I further certify on behalf of the Firm that all soils, aggregates, or related materials provided, delivered, and/or supplied or that will be provided, delivered, and/or supplied by this Firm to the Project Site are free of any...
and all hazardous material as defined in section 25260 of the Health and Safety Code. I further certify that I am authorized to make this certification on behalf of the Firm.

Date: ____________________________________________

Proper Name of Contractor: ____________________________________________

Signature: ____________________________________________

Print Name: ____________________________________________

Title: ____________________________________________

Section 25260 of the Health and Safety Code states in pertinent part that:

(d) "Hazardous material" means a substance or waste that, because of its physical, chemical, or other characteristics, may pose a risk of endangering human health or safety or of degrading the environment. "Hazardous material" includes, but is not limited to, all of the following: (1) A hazardous substance, as defined in Section 25281 or 25316. (2) A hazardous waste, as defined in Section 25117. (3) A waste, as defined in Section 470 or as defined in Section 13050 of the Water Code.

Section 25281 of the Health and Safety Code states in pertinent part that:

(g) "Hazardous substance" means either of the following: (1) All of the following liquid and solid substances, unless the department, in consultation with the board, determines that the substance could not adversely affect the quality of the waters of the state: (A) Substances on the list prepared by the Director of Industrial Relations pursuant to Section 6382 of the Labor Code. (B) Hazardous substances, as defined in Section 25316. (C) Any substance or material which is classified by the National Fire Protection Association (NFPA) as a flammable liquid, a class 11 combustible liquid, or a class 111-A combustible liquid. (2) Any regulated substance, as defined in subsection (2) of Section 6991 of Title 42 of the United States Code, as that section reads on January 1, 1989, or as it may subsequently be amended or supplemented.

Section 25316 of the Health and Safety Code states in pertinent part that:

"Hazardous substance" means: (a) Any substance designated pursuant to Section 1321 (b)(2)(A) of Title 33 of the United States Code. (b) Any element, compound, mixture, solution, or substance designated pursuant to Section 102 of the federal act (42 U.S.C. Sec.9602). (c) Any hazardous waste having the characteristics identified under or listed pursuant to Section 6921 of Title 42 of the United States Code, but not including any waste the regulation of which under the Solid Waste Disposal Act (42 U.S.C. Sec. 6901 et seq.) has been suspended by act of Congress. (d) Any toxic pollutant listed under Section 1317(a) of Title 33 of the United States Code. (e) Any hazardous air-pollutant listed under Section 7412 of Title 42 of the United States Code. (f) Any imminently hazardous chemical substance or mixture
with respect to which the Administrator of the United States Environmental Protection Agency has taken action pursuant to Section 2606 of Title 15 of the United States Code. (g) Any hazardous waste or extremely hazardous waste as defined by Sections 25117 and 25115, respectively, unless expressly excluded.

Section 25117 of the Health and Safety Code states in pertinent part that:

(a) Except as provided in subdivision (d), "hazardous waste" means a waste that meets any of the criteria for the identification of a hazardous waste adopted by the department pursuant to Section 25141. (b) "Hazardous waste" includes, but is not limited to, RCRA hazardous waste. (c) Unless expressly provided otherwise, "hazardous waste" also includes extremely hazardous waste and acutely hazardous waste. (d) Notwithstanding subdivision (a), in any criminal or civil prosecution brought by a city or district attorney or the Attorney General for violation of this chapter, when it is an element of proof that the person knew or reasonably should have known of the violation, or violated the chapter willfully or with reckless disregard for the risk, or acted intentionally or negligently, the element of proof that the waste is hazardous waste may be satisfied by demonstrating that the waste exhibited the characteristics set forth in subdivision (b) of Section 25141.

Section 13050 of the Water Code states in pertinent part that:

(d) "Waste" includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

(p)(1) "Hazardous substance" means either of the following: (A) For discharge to surface waters, any substance determined to be a hazardous substance pursuant to Section 311 (b)(2) of the Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.). (B) For discharge to groundwater, any substance listed as a hazardous waste or hazardous material pursuant to Section 25140 of the Health and Safety Code, without regard to whether the substance is intended to be used, reused, or discarded, except that "hazardous substance" does not include any substance excluded from Section 311 (b)(2) of the Federal Water Pollution Control Act because it is within the scope of Section 311(a)(1) of that act. (2) "Hazardous substance" does not include any of the following: (A) Nontoxic, nonflammable, and non-corrosive storm water runoff drained from underground vaults, chambers, or manholes into gutters or storm sewers. (B) Any pesticide which is applied for agricultural purposes or is applied in accordance with a cooperative agreement authorized by Section 116180 of the Health and Safety Code, and is not discharged accidentally or for purposes of disposal, the application of which is in compliance with all applicable state and federal laws and regulations. (C) Any discharge to surface water of a quantity less than a reportable quantity as determined by regulations issued pursuant to Section 311 (b)(4) of the Federal Water Pollution Control Act. (D) Any discharge to land which results, or probably will result, in a discharge to groundwater if the amount of the discharge to land is less than a reportable quantity, as determined by regulations adopted pursuant to Section 13271, for substances listed as hazardous pursuant to Section 25140 of the Health and Safety Code. No discharge shall be deemed a discharge of a reportable quantity until regulations set a reportable quantity for the substance discharged.

END OF SECTION
CUPCCAA 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 San Francisco Unified School District ("District") and ___________________________ ____________ (“Contractor”), whose place of business is ___________________________ _____________________________.

RECITALS:

1. District and Contractor entered into PROJECT/CONTRACT NO.: ______________ _________________ in the County of San Francisco, California.

2. The work under <Phase ___ of the> OR <the Project> Contract has been completed.

NOW, THEREFORE, it is mutually agreed between District and Contractor as follows:

AGREEMENT

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 and _______ Cents) 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, its respective agents, employees, inspectors, assignees and transferees except for the Disputed
Claim set forth in Paragraph 6 and continuing obligations described in Paragraph 8 hereof.

6. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Agreement and Release:

<table>
<thead>
<tr>
<th>Claim No.</th>
<th>Description of Claim</th>
<th>Amount of Claim</th>
<th>Date Claim Submitted</th>
</tr>
</thead>
</table>

[Insert information, including attachment if necessary]

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 indemnified parties.

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 FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS 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 * * *

SAN FRANCISCO UNIFIED SCHOOL DISTRICT

TITLE: ________________________________

NAME: ________________________________

SIGNATURE: ________________________________

CONTRACTOR

TITLE: ________________________________

NAME: ________________________________

SIGNATURE: ________________________________

END OF SECTION
CUPCCAA CERTIFICATE OF GUARANTEE / WARRANTY

We, (name of company or contractor), guarantee to maintain all Systems and warrant all Work performed under this CUPCCAA Contract at the school(s) and/or building(s) listed below for full period of time as indicated herein.

Owner of Building:  San Francisco Unified School District

School Name: _______________________________________________________________

Project Name: __________________________________________________________________

Street Address: ______________________________________________________________

City:  San Francisco           State:  California

City:  San Francisco           State:  California

This GUARANTEE/WARRANTY is effective this ___________________________ day of
___________________, ____ for term of two (2) year(s) from this date, provided any defects
result from defective material or workmanship and are not caused by other mechanics, fire,
accidents or by acts of Providence over which we have no control.

For fire and life safety related work which includes but is not limited to fire alarm, fire sprinkler,
emergency lighting, exit lighting, and exiting pathway systems such as: (elevator, wheelchair lifts,
etc.) the subcontractor and General Contractor shall adhere to following statement, “in the event
of our failure to respond and act within 3 hours after being notified in writing by the
District, we authorize the District to proceed to have the defects repaired or replaced and
made whole, together with any other adjacent work which may be displaced or damaged
by so doing, at our expense, and we will honor and pay the costs and charges therefore
upon demand. This work shall not invalidate any and all warranties and guarantees.”

_______________________________________  _____________________________
(Signature)  CSBL # _____________________________

_______________________________________  _____________________________
(Title)  (Company Name)

_______________________________________  _____________________________
(Date)

_______________________________________  _____________________________
(Signature)  (Company Name)
ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of _____________________________

On ______________________ before me, _________________________________________
(insert name and title of the officer)

personally appeared ______________________________________________________________,

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

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature ___________________________________ (Seal)
CUPCCAA SPECIAL CONDITIONS

1.1 Application of Special Conditions. These Special Conditions are a part of the Contract Documents for the Work generally described as: Gordon J Lau ES Green Schoolyard Project.

1.2 Contract Time/Milestone Schedule and Description of Phases

All Phase times indicated are from start of Contractor’s access to work area to Beneficial Occupancy for each Phase. All punch list work shall be completed within 30 days of Beneficial Occupancy for each phase.

Contract Time and Milestone Schedule:

- Notice To Proceed (NTP): 3/11/20
- Phase 1: 3/11/20 – 6/2/20 (Last Day of School)
- Phase 2: 6/3/20 – 8/3/20
- Beneficial Occupancy: 8/3/20
- Final Completion: 9/2/20. 175 calendar days from Notice to Proceed. Thirty (30) calendar days from the end of the last phase.

Description of Phase 1 (3/11/20-6/2/20)
The work includes, but is not limited to:
- Submittals
  Contractor to provide all required submittals within the specified timeline in Section 01 33 00 Submittals Procedures
- Procurement
  Contractor shall proceed to procure materials and equipment that are long lead items.
- No onsite work

Description of Phase 2 (6/3/20-8/3/20)
The work includes, but is not limited to:
- Onsite mobilization
- Demolition and site clearing
- Soil work including grading, amending and off-haul
- Hazmat abatement
- Green infrastructure work
- Install site furnishings
- Concrete and asphalt work and/or repair
- Carpentry work
- Landscape and site improvements

1.3 Description of General Phasing Requirements:
A. These descriptions of the phases are general in nature and in no way offer the complete and concise description of all the work required by the Contract Documents.

B. The start dates represented in the milestone schedule are preliminary and the District reserves the right to modify these dates based on when the Notice to Proceed is issued.

C. The Contractor is responsible for providing the manpower and scheduling the shifts necessary to complete the work in accordance with the Contract Time and Milestone Schedule.

D. The School will remain open during the academic year. The Work of this project must take into account that the site will be occupied by students and staff and will be phased as generally described above and in other contract documents.

E. Non-School hours are defined as hours before 7:00 AM, and after 3:30 PM on days when school is in session.

F. Hazmat work prohibited between 7:00 AM and 6:00 PM. Haz-Mat Abatement cannot be performed while students or school staff is on site.

G. Follow City of San Francisco Noise Ordinance.

H. Work that is hazardous, noisy, or that causes vibration may not be performed in the buildings or on the site during school hours, without written approval from the District Representative. This includes but is not limited to the following work activities:
   1. Haz-Mat Abatement
   2. Concrete bushing, chipping, grinding, jack hammering.
   3. The use of Powder-Actuated (PAT’s)
   4. Floor grinding to remove adhesive.
   5. Chemicals used in quantities that cause excessive odor and can not be effectively ventilated. As determined by the Owners Representative.
   6. Wall tile removal. Hand scraping or chipping may be acceptable as approved by the Owners Representative.
   7. Electric Tile Cutter, may be used if isolated in a temporary sound deadening room constructed by the Contractor as approved by the Owners Representative.
   8. Large impact drills for use in concrete.
   9. Smaller Bulldog type impact drills for ¼” holes or less.
   10. Operation of cranes in occupied areas, including drilling rigs, and concrete pump trucks unless the occupants can be sufficiently isolated from the swing zone.
   11. Chop Saws for metal studs or other metal cutting. These may be used if isolated in a temporary sound deadening room constructed by the Contractor as approved by the Owner’s representative.
   12. The use of abrasive or “hot” saws to cut steel decking.
   13. Earthwork compaction, including the operation of vibratory compaction equipment.

I. School Academic Testing: No work which creates noise or a vibration in the structure which can be heard and/or felt in occupied classrooms may be done on the following dates between 7:00 a.m. and 12:30 p.m. due to academic testing.
These dates are approximate and Contractor shall confirm each school with the District during the school year

1. English Learners: 3 days between September and October.
2. Student Testing: 15 days between April and May.
3. Other Testing: To be verified with the District

J. All work remaining on a phase after the Beneficial Occupancy date of that phase shall be done during non-school hours.

K. Temporary hard barriers as necessary for each phase shall be constructed prior to the start of each phase of work. On a site plan indicate lay down areas, pedestrian walkways, and contractor parking areas Snow fencing is not acceptable as hard fencing. The Contractor shall submit diagrams for each phase one week prior to start of construction of that phase, indicating the construction zone, and barricades and access for students and School Personnel, for approval by the District Representative. The Contractor must provide and maintain access and code compliant egress to and from all occupied spaces. Contractor shall post temporary signage (appropriate and secure) shall be posted to redirect students and staff for emergency exiting.

L. The Contractor shall diligently maintain all construction zone barricades and fencing. Fence panels shall be secured with two fence clamps per joint. The Contractor shall secure end panels in a manner acceptable to the District Representative. The use of tie wire will not be an acceptable method for securing fence panels. Construction zone gates shall be secured with chains and District provided padlocks.

M. When school is in session any work that occurs in the building and cannot be safely segregated from students must be performed during non-school hours.

N. The existing fire alarm system shall remain operational twenty four (24) hours/day, seven (7) days/week. If at any time during the Project the existing fire alarm system is not fully operational, the Contractor, at its own expense, shall provide a “Fire Watch” acceptable to the District Representative and San Francisco Fire Department or install temporary devices including smoke and/or heat detectors and horn/strobes. Temporary devices shall be no less than 25 feet from an exit door and no further than 75 feet between devices and shall be programmed into the Fire Alarm Control Panel. Wiring for temporary devices may be secured/fastened to the wall and/or ceiling and is not required to be in conduit. All temporary devices shall be removed from programming when permanent fire alarm system is in place, tested, and accepted as fully operational.

O. Liquidated damages are assessed per phase.

P. The Contractor’s Construction Schedule shall reflect the work sequence and time period for each phase of the Project.

Q. Contractor to verify the dates and obtain approval for the timing, demolition, and construction of the Work in each area and phase with the District.

R. The Work of each phase shall include the building or buildings indicated (if applicable) and the adjacent site work required for safe access and egress for District Occupancy at Beneficial Occupancy of each phase.

S. The Contractor shall carefully review the Drawings and other Contract Documents to fully understand the interdependency of the phases, the buildings, and the site work.
T. Work on weekends, evenings or holidays may be required to meet the project phasing schedules. Provide 72 hours notification to the District representative to ensure necessary inspections, monitoring, testing, etc. are provided during these work hours.

U. The District may withhold payments for late submittals. The District is willing to consider alternate means of phasing the project proposed by the Contractor. The acceptance of any alternate means of phasing is at the sole discretion of the District.

V. The District may withhold payments for late submittals.

1.4 **Liquidated Damages**

A. **Beneficial Occupancy:** The delayed Beneficial Occupancy of any phase of the Work will result in the assessment and withholding of Liquidated Damages for each day of delayed Beneficial Occupancy beyond the Contract Time for Beneficial Occupancy of that phase of the Work in the amount of $1,000 per day. **Final Completion.** The delayed Final Completion of the Work will result in the assessment and withholding of Liquidated Damages for each day of delayed Final Completion beyond the Contract Time for Final Completion of the Work in the amount of $500 per day until all punch list items are completed.

1.5 **Prevailing Wages:** Contractor shall pay and shall cause to be paid each worker engaged in Work on the Project not less than the general prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations (“DIR”) (“Director”), regardless of any contractual relationship which may be alleged to exist between Contractor or any Subcontractor and such workers. Companies that manufacture and deliver ready-mixed concrete directly to construction sites using their own drivers, are not subject to this requirement pending the final adjudication of *Allied Concrete & Supply Co., v. Edmund Gerald Brown Jr., et al.*, United State District Court, Central District of California, Case. No. 2:16-CV-04830-RGK (FFM).

1.6 **Building 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.

A. Upon request, the District may, at its own discretion, provide a master key 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 master key is lost or stolen or if any unauthorized party obtains a copy of the key or access to the school.

1.7 **Utility Work.**
A. 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.

B. The Contractor shall maintain in operation during duration of Contract, drainage lines, storm drains, sewers, water, gas, electrical, steam, irrigation systems and other utility service lines (including but not limited to low voltage systems and fire sprinkler systems) within working area.

1.8 **Weather Days.** Delays due to adverse weather conditions will only be permitted in compliance with the number of days of adverse weather exceeds the following parameters and only if Contractor can verify that adverse weather caused delays exceeds the following number of working days:

January, [11]; February [10]; March [10]; April [6]; May [3]; June [1]; July [0];
August [0]; September [1]; October [4]; November [7]; December [10].

1.9 **Standardized Forms.** Each and every document generated and/or submitted by the Contractor relating to cost breakdowns, applications for payment, change order requests, requests for information, submittals, verified reports, progress reports, and all other matters relating to the administration of the Work as set forth in the General Conditions, shall be prepared by the Contractor on such forms as may be directed by the District. Unless otherwise expressly provided for in the Contract Documents, all such documents shall be submitted to the District with such frequency as the District may require in its sole reasonable discretion.

1.10 **District Tests/Inspections.** Pursuant to section “Testing and Inspection”, within fourteen (14) calendars days of the date of award of the Contract, the Contractor, the District, and the Architect shall meet and confer to establish, by mutual agreement, the specific tests/inspections to be conducted by or on behalf of the District and to establish limits on costs incurred by the District to complete such test/inspections. If mutual agreement is not reached as to tests/inspections to be completed by or on behalf of the District or the limitations on the District’s costs to complete such tests/inspections, the Architect shall issue a final binding determination. The Contractor shall be responsible for all costs of tests/inspections exceeding those established pursuant to the provisions of Title 24, Part 1, Section 4-355(b).

1.11 **Allowed Number of Hazardous Material Abatement Shifts.** Within the overall construction schedule, the total allotted time for completion of all identified hazardous material abatement work of the Project shall be limited to the number of work shifts (of stated duration) specified in Appendix A. The Contractor shall be responsible for all additional Environmental Consultant and analytical laboratory costs associated with exceeding the specified total number of work shifts allowed.

1.12 **Identification Vests/Badges.**
A. The District reserves the right to require the Contractor to do the following:

No employee or independent contractor to the Contractor or any Subcontractor, of any tier, shall be permitted access to the Site at any time unless such individual wears, in a prominent visual manner, a photographic identification badge issued by the District. The identification badge shall be prominently worn at all times while at the Site. Any person performing any Work at the Site without wearing a duly issued District photographic identification badge will be immediately removed from the Site. The District will issue photographic identification badges only to those individuals who are identified on a Fingerprinting Certification of the Contractor or a Subcontractor. The photographic identification badges are the sole and exclusive property of the District. The Contractor shall promptly return to the District each photographic identification badge once an employee or independent contractor to the Contractor or any Subcontractor of any tier has completed his Work at the Site or is absent from the Site for a period of thirty (30) consecutive days, whichever first occurs.

All cost associated with this requirement are at the Contractors expense.

B. No employee or independent contractor to the Contractor or any Subcontractor, of any tier, shall be permitted access to the Site at any time unless such individual wears, in a prominent visual manner, a safety vest that has been approved by the District. All vests must include the General Contractors company logo, with an area is at least 144 square inches. Any person performing any Work at the Site without wearing an approved safety vest will be immediately removed from the Site.

C. The Contractor’s compliance with the requirements of this Paragraph and/or the District’s enforcement of the requirements of this Paragraph shall not result in adjustment of the Contract Time or the Contract Price.

1.13 **Parking:** The Contractor is responsible for off-site parking for their personnel. The Contractor is not permitted to park any vehicles on campus. **Catering Trucks:** No catering trucks are permitted on District property.

1.14 **Systems Survey.** In the presence of the District Representative the contractor will perform a survey of all the fire alarm, phone, data, power outlets, P/A system (public address system) clocks/bells, thermostats, building management system controls, and security systems in each room prior to the start of each phase. Any testing that might affect other portions of the school must be completed during non-school hours. Each outlet and/or device is to be checked and tested to verify that they are working. The survey will be submitted and reviewed by the District Representative prior to the start of demolition for each phase.

1.15 **Emergency Shut off Survey.** Before construction begins Contractor shall field survey the building/buildings and site and contact the appropriate SFUSD personnel to develop an Emergency Shut-off Plan. The plan will show graphically all shut-off locations for utilities clearly identified along with any special instructions and
contact procedures. The plan will include an emergency contact list for the Contractor, SFUSD Project Manager, Construction Manager, Building and Grounds, Fire Department, PUC, PG & E and Water District. The Contractor shall assemble any specialty tools required and keys for any locked areas. The Emergency Shut-off Plan shall be posted in Contractor’s construction office with a copy of all items to be located in the CM office.

1.16 **Theatrical Equipment and Furnishings.** The Contractor is prohibited from using any existing theatrical equipment and furnishings in the auditorium and/or multi-purpose room during construction. The Contractor is required to protect and/or remove theatrical equipment and furnishings as directed by the District and at their own expense. The Contractor, at its own expense will provide any and all temporary lighting necessary to accomplish the work.

1.17 **District Standards.** In accordance with California Public Contract Code, a designee of the District has made a finding that particular materials, products, things, and/or services are to be designated in the Contract Documents by specific brand or trade name for the following purpose: in order to match other products in use on a particular public improvement either completed or in the course of completion (“District Standards”). The District Standards are set forth in Section 00 01 13 San Francisco Unified School District Construction Standards. The particular materials, products, things, and/or services designated in the District Standards shall be used in the Work.

1.18 **Web-Based Project Management Software (PMS).**

A. **Purpose**
   PMS will be used to facilitate communication and track project documentation among the SFUSD Team Members and the Contractor. The Contractor shall utilize the collaborative tool as directed by the District. The Contractor shall participate in all required training as needed to assure the tool is used as intended.

B. **Scope**
   Communications not pertaining to the job established over the provided internet connection are not permitted. This includes but is not limited to the use of internet radio, streaming audio/video, personal instant messaging software, and other similar chat programs.

   PMS will be used to log and track project related documents that include but are not limited to; Contractor request for information (RFI), Architect’s supplemental instructions (ASI), submittals, change orders, project transmittals, Contractor daily logs, Daily sign-in sheets, meeting notes, and request for inspections.

C. **General Guidelines and Use**
   PMS program may only be used by individuals who are members of SFUSD Team, and only for purposes that are consistent with the requirements and
objectives of the SFUSD project. Use of the site is contingent upon compliance with the following rules of usage:

- Members must protect their login account and password information from unauthorized disclosure.
- Members may only use PMS for legitimate purposes related to this project. Members may not use the site for non-project commercial purposes or personal purposes.
- Members shall abide by the Guidelines in this document. Specifically, members shall not alter the organization or structure of the site without first consulting with the website Coordinator.
- Members may not send harassing, offensive, unlawful, fraudulent, abusive, libelous or threatening messages in any form to another member or outside party using the site. Use of vulgar language and obscenities, and the uploading or viewing or distributing of pornographic materials through the site is strictly prohibited.

1.19 The Environmental Protection Agency (EPA) regulation 40 CFR Part 745 became fully effective June 23, 2008 which requires all firms, including sub-contracted firms who impact lead-based paint (LBP) at Child Occupied Facilities to be EPA certified; have an EPA “Certified Renovator”; provide “on-the-job” training for workers; conduct pre-renovation notifications; follow specific work practice procedures for containment, disturbance and final clean-up; and inspection requirements. Renovation is defined as the modification to any existing structure or portion that results in the disturbance of LBP surfaces, unless the activity is performed as part of an abatement. This regulation includes all work and/or construction activities that disturb LBP surfaces. 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.)

1.20 **Storm Water Permits**

(1) Contractor shall perform the Work of the Project related to being District’s Qualified SWPPP (Storm Water Pollution Prevention Plan) Practitioner (“QSP”).

(2) As District’s QSP, Contractor shall be responsible for storm water and non-storm water visual observations, sampling, and analysis per the District’s SWPPP.

(3) Contractor shall strictly follow the requirements to implement all the provisions of the SWPPP including, without limitation, preparation of monitoring and recording reports and providing those to District.
(4) Contractor’s indemnity obligations are applicable to any damages, penalties, fees, charges, or related expenses assessed or charged to the District by any water boards or agencies with jurisdiction related to compliance with the Storm Water Permits.

END OF SECTION
CUPCCAA - TESTING and INSPECTIONS

PART 1 - GENERAL

1.1 SUMMARY:
   A. Section Includes: Testing laboratory services and inspections required during the course of construction and per the requirements of the Division of the State Architect.
   B. Related Documents: The Conditions of the Contract and other sections of Division 1 apply to this section as fully as if repeated herein.

1.2 TESTS:
   A. General: Refer to the General Conditions Article 13.05.
   B. The District will select a qualified independent testing laboratory to perform tests and special inspections. Material required to be tested will be selected by the laboratory or the District's Project Inspector and not by the Contractor.
   C. The Contractor shall notify the District's Project Inspector a minimum of 5 working days in advance of the manufacture of material to be supplied by him under the Contract Documents, which must by terms of the Contract be tested, in order that the District may arrange for the testing of such material at the source of supply.
   D. Material shipped by the Contractor from the source of supply before having satisfactorily passed such testing and inspection or before the receipt of notice from said Inspector that such testing and inspection will not be required, shall not be incorporated in the Project.
   E. The District will select and pay testing laboratory costs for all tests and inspections, but may be reimbursed by the Contractor for such costs under the Contract conditions. Any direct payments by the Contractor to the testing laboratory on this project is prohibited.
   F. The Contractor, at its own expense, is responsible to make all repairs necessary related to destructive testing.

1.3 TESTING LABORATORY/TESTING AGENCY:
   A. Testing and inspections will be performed by an independent testing laboratory selected and employed by the District and approved by the
Division of the State Architect (DSA). Qualification of a testing agency or laboratory will be under the jurisdiction of the DSA Structural Safety Section (SSS). Procedural and acceptance criteria are set forth in the 2013 California Building Code (CBC).

B. Testing and inspection services that are performed shall be in accordance with requirements of the 2013 CBC, and as specified herein. Testing and inspection services shall verify that work meets the requirements of the Contract Documents.

C. In general, tests and inspections for structural materials shall include, as a minimum, all items enumerated on the Structural Tests and Inspections list for this project as prepared and distributed by the Architect.

D. Test reports shall be signed by a Registered Civil Engineer licensed in the State of California.

1.4 PAYMENTS:

A. Costs of initial testing and inspection, except as specifically modified herein, or specified otherwise in technical sections, will be paid for by the District, providing such testing and inspection indicates compliance with Contract Documents. Initial tests and inspections are defined as the first tests and inspections as herein specified.

B. In the event a test or inspection indicates failure of a material or material placement to meet requirements of Contract Documents, the Contractor shall bear costs of correcting the rejected Work, including additional testing, inspections, and compensation for the Project Inspector’s or the Architect’s services and expenses made necessary thereby. All costs will be paid by the District and back charged to the Contractor.

C. Additional tests and inspections not herein specified but requested by District or Architect, will be paid for by District, unless results of such tests and inspections are found to be not in compliance with Contract Documents, in which case the District will pay all costs for initial testing as well as retesting and reinspection and back charge the Contractor.

D. Costs for additional tests or inspections required because of change in materials being provided or change of source or supply will be paid by District and back charged to the Contractor.

E. Costs for tests or inspections which are required to correct deficiencies will be paid by the District and back charged to the Contractor.

F. Cost of testing and cost of salaried District employee’s working day or night, which is required solely for the convenience of Contractor in his scheduling
and performance of work, will be paid by the District and back charged to the Contractor.

G. Overtime costs for testing and inspections performed and District employees required to work outside the regular work day hours, including weekends and holidays, will be paid for by the District and back charged to the Contractor. Such costs include overtime costs for the District's employees and Project Inspector and Testing Agency personnel.

H. Testing Laboratory will separate and identify on the invoices, the costs covering all testing and inspections that are to be back charged to the Contractor as specified above.

I. Testing Laboratory will furnish to District a cost estimate breakdown covering initial tests and inspections required by Contract Documents. Estimate will include number of tests, man-hours required for tests, field and plant inspections, travel time, and costs.

1.5 TEST AND INSPECTION REPORTS:

A. Testing Laboratory will certify in writing that all work specified or required to be tested and inspected conforms to drawings, specifications and applicable building codes.

B. Each and every test or inspection report shall bear the official File Number and Application Number assigned to this project by the DSA.

C. The Testing Laboratory will make the following distribution of test and inspection reports:

<table>
<thead>
<tr>
<th>Distribution</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>School District</td>
<td>1</td>
</tr>
<tr>
<td>Architect</td>
<td>2</td>
</tr>
<tr>
<td>District’s Representative</td>
<td>1</td>
</tr>
<tr>
<td>Structural Engineer</td>
<td>1</td>
</tr>
<tr>
<td>General Contractor</td>
<td>1</td>
</tr>
<tr>
<td>District Project Inspector</td>
<td>1</td>
</tr>
<tr>
<td>Division of the State Architect</td>
<td>1</td>
</tr>
</tbody>
</table>

D. Test reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of the CBC, and with the approved specifications. They shall also state definitely whether or not the material or materials tested comply with requirements.
1.6 FINAL VERIFIED REPORTS:

A. Each testing agency shall submit to the DSA a verified report covering all tests that are required to be made by that agency during the progress of the project. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project. In addition, each special inspector, approved by DSA for such inspection as structural steel/welding and masonry shall submit a Final Verified Report to DSA.

1.7 REPORTING TEST FAILURES:

A. Immediately upon determination of a test failure, the Laboratory will telephone the results of test to Architect. On the same day, Laboratory will send written test results to those named on above distribution list.

1.8 AVAILABILITY OF SAMPLES:

A. Contractor shall make materials required for testing available to Laboratory and assist in acquiring these materials as directed by the District’s Project Inspector. The samples shall be taken under the immediate direction and supervision of the Testing Laboratory or Inspector.

B. If work that is required to be tested or inspected is covered up without prior notice or approval, such work may be uncovered at the discretion of Architect at no additional cost to the District. Refer to paragraph "Payments" herein.

C. Unless otherwise specified, Contractor shall notify Project Inspector a minimum of 10 working days in advance of all required tests, and a minimum of 2 working days in advance of all required inspections. All extra expenses resulting from a failure to notify the Laboratory will be paid by the District and back charged to the Contractor.

D. Contractor shall give sufficient advance notice to Project Inspector in the event of cancellation or time extension of a scheduled test or inspection. Charges due to insufficient advance notice of cancellations or time extension will be paid for by the District and back charged to the Contractor.

1.9 REMOVAL OF MATERIALS:

A. Unless otherwise directed, materials not conforming to the requirements of Contract Documents shall be promptly removed from the Project site.
1.10 INSPECTION BY THE DISTRICT:

A. The District's Inspector shall at all times have access for the purpose of inspection to all parts of the work and to the shops wherein the work is in preparation, and the Contractor shall at all times maintain proper facilities and provide safe access for such inspection.

B. The District shall have the right to reject materials and workmanship that are defective, or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without charge to the District. If the Contractor does not correct such rejected work within a reasonable time, fixed by written notice, the District may correct such rejected work and charge the expense to the Contractor.

C. Should it be considered necessary or advisable by the District at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out the completed work, the Contractor shall on request promptly furnish necessary facilities, labor and materials. If such work is found to be defective in any respect due to fault of the Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor.

1.11 DISTRICT'S PROJECT INSPECTOR:

A. A Project Inspector employed by the District in accordance with the requirements of the California Building Code will be assigned to the work. His duties are specifically defined in CCR Title 24 Part 1.

B. The Contractor shall notify the Project Inspector a minimum of 2 working days in advance of execution of all work that requires inspection.

C. The work of construction in all stages of progress shall be subject to the personal continuous observation of the Project Inspector. He shall have free and safe access to any or all parts of the work at any time. The Contractor shall furnish the Project Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.

PART 2 - PRODUCTS  (Not Used)
PART 3 - EXECUTION

3.1 TESTS AND INSPECTIONS:

A. All tests and inspections required in accordance with the DSA approved structural testing and inspection form (SS-103), or as required by the Division of the State Architect during the course of the work. All tests and inspections shall also conform to the edition of the California Building Code applicable to this contract.

3.2 EARTHWORK:

A. The Geotechnical Engineer of record or a Geotechnical Engineer selected by the District will provide continuous inspection of fill and will field test fill and earth backfill as placed and compacted, and inspect excavations and subgrade before concrete is placed and provide periodic inspection of open excavations, embankments, and other cuts or vertical surfaces of earth. The Geotechnical Engineer will submit a report indicating that he has observed and tested fills and that in his opinion the fills were placed in accordance with the project specifications.

B. Contractor shall remove unsatisfactory material, re-roll, adjust moisture, place new material, or in the case of excavations, provide proper protective measures, perform other operations necessary, as directed by the Geotechnical Engineer whose decisions and directions will be considered final.

C. Soils Test and Inspection Procedure:

1. Allow sufficient time for testing, and evaluation of results before material is needed. The Geotechnical Engineer shall be sole and final judge of suitability of all materials.

2. Laboratory compaction tests to be used will be in accordance with the latest ASTM standards.

3. Field density tests will be made in accordance with the latest ASTM standards.

4. Number of tests will be determined by Geotechnical Engineer. Materials in question may not be used pending test results.

5. Excavation and embankment inspection procedure. Geotechnical Engineer will visually or otherwise examine such areas for bearing values, cleanliness and suitability.
6. Earthwork Test Reports: In order to avoid misinterpretations by the reviewing agencies, all retest results shall be reported on the same sheet, immediately following the previous failure test to which it is related. Retests shall be clearly noted as such.

3.3 PILE DRIVING INSPECTION:

A. The District’s Geotechnical Engineer will provide continuous inspection of pile operations and shall maintain a record for each pile. Records shall include the following information for each pile:

1. Project name and location.
2. Contractors name.
3. Piling installers’ name.
4. Actual pile location and code identification number.
5. Pile dimensions and actual depths.
6. Pile deviations.
7. All unusual occurrences during pile installation.
8. Concrete tests.

3.4 TESTING OF CONCRETE:

A. Concrete Mix Design:

1. The District will pay for the sampling of aggregate and preparation of mix design one time for each strength and aggregate size specified. Testing cost for additional mix designs will be paid by the District and back charged to the Contractor. Continuous plant inspection and all tests of materials will be paid by the District, but the Contractor will be back charged for all tests performed on materials that do not meet specification requirements. Two copies of the mix designs shall be filed with the Architect for record purposes only, not for review or approval.

2. Test concrete aggregates for mix design only.

3. Deliver samples of approved aggregate to Project for comparison with material delivered, if job mixed concrete is used.

4. Test suitability of aggregates in accordance with latest ASTM standards if material is under suspicion and if so directed by Architect or DSA.

B. If compressive test of core specimens fail to show compressive strength specified, remove and replace concrete or adequately strengthen in a manner acceptable to Architect and DSA.
C. Make all tests, take samples, and prepare samples in accordance with the latest adopted standards by American Society for Testing and Materials, referred to as ASTM.

D. Concrete mixed at certified automatic concrete batch plants shall have quality control as follows:
   1. Laboratory designed mixes using adequate cement factors.
   2. Continuous batch plant inspection (unless waived).
   3. The batch plant shall provide legible compliance certificate for all batches for the days concrete supplied.
   4. Legible weighmaster's certificates shall be provided the Project Inspector for all structural and nonstructural concrete in accordance with DSA.

E. Concrete mixed at non-certified plants shall have quality control as follows:
   1. Laboratory designed mixes using adequate cement factors.
   2. Continuous batch plant inspection.
   3. Measure all water, including wash water, so total on truck does not exceed 95 percent maximum allowed in mix design.
   4. Legible weighmaster's certificates shall be provided the Project Inspector for all structural and nonstructural concrete in accordance with DSA.
   5. The batch plant shall provide legible compliance certificate for all batches for the days concrete supplied.
   6. At end of job, furnish affidavit to DSA on form provided, certifying that all concrete furnished conforms to requirements of the CBC.

F. Waiver of Batch Plant Inspection: Continuous batch plant inspection may be waived if the concrete plant fully complies and meets the requirements of the CBC and has been certified to comply with the requirements of the National Ready Mixed Concrete Association. The plant must be equipped with an automatic batcher in which the total batching cycle, except for the measuring and introduction of an admixture, is completed by activating a single starter device.

G. District's Project Inspector will do the following:
   1. Inspect placing of reinforcing steel and concrete at Project.
2. Obtain weighmaster’s certificate and identify mix before accepting each load. Keep daily record of concrete placement, identifying each truck load, time of receipt, and location of concrete in structure. Keep record until completion of Project and make available for inspection by DSA field engineer.

   a. Obtain the batch’s compliance certificate for the day from the last batch.

3. During progress of work, take reasonable number of test cylinders as directed by Architect, but at least one set of cylinders for each 50 cubic yards or fractional part thereof for each class of concrete and at least one set from each day's placing or placement. Test cylinders need not be made for concrete used in walks.

4. One set of cylinders shall consist of 4 samples and 1 spare all taken from same batch, one to be tested at age of 7 days and two at 28 days.

5. Make and store cylinders according to the latest ASTM standards.

6. Store cylinders in a suitable protected environment for pick up by laboratory personnel.

7. Make slump test of wet concrete according to test for slump of portland cement concrete, latest ASTM standard, at least at the same frequency that the cylinders are taken. Measure ambient and concrete temperatures.

3.5 **REINFORCING STEEL:**

A. **Tests:**

   1. Tests shall be performed from the steel at the Project site upon delivery. Steel not meeting specifications shall be returned to the supplier.

   2. Testing procedure shall conform to the latest ASTM standards.

   3. Sample at the Jobsite: Make one tensile test and one bending test from samples out of 10 tons, or fraction thereof, of each size and kind of reinforcing steel, where taken from bundles as delivered from the mill and properly identified as to heat numbers. Mill analysis shall accompany report. Where identification number cannot be ascertained, or where random samples are taken, make one series of tests from each 2-1/2 tons, or fraction thereof, of each size and kind of reinforcing steel. Tests on unidentified reinforcing steel will be paid by the District and backcharged to the Contractor. Samples shall
include not fewer than 2 pieces, each 18 inches long, of each size and kind of reinforcing steel. Inspection of welding of reinforcing steel shall be done by a specially qualified laboratory inspector and tested in accordance with the latest AWS standards.

B. District's Project Inspector will inspect all reinforcement for concrete work for size, dimensions, locations and proper placement. Special inspector shall be present during welding of all reinforcing steel.

1. The mill certification papers shall be delivered with each load of steel. If this procedure is not followed the steel will be rejected and shall be returned to the supplier.

3.6 MASONRY:

A. Inspection:

1. Masonry work shall be continuously inspected during laying and grouting by a Project Inspector specially approved for that purpose by the DSA. The Project Inspector shall make test specimens and perform such tests as are required.

2. The Project Inspector shall check masonry materials, details of construction and construction procedure. The Project Inspector shall furnish a verified report that of his own personal knowledge the work covered by the report has been performed and materials used and installed are in accordance with and in conformance to, the duly approved drawings and specifications.

B. Masonry Tests:

1. Concrete Masonry Units: Test each type of unit for strength in accordance with the CBC; for absorption in accordance with the latest ASTM standards; for drying shrinkage in accordance with the latest ASTM standards; and for staining materials in lightweight masonry concrete in accordance with the latest ASTM standards.

2. Mortar and Grout Tests: At the beginning of all masonry work, at least one test sample of the mortar and grout shall be taken on 3 successive working days and at least at one week intervals thereafter. The samples shall be continuously stored in moist air until tested. They shall meet the minimum strength requirement given in the CBC Title 24. Additional samples shall be taken whenever any change in materials or Project conditions occur or whenever in the judgment of the Architect or the DSA, such tests are necessary to determine the quality of the material. Test specimens for mortar and grout shall be made as set forth in accordance with the CBC. In making the mortar test specimens the mortar shall be taken from the unit soon after
spreading. After molding, the molds shall be carefully protected by a covering that shall be kept damp for at least 24 hours, after which the specimens shall be stored and tested as required for concrete cylinders. In making grout test specimens, an absorbent paper liner shall be used and the mold left in place until the specimen has hardened. The prisms shall be stored as required for concrete cylinders. They shall be tested in the vertical position.

3. Masonry Core Tests: In accordance with California Building Code. Shear testing apparatus shall be of a design approved by DSA. Visual examination of all cores shall be made to ascertain if the joints are filled. The District’s Project Inspector or testing agency shall inspect the coring of the masonry walls and shall prepare a report of coring operations for general distribution. Such reports shall include the total number of cores cut, the location, and the condition of all cores cut on the Project regardless of whether or not the core specimens failed during cutting operation. All cores shall be submitted to the laboratory for examination.

3.7 STRUCTURAL STEEL:

A. Mill certificates or affidavits and manufacturers’ certification shall be supplied to the Testing Laboratory and Project Inspector for verification of steel materials. Testing Laboratory shall be notified at least 2 working days in advance of fabrication and supplied with the reports so the Special Inspector can make a shop inspection of the steel material identification.

B. Tests of Steel Materials: If structural steel cannot be identified by heat or melt numbers, or if its source is questionable, not less than one tension test and one bend test will be made for each 5 tons or fractional part thereof. Such testing shall be paid for by the District and backcharged to the Contractor. Structural steel identified by heat or melt numbers marked at the mill need not be tested, except testing is required of steel with \(F_y\) greater than 36 ksi.

C. General Inspection:

1. Testing Laboratory will visit the fabricator's plant to verify that materials used check with the mill tests, affidavits of test reports, and that fabrication and welding procedures meet specifications.

2. Testing Laboratory will visually check fabricated steel against the contract drawings and reviewed shop drawings for compliance, and will make physical tests and measurements as required to meet the specifications. Single pass fillet welds may be visually checked.

3. Inspection of Shop Fabrication: Continuous or periodic inspection of shop fabrication may be required for important work if so designated.
on the Structural Tests and Inspections list. This inspection shall be made by a qualified inspector approved by the DSA. He shall furnish the Architect and the DSA a report duly verified by him that the materials and workmanship conform to the approved plans and specifications.

4. Fabricators: In addition to welding inspection, fabrication inspection will be required for all work done on the premises of a steel fabricator who does not hold a currently valid certificate CCR Title 24 Part 2, Approved Fabricators. The cost of the fabrication inspection will be paid by the District and backcharged to the Contractor.

5. Inspection of welding shall be in accordance with the requirements of all applicable codes in accordance with the latest AWS standards, and FEMA Guidelines.

6. Erection Inspection: If so designated on the Structural Tests and Inspections list, Testing Laboratory will visually inspect bolted and field welded connections, perform such additional tests and inspections of field work as are required by the Architect and prepare test reports for the Architect's review. Field inspection will be continuous or periodic per project requirements.

7. Shop Fabrication Inspection Outside of Area: The added cost of shop fabrication inspection, and material testing outside the nine (9) San Francisco Bay Area Counties will be paid by the District and backcharged to the Contractor.

8. Special inspection for high strength bolting will be provided by the Testing Laboratory. Inspection shall be in accordance with AISC Specification for Structural Joints Using the latest ASTM standard.

9. Ultrasonic Testing: All complete joint penetration and partial penetration multi-pass groove welds shall be subject to ultrasonic testing in accordance with the latest AWS standards.
   a. Defective welds shall be repaired and retested with ultrasonic equipment.
   b. Initially, all multi-pass groove field welds shall be tested at the rate of 100 percent of each individual welder. If rejectable defects occur in less than 5 percent of the welds tested, the frequency of testing may be reduced to 25 percent. If the rate of rejectable defects increases to 5 percent or more, 100 percent testing shall be reestablished until the rate is reduced to less than 5 percent. The percentage of rejects shall be calculated for each welder independently.
c. When ultrasonic indications arising from the weld root can be interpreted as either a weld defect or the backing strip itself, the backing strip shall be removed at the expense of the Contractor, and if no root defect is visible, the weld shall be retested. If no defect is indicated on this retest, and no significant amount of the base and weld metal have been removed, no further repair or welding is necessary. If a defect is indicated, it shall be repaired at the Contractor's expense.

10. The ultrasonic instrumentation shall be calibrated by the technician to evaluate the quality of the welds in accordance with the latest AWS standards.

11. Should defects appear in welds tested, repairs shall be similarly inspected at the Contractor's expense and at the direction of the Architect until satisfactory performance is assured.

12. Other methods of inspection, for example, X-ray, gamma ray, magnetic particle, or dye penetrant, may be used on welds if felt necessary by the Architect.

D. Inspection and Tests for End Welded Studs:

1. Inspection of all the shop and field welding operations for the automatic end welded studs shall be made in accordance with the 2010 CBC Title 24 Part 2, by a qualified welding inspector approved by the DSA. The type and capacity of the welding equipment shall be in accordance with the manufacturer's recommendations and shall be checked and approved by the welding inspector.

2. At the beginning of each day's work, a minimum of 2 test stud welds shall be made with the equipment to be used on metal that is the same as the actual work piece. The test studs shall be subjected to a 90-degree bend test by striking them with a heavy hammer. After the above test, the weld section shall not exhibit any tearing out or cracking.

E. Corrections:

1. Correct deficiencies in structural steel work which inspections and test reports indicate to be not in compliance with the specified requirements.

2. Perform additional tests required to reconfirm noncompliance of the original work and to show compliance of corrected work. Costs for all additional tests will be paid for by the District and backcharged to the Contractor per Title 24, Part 1, Section4-335(b).
3.8 METAL DECKING:

A. Mill certificates or affidavits and manufacturers' certification shall be supplied to the Project Inspector for verification of steel materials. Testing Laboratory shall be notified at least 2 working days in advance of fabrication and supplied with the reports so that he can make a shop inspection of the metal deck.

B. Tests of Steel Materials:

1. Metal decking identified by heat or melt numbers and accompanied by mill analysis and test reports do not require additional testing.

2. If metal decking cannot be identified or its source is questionable, not less than one tension and elongation test and one bend test will be made for each 5 tons, or fractional part thereof, of each gage. Such testing shall be paid for by the District and backcharged to the Contractor.

C. General Inspection:

1. Testing Laboratory will visually check metal decking delivered to the Project against the working and reviewed shop drawings for compliance and he will make physical tests and measurements, as required to meet the specifications.

2. Inspection of welding shall be in accordance with the requirements of the latest AWS standards.

D. Metal Deck Welding:

1. Continuous inspection of all deck welding will be made. The Contractor shall supply samples and test pieces and provide facilities for inspection without extra charges.

2. Inspection of welding shall be made to insure that all welding such as seam welds and arc spot welds are made in accordance with these plans and project manual. Inspection shall insure that proper electrodes, current, travel speed and melt rates are used and that no cracks, serious undercutting, overlap, surface holes or slag inclusions occur.

3.9 PREFABRICATED PLYWOOD WEB JOISTS:

A. Testing specified herein will not be required for TJI joists manufactured by Trusjoist/MacMillan.
B. Inspector: Joist fabrication shall be continuously inspected by an inspector specifically approved for that purpose by the DSA. To be eligible for approval, the inspector shall be examined as to his knowledge and experience in glued construction.

C. Cost of inspection will be paid for by the District and backcharged to the Contractor.

D. Each member shall be stamped with an identifying mark. The inspector shall make a verified report identifying the members by mark and including pertinent data such as certification of flange material and species, type of glue, and other information, as may be required. The inspector's report shall show that the work performed and the materials used conform in all respects to the plans and specifications approved by the DSA; and that the foregoing is based on the inspector's own personal knowledge. The verified report shall be mailed to the Architect and DSA upon completion of fabrication.

E. Flange material shall be stamped by an independent agency certified and visually checked for knots, slope of grain and other unacceptable wood defects. Defects as noted shall be cause for rejection. Tests on the material are to be performed at the plant a minimum of 2 times per shift in order to verify species, and establish modulus of rupture. The sample shall be third point loaded in a flatwise simple span bend test over a 21 by T span where "T" is the thickness of the flange. Calculated M.O.R.'s shall show a minimum of 7,500 P.S.I.

F. Verify glue bond adequacy to a chisel test on each glue line of a specimen 3 inches long of the chord material being used with an 80 percent minimum wood failure. The results shall be included with the above-mentioned verified report.

G. Every tenth bundle of plywood for webs of the joists shall be especially checked for grade, squareness, and thickness per standards on file at DSA. A specimen at the top, near the middle and near the bottom of the bundle shall be checked. Plywood webs shall be checked for squareness and width after each change in saw setting and at least one every 4 hours by measuring 5 specimens across the width at 3 points and diagonals, and visually check on the long edge for curvature.

H. The inspector shall continuously check the assembly process to assure proper open time, glue spread, and glue tackiness for the butt joint as well as a visual check for quality of the plywood edge. He shall check the glue in the rout for placement of the bead and for glue squeeze out. He shall verify push up and alignment of the webs to assure a tight joint. The inspector shall check the finished product for full web flange joint penetration, joist depth, and straightness.
I. Three test specimens of the finished product shall be randomly selected throughout a shift and tested as follows. Specimens shall be 8 feet long and contain a butt joint one foot from one end. Record name of mill supplying the plywood. Specimens shall be cured with the production run and tested approximately one hour after removal from the oven. Test by applying a concentrated load corresponding to one and one-half times rated joist capacity for each joist depth at mid-span through a six-inch long plate. If the specimen fails at a center span loading, two more specimens shall be tested. If either of them fail to meet these minima, the entire production run shall be set aside.

3.10 GLUE LAMINATED WOOD:

A. Glue laminated construction shall be continuously inspected by an Inspector approved by the DSA.

B. The Inspector shall check the materials, details of construction and construction procedures, and shall furnish a verified report that to his own personal knowledge, the construction covered by the report has been performed and materials used and installed are in every way in accordance with and in conformance to, the duly approved drawings and specifications. Particular attention shall be provided to assure that compliance is provided for the compression zone notching detail shown on the Drawings.

3.11 ASPHALTIC CONCRETE PAVING:

A. Asphaltic concrete mix design proposed by the Contractor shall be submitted to the District for review. Proposed mix shall be tested for conformance with the specifications, including grading, asphalt content and stability.

B. One sample of the mix shall be taken during each day's paving operation and tested for asphalt content and gradation.

C. Continuous inspection of the paving operation shall be provided. Testing Laboratory shall check for proper thickness, proper mix temperatures, proper rolling procedures and general workmanship.

3.12 WATERPROOFING:

A. The District's Inspector will check wall surfaces and approve before application of membrane materials and verify that substrate surfaces are in satisfactory condition to receive membrane materials and furnish continuous inspection during application of membrane.
B. Check minimum specified thickness of membrane waterproofing. For fluid-applied membrane check thickness every 100 square feet during application with a mil-thickness gage especially manufactured for the purpose.

END OF SECTION
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SECTION 01 31 19

PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures.
2. Conservation.
3. Drawing Coordination.
4. Administrative and supervisory personnel.
5. Project meetings.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Section "Cleaning and Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for District and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with all construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Safety meetings.
6. Progress meetings.
7. Pre-installation conferences.
8. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

1.4 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Indicate relationship of components shown on separate Shop Drawings.
2. Indicate required installation sequences.
3. Refer to Division 23 Section "Basic Mechanical Materials and Methods" and Division 26 Section "Basic Electrical Materials and Methods" for specific Coordination Drawing requirements for mechanical and electrical installations.

B. Staff Names: Within 15 (fifteen) days of starting construction operations, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, District field office and by each temporary telephone.
1.5 PRE-CONSTRUCTION MEETING

A. Before issuance of notice to proceed, a pre-construction meeting will be held at a time and location designated by the District.

B. Attendance: The meeting shall be attended by the District's representatives, the Architect, the Contractor Superintendent, Project Manager and all major subcontractors and other persons designated by the District.

C. Agenda: Meeting will be chaired by and recorded by the District. The agenda for the meeting shall include the following items as a minimum.

1. Distribution and discussion of the construction schedule including critical construction sequencing.

2. Designation of persons authorized to represent and sign documents for the District, Architect and Contractor, with examples of official signature of each.

3. Procedures and forms for processing the schedule of values, applications for payment, submittals, substitutions, field decisions, proposal requests, change orders, applications for payment, time extensions, and revised construction schedules.

4. Procedures for maintaining record documents and other closeout procedures.

5. Contractor's use of premises including location of office, construction and storage areas.

6. Temporary barricades, utilities, sanitary facilities, signs, temporary facilities, and other site/work limitations or special conditions.

7. Owner furnished equipment.

8. Safety and first aid procedures including designation of Contractors safety officer.


11. Communication and correspondence procedures between parties.

12. List names, addresses and telephone numbers of those persons authorized to act for the Contractor in emergencies.

13. Construction permit requirements, procedures and posting.

14. Testing laboratory or agency and testing procedures.

15. Establish schedule for progress meetings and site visits.
16. Other administrative items as appropriate.

1.6 PROGRESS MEETINGS

A. General: Progress meetings shall be held at the dates and times scheduled at the preconstruction meeting unless changes are agreed to by all parties and appropriate notification of such changes has been given.

1. Attendees: The meeting shall be attended by the Architect, the Contractor's Superintendent and Project Manager and the District's representatives. When requested by the District the Contractor; subcontractors and the Architect's consultants shall also attend.

2. Agenda: Meetings will be chaired by and recorded by the District. The agenda for these meetings shall include the following items.
   a. Review progress of construction since the previous meeting.
   b. Discuss field observations, problems and conflicts.
   c. Identify problems that impede planned progress and develop corrective measures as required to regain the projected schedule.
   d. Plan progress during the next construction period.
   e. Coordinate the progress of subcontractors.
   f. Review changes proposed by the District for their effect on the construction schedule and completion time.

1.7 PRE-INSTALLATION CONFERENCES

A. Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise District of scheduled meeting dates.

2. Agenda: Meetings will be chaired by and recorded by the Contractor. Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
   a. Options.
   b. Purchases.
   c. Deliveries.
   d. Submittals.
   e. Review of mockups.
   f. Possible conflicts.
   g. Compatibility problems.
   h. Time schedules.
   i. Weather limitations.
   j. Temporary Enclosures.
   k. Manufacturer's written recommendations.
l. Warranty requirements.
m. Compatibility of materials.
n. Acceptability of substrates.
o. Temporary facilities and controls.
p. Space and access limitations.
q. Regulations of authorities having jurisdiction.
r. Testing and inspecting requirements.
s. Required performance results.
t. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements.
4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

1.8 SPECIAL MEETINGS

A. Upon appropriate notice to other parties, special meetings may be called by the District, Architect or Contractor at times agreed to by all parties involved. Meetings will be chaired by and recorded by the District.

1. Where indicated on Critical Path items, all parties shall attend.

2. Refusal to attend will be considered as a breach of Contract.

1.9 POST-CONSTRUCTION CONFERENCE

A. A post-construction conference shall be held before final inspection of the Work to discuss and resolve all unsettled matters. Bonds and insurance to remain in force, and the other documents required to be submitted by the Contractor will be reviewed and all deficiencies determined. Schedules and procedures for the final inspection process and for the correction of defects and deficiencies shall be discussed and agreed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 19
SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

B. See CUPCCAA Contract “Terms and Conditions” and Special Conditions for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.

C. See CUPCCAA Section "Testing and Inspection" for submitting test and inspection reports.

D. See Division 1 Section "Closeout Procedures" for submitting warranties, Project Record Documents and operation and maintenance manuals.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Within 14 days after Notice to Proceed, submit a complete list of major products, which are proposed for substitution. All submittals must be prepared and processed within 21 days of issuance of Notice to Proceed. Failure to comply with this requirement will result in Progress Payment (see Article 9, 9.03 Progress Payments of the General Conditions or CUPCCAA Contract Terms and Conditions) to the Contractor being withheld.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

   a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Submittals Schedule: Comply with requirements in this Section for list of submittals to be included in the Contractor’s submittal schedule.

C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect’s receipt of submittal.

   1. Initial Review: **Allow three (3) weeks (21 calendar days)** for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

   2. If intermediate submittal is necessary, process it in same manner as initial submittal.

   3. **Allow two weeks (14 calendar days)** for processing each resubmittal.

   4. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

D. Identification: Place a permanent label or title block on each submittal for identification.

   1. Indicate name of firm or entity that prepared each submittal on label or title block.

   2. Provide a space approximately 4 by 5 inches (100 by 125 mm) on label or beside title block to record Contractor’s review and approval markings and action taken by Architect.

   3. Include the following information on label for processing and recording action taken:

      a. Project name.

      b. Date.

      c. Name and address of Architect.

      d. Name and address of Contractor.

      e. Name and address of subcontractor.

      f. Name and address of supplier.

      g. Name of manufacturer.

      h. Unique identifier, including revision number.

      i. Number and title of appropriate Specification Section.

      j. Drawing number and detail references, as appropriate.

      k. Other necessary identification.

      l. All items requiring DSA deferred approval must include the DSA Application Number and File Number.

E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
F. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.

1. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.

G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form approved by the District. District will discard submittals received from sources other than Contractor.

1. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

1. Number of Copies: Submit eight copies of each submittal, plus one complete electronic copy, unless otherwise indicated. District will return two copies. Mark up and retain one returned copy as a Project Record Document.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

   a. Manufacturer's written recommendations.
   b. Manufacturer's product specifications.
   c. Manufacturer's installation instructions.
   d. Manufacturer's catalog cuts.
e. Wiring diagrams showing factory-installed wiring.
f. Printed performance curves.
g. Operational range diagrams.
h. Compliance with recognized trade association standards.
i. Compliance with recognized testing agency standards.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Shop drawings shall be tendered both electronically and in hard copy format.

1. Preparation: Include the following information, as applicable:
   a. Dimensions.
   b. Identification of products.
   c. Fabrication and installation drawings.
   d. Roughing-in and setting diagrams.
   e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
   f. Shopwork manufacturing instructions.
   g. Templates and patterns.
   h. Schedules.
   i. Notation of coordination requirements.
   j. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.

3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 30 by 42 inches (750 by 1066.8 mm).

D. Samples: Prepare physical units of materials or products, including the following:

1. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Submit five full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return two sets with options selected.

2. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials;
swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Submit five sets of Samples. District will retain four Sample sets; remainder will be returned.

3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side.

4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.

5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

E. Product Schedule or List: Prepare a written summary indicating types of products required for the Work and their intended location.

F. Submittals Schedule: Comply with requirements in CUPCCAA Section "Special Conditions."

G. Application for Payment: Comply with requirements in CUPCCAA Contract Terms and Conditions.

H. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. List shall have name, address, contact information, license number, for each contractor working in site.

2.2 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Submit two hard copies of each submittal, and one electronic copy, unless otherwise indicated. Architect will not return hard copies.

2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Testing and Inspection."
B. Contractor's Construction Schedule: Comply with requirements in Division 0 Section "General Conditions."

C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and Districts, and other information specified.

D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

J. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

K. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.

L. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
M. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project.

N. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Closeout Procedures."

O. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

P. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

Q. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections.

R. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for compliance with the Contract Documents. Clearly mark or note corrections, variations, and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

C. By approving and submitting Shop Drawings, Product Data, Samples and other submittals, the Contractor represents that it has determined and verified materials, confirmed that the product does not contain any detectable amounts of asbestiform minerals and/or lead compounds in concentrations greater than 1/10th of 1% (0.1%), verified field measurements and field construction criteria related thereto, has checked
and coordinated the information contained within such submittals with the requirements of the Work, the Contract Documents and adjacent Work.

3.2 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. Accepted.
2. Accepted as Noted.
3. Revise and Resubmit
4. Rejected.
5. Received.

C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.
**LIST OF REQUIRED SUBMITTALS** (Contractor is required to provide all submittals identified in the contract documents whether or not they are identified in this list)

<table>
<thead>
<tr>
<th>SPEC. SECTION</th>
<th>TITLE</th>
<th>MOCK-UP</th>
<th>** SAMPLE</th>
<th>CATALOG SHEET</th>
<th>* REPORT, SCHEDULE, OR SHOP DRAWING</th>
</tr>
</thead>
<tbody>
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<td>Sample Boulder</td>
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**Submittal Procedures**

01 33 00 - 9
### LIST OF REQUIRED SUBMITTALS

<table>
<thead>
<tr>
<th>SPEC. SECTION</th>
<th>TITLE</th>
<th>MOCK-UP</th>
<th>** SAMPLE</th>
<th>CATALOG SHEET</th>
<th>* REPORT, SCHEDULE, OR SHOP DRAWING</th>
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<td>Weed control herbicides</td>
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<td>Soil Analysis Test</td>
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**END OF SECTION 01 33 00**
SECTION 01 63 00

PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY:

A. Section Includes: Procedures for submittal of requests for substitution for materials.

B. Related Documents: The Conditions of the Contract and the other sections of Division 0 and 1 apply to this section as fully as if repeated herein.

1.2 GENERAL REQUIREMENTS:

A. No substitutions will be allowed for products that are specified from the approved Section “San Francisco Unified School District Construction Standards”.

B. Whenever in the specifications products are by reference standard, any product meeting the standards referenced may be used. Submit information on such products in accordance with Section 01 33 00.

C. Whenever in the specifications any material, article or process is indicated or specified by trade, patent or proprietary name or name of manufacturer such specification for material, article or process, unless marked "no substitution", shall be deemed to be followed by the words "or approved equal" as accepted in writing by the Architect.

D. Where more than one proprietary name is specified, the Contractor may provide any one of the materials or equipment specified. Use only one brand, kind of make of material or equipment for each specific purpose throughout the Work notwithstanding that similar materials or equipment of two or more manufacturers or producers may be specified for the same purpose.

E. Submit a written request for proposed substitutions to the Architect not later than thirty five (35) days after date of "Notice to Proceed". Submit proposed substitutions relating to a particular subcontract or trade at one time on the Contractor's letterhead, listing proposed items for indicated or specified items, and stating amounts for all variations in costs. If the Architect accepts any proposed substitution, such acceptance will be set forth in a Change Order. Requests after the thirty five (35) day period will be considered only when a product becomes unavailable due to no fault of the Contractor.

F. Drawings have been detailed in compliance with the ICBO Evaluation Report for material specified. If a proposed substitute material is accepted by the Architect, the Contractor will assume the responsibility for construction modifications and additional costs required by reason of this acceptance.
G. Where materials or items of manufacturer are specified in groups and are made or furnished by one manufacturer, no substitution will be considered that is not made or furnished similarly by one manufacturer. Where the Contractor proposes to use a system of equipment other than that specified or detailed on the Drawings the substitution shall be proposed as a complete system.

1.3 REQUIREMENTS FOR SUBMITTING SUBSTITUTIONS:

A. Submit with written request for a proposed substitution all data substantiating the request, which includes the following:

1. Submit a completed "Certification of Equal Performance and Assumption of Liability for Equal Performance by Contractor" form, certifying that the proposed substitution is equal or better in all respects to that specified and that it will, in all respects perform the function for which it is intended.

2. Submit specified product data.

3. Submit proposed substitution product data. Clearly mark the differences between the proposed product and the specified product.

4. Submit proposed warranties.

5. Submit 3 copies of all written requests and data for proposed substitutions.

6. Submit all required samples.

7. Proof of DSA approvals (if required).

B. The burden of proof of equality of the substituted item shall be on the Contractor. Acceptance of such substitutions is entirely at the discretion of the Architect and District. All materials or items of manufacturer, which the Contractor proposes to substitute for those specified, must be accepted by the Architect before they may be ordered.

C. The Architect will issue to the Contractor a list setting forth those items for which substitutions are not accepted. No substitution will be accepted for any materials or item of manufacture called for in the Contract Documents which is not of equal quality and utility and which does not possess equal design or color characteristics to those of the specified material or item.

D. If, in the opinion of the Architect or District, the proposed substitution is not equal or better in every respect to that so indicated or specified, or was not submitted for acceptance in the manner outlined above, the Contractor shall furnish the specified materials.

E. It shall be the responsibility of the Contractor, in proposing a substitution for any item herein specified, to inform all other trades, vendors, and subcontractors of effects said substitution will have upon their construction activities or products. Failure to so notify shall require that the Contractor make all payments arising from alterations and Agency
approvals in specified materials or methods necessary to complete the Work in an approved and acceptable manner.

PART 2 - PRODUCTS  (Not Used)

PART 3 - EXECUTION  (Not Used)

END OF SECTION 01 63 00
SECTION 01 63 25

SUBSTITUTION REQUEST FORM

Note: Failure to complete this form with complete and accurate information in a timely manner will nullify any request for substitution.

TO: ___________________________________________________________________

PROJECT: __________________________________________________________________

We hereby submit for your consideration the following product(s), material(s), and/or detail(s) instead of the specified item per the contract documents for the above indicated project and the following specified reference:

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>SPEC SECTION</th>
<th>SPEC PARAGRAPH</th>
<th>DRAWINGS</th>
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Proposed Substitution:__________________________________________________________

A. Attach complete technical data, including laboratory tests and or green building certifications, if applicable.

B. Include complete information on changes to Drawings and/or Specifications, which proposed substitution would require for its proper installation.

C. Submit with this request all necessary samples and substantiating data to prove equal quality and performance to that which is specified. Clearly mark manufacturer's literature and test reports to indicated equality in performance.

D. Upon submitting any substitution, the Contractor and/or Subcontractors certify that the substituted product does not contain detectable amounts of asbestiform minerals and/or lead compounds in concentrations greater than 1/10th of 1% (0.1%).

Fill in blanks below:

A. Does the proposed substitution affect dimensions indicated on Drawings?

Yes___ No___

Explanation: ________________________________________________________________

________________________________________

01 63 25 - 1 Substitution Request

Form
B. Will the undersigned pay for changes to the building design, including design, engineering and processing costs caused by the proposed substitution?

Yes___No___
Explanation: ________________________________________________________________
__________________________________________________________________________

C. Does the proposed substitution have an affect on other trades?

Yes___No___
Explanation: ________________________________________________________________
__________________________________________________________________________

D. Does the proposed substitution have an affect on applicable code requirements (including CA Green Building Standards Code)?

Yes___No___
Explanation: ________________________________________________________________
__________________________________________________________________________

E. Does the proposed substitution have an effect on the products eligibility for CHPS credits or Districts ability to apply for HPI funding?

Yes___No___
Explanation: ________________________________________________________________
__________________________________________________________________________

F. Outline differences between proposed substitution and specified item:

__________________________________________________________________________
__________________________________________________________________________

G. Are the manufacturer’s guarantees of the proposed substitution the same as the specified item?

Yes___No___
Explanation: ________________________________________________________________
__________________________________________________________________________
H. Is the proposed substitution listed with and conform to the same requirements of the same testing agencies as the specified item, such as ICBO, ASTM, etc.?

Yes___No___

Explanation:__________________________________________________________________________
                                                                                       _____________________________________________
                                                                                       _____________________________________________

I. Has the proposed substitution been accepted by DSA?

Yes___No___

Explanation:__________________________________________________________________________
                                                                                       _____________________________________________
CERTIFICATION OF EQUAL PERFORMANCE AND ASSUMPTION OF LIABILITY FOR
EQUAL PERFORMANCE BY CONTRACTOR

The undersigned states that the function, appearance and quality are equivalent or superior to
the specified item.

Submitted By:

______________________________    ___________________
Signature       Title

______________________________
Name (print)

______________________________
Firm                  Date

______________________________
Telephone

Address

Remarks:  _________________________________________________________________
Director of Construction

END OF SECTION 01 63 25
SECTION 01 77 00
CLEANING AND CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Administrative and procedural requirements for contract closeout, including but not limited to, the following:

1. Beneficial Occupancy requirements.
2. Inspection (Punch List) procedures.
3. Final Completion requirements
4. Project Record Documents.
5. Operations and Maintenance Manuals
7. Warranties (Minimum 2 years unless manufacture warranty is greater. Refer to specifications for individual requirements.)
8. Two-year maintenance and service agreements.
9. Demonstration and Training of District’s personnel.
10. Final Cleaning.

B. Related Sections:

1. CUPCCAA Contract for requirements for Project Completion and Final Payment.
2. The Conditions for the Contract and the other sections of Division 1 apply to this section as fully as if repeated herein.
3. Divisions 2 through 33 Sections for specific closeout and special cleaning requirements for products of those sections.

1.2 BENEFICIAL OCCUPANCY

A. Preliminary Procedures: Before requesting inspection for determining date of Beneficial Occupancy by phase, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list and reasons why the Work is not complete.
2. For the final phase of the Project, advise the District of pending insurance changeover requirements.

3. For the final phase of the Project, submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.

4. Obtain and submit releases permitting District unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

5. For the final phase of the Project, prepare, sign, and submit Project Record Documents, operation and maintenance manuals, final completion construction photographs, damage or settlement surveys, property surveys, and similar final record information. Deliver operation and maintenance manuals and Project Record Documents at least two weeks (14 days) before training and request for Beneficial Occupancy Inspection.

6. For the final phase of the Project, deliver all tools, spare parts, extra materials, and similar items that are a permanent part of the installed equipment, to the District Buildings and Grounds warehouse. Prepare a list of all material to be delivered for review prior to scheduling of delivery. Label with the name of the school, description of item, manufacturer’s name, and model number where applicable.

7. All plumbing and mechanical equipment shall operate quietly and free from vibration. Properly adjust, repair, balance, or replace equipment producing objectionable noise or vibration. Provide additional brackets, bracing, or other methods to prevent objectionable noise or vibration. All systems shall operate without humming, surging, or rapid cycling.

8. Complete startup testing of systems.

9. Complete training of the District’s staff per Part 3 of this section. Submit training logs and attendance sheets.

10. Submit test/adjust/balance records and commissioning reports in PDF.

11. Properly mount and post all operating instructions.

12. Make final changeover of permanent locks and deliver properly marked keys to District. Advise District’s personnel of changeover in security provisions.

13. For the final phase of the Project and as approved by the District, terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

15. Submit changeover information related to District’s occupancy, use, operation, and maintenance.

16. Complete final cleaning requirements per Paragraph 3.2, Final Cleaning.

17. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

18. Deliver evidence of compliance with any and all requirements of all applicable governmental regulatory agencies at all levels, including District, City, State (DSA and Emergency Planning Department) and Federal government and agencies.

19. Submit certificates of inspection for vertical transportation systems, and life safety systems.

20. Submit copies of the fire alarm certification.

21. Certificates: For the final phase of the Project, submit manufacturer’s representative’s certification work has been installed in accordance with manufacturer’s recommendations.

22. Complete all Test and Acceptance Sampling requirements per Section 00 72 00, Article 9.06 (Partial Occupancy and Use) and Article 13.16 (School Facilities under Construction or Renovation; Use of Lead Paint, Plumbing, Etc. Prohibited).

B. Inspection: After all requirements of the Beneficial Occupancy preliminary procedures have been completed, submit a written request for inspection for Beneficial Occupancy. Give notice at least 7 working days in advance from the time the final inspection is to be performed. District will either proceed with inspection or notify Contractor of unfulfilled requirements. Refer to Paragraph 1.4, List of Incomplete Items (Punch List).

1. Initial Inspection (Punch List): The Contractor or his principal superintendent, authorized to act in behalf of the Contractor, is to assemble a list of unfinished work items and assign costs to each item.

2. Final Inspection (Punch List): The Contractor or his principal superintendent, authorized to act in behalf of the Contractor, shall accompany the Architect and District on the final inspection tour. Principal subcontractors and Consultants that the Architect or District may request to be present will also attend. The Architect will verify the Contractor’s Initial Inspection and recommend any changes.

3. If the Work has been substantially completed in accordance with the Contract Documents, and only minor corrective measures are required, the District will conditionally accept the Work and will file for the Notice of Completion based upon the Contractor’s assurance that the corrective measures will be completed within the shortest practicable time period.

4. If the Work has not been substantially completed in accordance with the Contract Documents, and several corrective measures are still required, the District will
not accept the Work or file for the Notice of Completion. The Contractor shall complete or correct the items listed on the Initial Inspection and the Final Inspection punch list and then call for a reinspection, following the procedure outlined above.

5. Reinspection: Request for reinspection when the Work identified in previous inspections as incomplete is completed or corrected. More than one (1) request of the District to make a reinspection shall be considered an additional service of District, Architect, District’s Representative, and/or Inspector of Record, and all subsequent costs will be deducted from the Contractor’s final payment.

1.3 FINAL COMPLETION

A. Preliminary Procedures: Before determining the date of Final Completion, complete the following:

1. Submit a final Application for Payment according to CUPCCAA Contract – Terms and Conditions to Contract.

2. Submit notarized affidavit of payment of debts and claims.

3. Submit Agreement and Release of Any and All Claims.

4. Submit consent of contractor’s surety to final payment.

5. Submit complete payroll certifications.

6. Submit certified copy of Architect’s Beneficial Occupancy inspection list of items to be completed or corrected (punch list), endorsed and dated by the Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

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

8. Submit pest-control final inspection report and warranty.

9. Submit all guarantees and warranties. Refer to Paragraph 1.7, Warranties.

10. Submit all Safety Data sheets.

11. Submit copies of all Verified Reports.

12. Submit a list of all Subcontractors of every tier providing services and/or materials in connection with the Project, in a formal, adequately bound, cataloged form, which shall include the names, addresses, telephone numbers and fax numbers of such persons, and shall further include notices as to where pertinent persons can and may be reached for emergency service, inclusive of nights, weekends and holidays.
1.4 CONTRACTOR’S LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit ten copies of each list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by the Contractor that are outside the limits of construction.

1. The list is to be in Microsoft Excel, electronic format as provided by the District.

2. Organize the list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor in each building in the project. Each line item is to have a unique number associated with the room number (do not re-number items once they have been assigned a number).

3. Organize items by space. Each outstanding item is to be based on the room number where the problem exists and individually numbered.

4. Include the following information at the top of each page:
   1) Project name.
   2) Date.
   3) Name of Architect
   4) Name of District’s Representative.
   5) Name of Inspector or Record.
   6) Name of Contractor.
   7) Page Number.

1.5 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for the Architect’s, District’s representative and Inspector of Record’s reference during normal working hours.

B. Record Drawings: Maintain and submit one signed set of prints of Contract Drawings and Shop Drawings.

1. Mark Record drawings to show the actual installation where installation varies from that shown originally as well as construction added to the Contract that is not indicated on the Contract Drawings. Require individual or entity who obtained record data, where individual or entity is installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
a. Keep Record Drawings current and legible, and available, on site, for inspection at all times by the Architect, Inspector of Record, and District’s representative.

b. Give particular attention to information on concealed elements that cannot be readily identified and recorded later. Concealed shall mean construction installed underground or in an area which cannot be readily inspected by use of access panels, inspection plates or other removable features. Provide dimensions for underground and concealed work from fixed objects such as property lines or other benchmarks.

c. Accurately record information in a legible drawing technique.

d. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

e. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.

3. Mark important additional information that was either shown schematically or omitted from original drawings.

4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, RFI numbers, ASI numbers, and similar identification where applicable.

5. Identify, sign and date each Record Drawing: include the designation “PROJECT RECORD DRAWING” in a prominent location. Organize into manageable sets; bind each set with durable cover sheets. Include identification on cover sheets.

C. Record Specifications: Submit one copy of Project’s Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Note related Change orders, Record Drawings, where applicable.

D. Record Product Data: Submit one copy of each Product Data submittal in an acceptable digital medium. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.
1. Include Safety Data Sheets.

2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

3. Include significant changes in the product delivered to Project site and changes in manufacturer’s written instruction for installation.

4. Note related Change Orders, Record Drawings, where applicable.

1.6 OPERATIONS AND MAINTENANCE MANUALS

A. Assemble 3 copies of complete sets of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Section and as follows:

1. Manufacturer’s Manuals: Submit complete installation, operation, maintenance and service manuals, and printed instructions and parts lists for all materials and equipment where such printed matter is regularly available from the manufacturer. This includes, but is not limited to such service manuals as may be sold by the manufacturer covering the operation and maintenance of his items, and complete replacement parts lists sufficiently detailed for parts replacement ordering to manufacturer. Piping diagrams and wiring diagrams are to be included. Bound publications need not be assembled in binders.

a. Organize operation and maintenance manuals into suitable set of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title “OPERATION AND MAINTENANCE MANUAL,” Project name, project number, and subject matter of contents.

b. Provide PDF copies on an acceptable digital medium of all operation and maintenance manuals once reviewed and approved by the architect.

2. Equipment Nameplate Data: Submit a typewritten list of all mechanical and electrical equipment showing exact equipment nameplate data. Identify equipment by means of names, symbols, and numbers used in the contract documents. Provide a floor plan that identifies locations prior to scheduling owner trainings.

3. System Operating Instructions: Submit typewritten instructions covering operation of the entire system as installed (not duplicating manufacturer’s instructions for operating individual components. Include schematic flow and control diagrams as appropriate and show or list system valves, control elements, and equipment components using identification symbols and numbers, including operating standards. List rooms, area of equipment served, and show proper settings for valves, controls, and switches. Incorporate emergency
instructions and procedures, startup and shutdown procedures, seasonal procedures and weekend operations. Provide electronic copies in PDF format for all system operation instructions on an acceptable digital medium.

4. System Maintenance Instructions: Submit typewritten instructions covering routine maintenance of system. List each item of equipment requiring inspection, lubrication, or service and briefly describe such maintenance, including types of lubricants and frequency of service. It is not intended that these instructions duplicate manufacturer's detailed instructions. Give name, address and phone number of nearest firm authorized or qualified to service equipment or provide parts. Provide electronic copies in PDF format for all system maintenance instructions on an acceptable digital medium.

5. Wall Mounted Data: Frame one set of typewritten system instructions and diagrams as required under Paragraphs .3 and .4 above, covered with removable Plexiglas (or similar) and mounted in locations as directed by the District for all mechanical, electrical, plumbing, and controls systems. This set of instructions is in addition to the required herein.

1.7 WARRANTIES & GUARANTEES

A. See Certificate of Guarantee form and warranty form. All submitted Warranty and Guarantee forms will be on the San Francisco Unified School District’s Warranty and Guarantee format. Original wet signed to be provided and electronic (PDF) copies of all executed warranties and guarantees to be tendered on an acceptable digital medium.

B. Warranties and guarantees for fire/life safety work such as fire alarm, sprinkler, emergency and exit lighting, and exiting pathway systems such as: (elevator, wheelchair lifts, etc.) shall have specific language “in the event of our failure to respond and act within 3 hours after being notified in writing by the District, we authorize the District to proceed to have the defects repaired or replaced and made whole, together with any other adjacent work which may be displaced or damaged by so doing, at our expense, and we will honor and pay the costs and charges therefore upon demand. This work shall not invalidate any and all warranties and guarantees.”

C. Submittal Time: Submit duplicate written warranties and guarantees on request of District for designated portions of the Work where commencement of warranties other than date of Beneficial Occupancy is indicated. Warranty periods shall not commence until systems warranted are tested and inspected, and fully accepted by SFUSD.

D. Partial Occupancy: Submit properly executed warranties and guarantees within 15 days of completion of designated portions of the Work that are completed and occupied or used by District during construction period by separate agreement with Contractor. Back dated warranties will not be accepted.

E. Organize warranty and guarantee documents into an orderly sequence based on the table of contents of the Project Manual.
1. Bind warranties and guarantees in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to receive 8-1/2-by-11-inch (115-by-280-mm) paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty and guarantee. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Provide an acceptable digital medium containing PDF copies of all warranties and guarantees.

F. Provide additional copies of each warranty and guarantee to include in operation and maintenance manuals.

PART 2 – PRODUCTS

MATERIALS

A. Cleaning Agents: Only use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property of that might damage finished surfaces. All cleaners shall be specifically designed for the purpose intended, safe for use on the intended object to be cleaned, and safe to students, staff and the public.

B. Commercial floor wax stripper, Easterday Ammo-Strip or approved equal, capable of removing metal interlock water emulsion floor finish.

C. Floor finish shall be minimum 20% solids content high-gloss wax. Acceptable products:
   1. Spartan Sunny-Side
   2. Spotlight (Brulin Company-800-776-7149)
   3. Champion Once-A-Year

D. Graffiti Remover (non-toxic): SO-SAFE BY DX, Inc., or approved equal.

E. Wood Floor Finish acceptable products:
   1. Front Court Gym Sealer – 2 coats
   2. MaGee Waterthane 701 Wood Floor Finish
   3. Waxie Company

F. Germicidal Cleaner must be E.P.A. registered germicidal cleaner and deodorizer appropriate for use in public school buildings.
PART 3 – EXECUTION

3.1 DEMONSTRATION AND TRAINING

A. Instruction: After Work under this contract is completed, tested, and before acceptance, and not less than 14 days after submittal of the operation and maintenance data required in Paragraph 1.6, Operations and Maintenance Manuals, operate all systems for a period of three 8-hour days during which time keep on the project competent personnel familiar with the items installed whose full-time assignment will be to instruct the District’s maintenance personnel in the operation and maintenance of the equipment and systems. Warranty periods shall not commence until District has been trained on all new and modified systems:

1. Provide instructors experienced in operation and maintenance procedures.
2. Provide instruction at mutually agreed-on times. Propose three dates and times (regular business hours) for each proposed session. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
3. Furnish training agenda for review when proposing training dates and times.
4. Schedule training with District, through District’s representative, with at least seven days notice.
5. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
6. Do not conduct this instruction period before completion of piping and equipment labeling.

B. Provide an instruction period sufficient to cover the training required. This instruction period shall be in addition and subsequent to any period of operation, test and adjustment called for elsewhere in this specification.

C. Program Structure: develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction of the following:

1. System design and operational philosophy.
2. Review of documentation.
3. Operations.
4. Adjustments.
5. Troubleshooting.
7. Repair.

3.2 FINAL AND END-OF-PHASE CLEANING

A. General: Provide final cleaning as request by the District project managers. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer’s written instructions for materials being cleaned. Provide list of cleaning products for review by SFUSD.

C. Submit qualifications of proposed cleaning company for review by SFUSD. The cleaning crews are required to submit an affidavit of conformance with the District standards.

a. Sweep paved areas and pressure wash. Remove petrochemical spills, stains, and other foreign deposits.

b. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

c. Horizontal surfaces: All horizontal surfaces must be dusted and/or washed until free of dust and grime.

d. Furnishings and equipment:

1) Wash all furniture and equipment with a pH neutral cleaner. Use specialized cleaner appropriate for wood and/or excessively dirty surfaces.

2) Dust all machinery and equipment located in any shop area.

3) Clean all whiteboards and chalkboards by washing with water and/or board cleaner.

4) Clean exterior of all locked lockers, and interior and exterior of unlocked ones.

e. Walls: Wash all wall surfaces with multi surface cleaner and water. Remove all graffiti. All restroom walls should be washed with a disinfectant cleaner.

f. Doors: Wash all doors, frames and hardware.

g. Floors:
1) VCT & VAT Floors – Clean and refinish flooring, using appropriate procedures and environmental preferable floor finishes/sealers. Remove all floor finish from all existing flooring (using appropriate safety measures as recommended by the E.P.A. for any tile containing asbestos) and re-wax as follows:

   a) Classrooms, offices, and rooms - two coats of floor finish.
   b) Corridors - Three coats of floor finish.

2) Linoleum flooring – Scrub the floor by using a floor machine with a SPP Surface Preparation Pad and a neutral cleaner product (see exhibit B for list of products). Apply two coats of resilient floor finish (Example Care-Free resilient finish by Diversy)

   These floors should be scrubbed with an SPP (Surface Preparation Pad) – not stripped. Seal as recommended by flooring manufacturer and reseal as indicated above.

3) Concrete Floors - Scrub using water and an all-purpose cleaner or a degreaser if is need it.

4) Ceramic Floors - Scrub using water and an all-purpose cleaner or a degreaser if is need it. Scrub using water and detergent.

5) Wood Floors – Auto scrub the floor with a wood cleaner product (PK cleaner by Betco.) Prepare the floor with a sanding screen disk 100 Grit and a second time with an SPP pad.) Apply two coats of the gym sealer using a T-Bar applicator, and Gym sealer approved by SFUSD Custodial.

   (1) Recommended product: .EZ Plus Gym & Coat Sealer by Betco

6) Carpeted Floors and Rugs –

   1. Vacuum the carpets and rugs removing gum and stains
   2. shampoo by using a rotary machine, carpet extractor and preferable a hot water extractor. Rugs shall be taken off site to ensure proper drying.
   3. Recommended product: Waxie Green Fiber Can #2 Shampoo Solution by Waxie Company or any other green cleaner carpet solution (see attachment for SDS and product specs).

7) Other Floors - Marble, terrazzo and rubber floors should be cleaned and refinished using appropriate procedures and finishes/sealers.

   h. STAIRS: All stairs to be scrubbed with multi surface cleaner. All walls, handrails and ledges must be dusted, washed, completely from bottom to top. Finish should not be applied to stairs unless necessary and approved in writing by the District (Custodial Services Department).
i. RESTROOMS: Thoroughly clean and disinfect all surfaces, toilets and urinals, fixtures. Scrub the floors, remove all foreign objects from walls/ceilings and eliminate all graffiti. Specifications provided above for fixtures, walls and floors are applicable.

j. Sweep, clean and sealed concrete floors, broom clean in all unoccupied spaces.

k. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

l. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.

m. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over “UL” and similar labels, including mechanical and electrical nameplates.

n. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment.

o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

p. Clean exposed surfaces of diffusers, registers, and grills.

q. Clean all light fixtures, lamps, globes, and reflectors to function with full efficiency. Leave Project clean and ready for occupancy.

r. If surface to be cleaned is unknown submit a written request for cleaning procedures from SFUSF Custodian Services.

D. Final Inspection: Walk with the project team to review conditions and re-clean any surface still exhibiting dirt, graffiti or dust shall be re-cleaned/re-stripped/refinished until free of dirt, graffiti or dust.

E. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on District’s property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove materials from Project site and dispose of lawfully.

PART 4 - CUSTODIAL SERVICES DEPARTMENT

Any further inquiries may be directed to:

SFUSD
Custodial Services Department  
834 Toland Street  
San Francisco, CA 94124  
Phone: (415) 695-5535

a. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

b. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

c. Clean ducts, blowers, and coils if units were operated without filters during construction.

d. Clean all new and existing light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

e. Leave Project clean and ready for occupancy.

F. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid the Project of rodents, insects, and other pests. Prepare a report outlining steps taken to rid the site of rodents, insects, and other pests.

G. Final Inspection: Any surface still exhibiting dirt, graffiti or dust shall be re-cleaned/re-stripped/refinished until free of dirt, graffiti or dust.

H. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on District’s property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove materials from Project site and dispose of lawfully.

END OF SECTION 01 77 00
TECHNICAL SPECIFICATIONS
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Section 02 41 19 – Selective Demolition

DIVISION 03: CONCRETE
Section 03 30 00 – Cast-In-Place Concrete

DIVISION 05: WOOD, PLASTICS AND COMPOSITES
Section 06 20 13 – Exterior Finish Carpentry

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DIVISION 31: EARTHWORK
Section 31 10 00 – Site Clearing
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Section 31 25 00 – Erosion and Sedimentation Controls

DIVISION 32: EXTERIOR IMPROVEMENTS
Section 32 11 23 – Aggregate Base Courses
Section 32 13 13 – Concrete Paving
Section 32 36 00 – Landscape Boulders
Section 32 91 13 – Soil Preparation

END OF SECTION 00 01 10
SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.

B. Related Sections:
   1. SECTION 31 10 00 – SITE CLEARING
   2. SECTION 31 20 00 – EARTH MOVING

1.02 SECTION INCLUDES

A. Extent of selective demolition work is indicated on drawings.

B. Types of Selective Demolition Work: Demolition requires the selective removal and subsequent salvage or off-site disposal of the following:
   1. Temporary removal and/or protection of existing elements and equipment items indicated "to remain, protect in place”.
   2. Removal and disposal of fixtures, elements, equipment, etc., indicated "demolish & remove".
   3. Removal, protection and salvage of elements, equipment, etc., indicated “salvage & return”.

1.03 SUBMITTALS

A. Schedule
   1. Submit estimated timeline schedule (gantt chart) indicating proposed methods and sequence of operations for selective demolition work to Owner's Representative for review prior to commencement of work.
   2. Include coordination of shut-off, capping, and continuation of utility services as required, together with details and/or written plans for dust and noise control.
   3. Re-submit updated schedules per Owner’s Representative request.

B. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.

C. Coordinate with Owner with respect to Owner's continuing occupation of portions of existing site and make necessary provisions as applicable.

1.04 JOB CONDITIONS

A. Condition of Structures
1. Owner assumes no responsibility for actual condition of items or structures to be demolished. Contractor is responsible to cover cost of removing footings of structures regardless of their size.

B. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable. However, variations within site 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 and disposed but of salvable value to Contractor may be removed from site as work progresses. Transport salvaged items from site as they are removed.

D. Storage or sale of removed items on site is not permitted.

E. Protections: Provide temporary fencing and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.

F. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.

G. Damages
   1. Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
   2. Restore damaged finishes to match adjacent undamaged work.

H. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.

I. Explosives: Use of explosives is not permitted.

J. Utility Services: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.

K. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, acceptable to governing authorities.

L. Environmental Controls
   1. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level.
   2. Comply with governing regulations pertaining to environmental protection.

M. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

N. Hazardous Materials: Refer to Demolition Plan and Hazmat drawings and specifications.
   1. Hazardous materials will be removed by Contractor and disposed of as specified in the Contract.
2. See the General Conditions and Hazmat drawings and specifications for additional requirements on hazardous materials.

3. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 INSPECTION

A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph any existing conditions which could be misconstrued as damage resulting from selective demolition work and file a record copy with the Owner's Representative prior to starting work.

3.02 PREPARATION

A. Install all construction fencing and gates prior to commencement of work under this section. Comply with requirements for access and protection specified in the Contract.

B. Locate, identify, stub off and disconnect utility services and irrigation that are indicated to be removed and disposed.

   1. Contractor shall provide for temporary irrigation connections to ensure existing planting areas to remain maintain irrigation operations.

C. Establish and identify acceptable temporary debris stockpile locations and secure appropriate waste containers on-site prior to commencement of work under this section.

D. Cover and protect furniture, furnishings, and equipment that are to remain.

3.03 DEMOLITION

A. 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.

B. Completely fill below-grade areas and voids resulting from demolition work. Provide fill consisting of approved fill material, gravel or sand, free of trash and debris, stones over 6” diameter, roots or other organic matter. See SECTION 31 20 00 – EARTH MOVING for compaction requirements.

C. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner's Representative in written, accurate detail. Pending receipt of directive from Owner's Representative rearrange selective demolition schedule as necessary to continue overall job progress without delay.
3.04 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Salvage Items: Where indicated on Drawings as "Salvage & Return", or similar, carefully remove indicated items, clean, temporarily store as may be required and turn over to Owner and obtain receipt.

C. Historic or archeological artifacts and other articles of historic significance remain the property of the Owner. Notify Owner's Representative if such items are encountered and obtain acceptance and direction before proceeding with any further work regarding method of removal and salvage for Owner.

3.05 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove debris, rubbish and other materials resulting from demolition operations from project site. Transport and legally dispose of materials off site on a daily basis or as Dumpsters become full.

B. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution. Notify Owner's Representative immediately.

C. Burning of removed materials is not permitted.

D. The Contractor shall be responsible to pay all applicable disposal fees.

3.06 REMOVED AND SALVAGED ITEMS

A. Clean salvaged items.

B. Store items in a secure area until delivery to Owner.

C. Transport items to Owner's storage area by Owner.

D. Protect items from damage during transport and storage.

3.07 REMOVED AND REINSTALLED ITEMS

A. Clean and repair items to functional condition adequate for intended reuse.

B. Protect items from damage during transport and storage.

C. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

3.08 CLEAN-UP AND REPAIR

A. Upon completion of demolition work, remove tools, equipment and demolished materials from site.

B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective...
demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02 41 19
PART 1 -- GENERAL

1.01 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.
B. Related sections:
   1. SECTION 32 11 23- AGGREGATE BASE COURSES
   2. SECTION 32 13 13 – CONCRETE PAVING

1.02 DESCRIPTION OF WORK
A. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary to construct cast-in-place concrete for:
   1. Fence/gate post footings
   2. Wood Bench footings
   3. Teaching Board footings
   4. Any other structural concrete as indicated on the drawings or in the contract documents

1.03 SUBMITTALS
A. General: Submit under the provisions of General Conditions- Submittals.
B. Design Mixture: Submit for each concrete mixture, indicated clearly on submittal use for mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
   1. Indicate amounts of mixing water to be withheld for later addition at Project site.
C. Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
   1. Location of construction joints is subject to approval of the Landscape Architect.

1.04 QUALITY ASSURANCE
A. Perform Work in accordance with ACI 301.
B. Maintain one copy of latest construction documents on site, including design drawings, approved shop drawings and permit drawings, and special inspection and testing agreement
C. Acquire cement and aggregate from same source for all work.
D. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
E. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
F. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
G. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M.

1.05 FIELD CONDITIONS

A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
   1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301 (ACI 301M).
   2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
   3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
B. Hot-Weather Placement: Comply with ACI 301 (ACI 301M) and as follows:
   1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
   2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

1.06 REFERENCES
A. In addition to complying with all pertinent standards, codes and regulations, comply with all requirements of:
   1. ACI 308 - Standard Practice for Curing Concrete.
   2. ACI 309 - Guide for Consolidation of Concrete.
   3. ASTM C33 - Concrete Aggregates.
   4. ASTM C94 - Ready-Mixed Concrete.
   5. ASTM C150 - Portland Cement.
   6. ASTM C309 - Liquid Membrane-Forming Compounds

1.07 COORDINATION

A. Coordinate work with that specified in other sections before start of construction or installation. Any installation found to be in conflict with such work as a result of neglected coordination, shall be removed and reinstalled in new locations designated by the District’s representative at no additional expense to the District.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

A. Cement: ASTM C150, Type II, and shall be provided by one manufacturer.
B. Aggregates:
   1. Coarse shall conform to ASTM C33 size 7 or better, graded. Provide aggregate from single source.
   2. Fine shall conform to ASTM C330.
   3. Pea Gravel or smooth aggregate shall not be used.
C. Water: ASTM C94, clean, potable, and not detrimental to concrete.
D. Color Pigment: ASTM C 979/C 979M, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.

2.02 CONCRETE MIX

A. Mix and deliver concrete in accordance with ASTM C94.
B. Addition of water to the mix after leaving the plant is not permitted.
C. Provide concrete to the following criteria:
   1. Compressive Strength (28 day):
      i. Fence footings: 3,000 psi
ii. Miscellaneous footings: 3,000 psi

2. Normal Weight Aggregate.
5. Slump: 4 inches.
6. Drying Shrinkage Limit: 0.04 percent. Drying shrinkage limit is percentage of change in length after 21 days of drying when tested per ASTM C157

2.03 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
D. Water: Potable.
E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.04 ADMIXTURES

A. No admixtures shall be allowed without written acceptance by the Owner’s Representative. Admixtures that have a negative impact on concrete finish shall not be used. When more than one admixture is used, admixtures shall be compatible. Provide letter from admixture manufacturer that it is appropriate for proposed mix design.

2.05 ACCESSORIES

A. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days. SIKAGrout 212 or approved equal.
B. Epoxy Grout: Two-part epoxy adhesive product that conforms to the requirements of Simpson SET-XP High Strength Epoxy (ICC ESR-2508) by Simpson Strong Tie or equal product with prior written approval of the Owner’s Representative. Installation shall be in strict conformance with the manufacturer’s recommendations.
C. Bonding Agent: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.
2.06 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.

B. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.

C. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.

D. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by underlayment manufacturer.

E. Compressive Strength: Not less than 4100 psi (29 MPa) at 28 days when tested according to ASTM C 109/C 109M.

F. Repair Overlay: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch (6.4 mm) and that can be covered over a scarified surface to match adjacent floor elevations.

G. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.

H. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.

I. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.

J. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.07 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal, or other approved panel materials.

2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
   
   i. High-density overlay, Class 1 or better.
   
   ii. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
   
   iii. Structural 1, B-B or better; mill oiled and edge sealed.
   
   iv. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.
3. Overlaid Finish birch plywood.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.

D. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.

E. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.

F. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum. Refer to drawings for chamfer size.

G. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.

H. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.

I. Formulate form-release agent with rust inhibitor for steel form-facing materials.

J. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that leave no corrodi ble metal closer than 1 inch (25 mm) to the plane of exposed concrete surface.

2. Furnish ties that, when removed, leave holes no larger than 1 inch (25 mm) in diameter in concrete surface.

3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.08 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

2.09 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, cut true to length with ends square and free of burrs.

B. Epoxy-Coated Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, ASTM A 775/A 775M epoxy coated.
C. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775/A 775M.

D. Zinc Repair Material: ASTM A 780/A 780M.

E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI’s "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

3. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify requirements for concrete cover over reinforcement.

B. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

3.02 PREPARATION

A. Prepare joints in previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

B. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

3.03 FORMWORK INSTALLATION

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

D. Construct forms tight enough to prevent loss of concrete mortar.
E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
   1. Do not use rust-stained steel form-facing material.

F. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

G. Form openings, offsets, and blocking required in the Work. Determine sizes and locations from trades providing such items.

H. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

I. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

J. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.04 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.

3.05 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
   1. Leave formwork for slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
   2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.
C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Owners representative.

3.06 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.

2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.

3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.

4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.

5. Space vertical joints in walls. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.

6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

7. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.07 PLACING CONCRETE

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Landscape Architect.

C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M).

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Place concrete in accordance with ACI 301.
E. In depositing concrete in piers, walls or thin sections, provide openings in forms, elephant trunks, tremies or other recognized devices, to prevent segregation and accumulation of partially hydrated concrete on forms or metal reinforcement above level of concrete being placed. Such devices shall be installed so that concrete will be dropped vertically. Unconfined vertical drop of concrete from end of such devices to placement surface shall not exceed 6 feet.

F. Concrete shall be thoroughly consolidated during placement, and shall be worked around reinforcement and embedded fixtures with mechanical vibrators.

G. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.

2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301 (ACI 301M).

3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

H. Notify the Owner’s Representative a minimum two working days prior to commencement of operations. Do not place concrete until forms and reinforcement as well as other required inspections have occurred and the Owner’s Representative is present to perform observations and testing during placement.

I. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.

J. Separate slabs on grade from vertical surfaces with 1/2 inch thick joint filler. Place joint filler to required elevations. Secure to resist movement by wet concrete.

K. Extend joint filler from bottom of slab to within 1/8 inch of finished slab surface.

L. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

M. Place concrete continuously between predetermined contraction joints.

N. Do not interrupt successive placement; do not permit cold joints to occur.

3.08 CONCRETE FINISHING
A. Provide formed vertical concrete surfaces to be left exposed with a smooth formed finish, unless noted otherwise. Coordinate with the Owner’s Representative when questions arise.

B. Provide a 3/8” radius on all exposed concrete edges, unless noted otherwise. Coordinate with the Owner’s Representative when questions arise.

C. Buried concrete surfaces can be rough formed beyond 3.5” below grade, unless noted otherwise.

3.09 CURING AND PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Spraying: Spray water over horizontal concrete surfaces and maintain wet for 7 days.

3.10 PATCHING

A. Allow Owner’s Representative to inspect concrete surfaces immediately upon removal of forms.

B. Honeycomb or embedded debris in concrete is not acceptable. Notify Owner’s Representative upon discovery.

C. Patch imperfections in accordance with ACI 301 and satisfaction of Owner’s Representative.

3.11 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the Owner’s Representative.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Landscape Architect for each individual area.

D. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension to solid concrete. Limit cut depth to 3/4 inch (19 mm). Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before

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bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

3. Repair defects on concealed formed surfaces that affect concrete’s durability and structural performance as determined by Landscape Architect.

E. No additional compensation will be allowed for repair of defective concrete.

END OF SECTION 03 30 00
SECTION 06 20 13 – EXTERIOR FINISH CARPENTRY

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.

1. SECTION 03 30 00 – CAST IN PLACE CONCRETE
2. SECTION 12 93 00 – SITE FURNISHINGS

1.02 SECTION INCLUDES

A. Framing and finish with dimension lumber of fencing, wood benches, teaching board and raised garden boxes.

1.03 DEFINITIONS

A. Rough Carpentry: Carpentry work not specified in other Sections and not exposed, unless otherwise specified.

B. Exposed Framing: Dimension lumber not concealed by other construction and indicated to receive a stained or natural finish.

1.04 SUBMITTALS

A. Product Data for the following products:

1. Metal framing anchors.
2. Construction adhesives.

B. Wood treatment data as follows, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated materials:

1. For each type of preservative-treated wood product, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.

C. Material test reports from a qualified independent testing agency indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with requirements indicated.

D. Warranty of chemical treatment manufacturer for each type of treatment.

E. Research or evaluation reports of ICC that evidence the following products' compliance with building code in effect for Project.

1. Metal framing anchors.
2. Power-driven fasteners.

1.05 QUALITY ASSURANCE
A. Comply with the applicable provisions of the California Code of Regulations (CCR) Title 24, Part 2, 2016 California Building Code.

PART 2 – PRODUCTS

2.01 LUMBER, GENERAL


B. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:
   1. RIS - Redwood Inspection Service.
   2. WCLIB - West Coast Lumber Inspection Bureau.
   3. WWPA - Western Wood Products Association.

C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
   1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps and provide grade-compliance certificates issued by inspection agency.

D. Where nominal sizes are indicated, provide actual sizes required by 2016 CBC section 2303 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
   1. Provide dressed lumber, S4S, unless otherwise indicated.
   2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

2.02 WOOD-PRESERVATIVE-TREATED MATERIALS

A. General: Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWPA C2 (lumber) and AWPA C9 (plywood). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.

B. Pressure treat aboveground items with waterborne preservatives to a minimum retention of 0.25 lb/cu. ft. After treatment, kiln-dry lumber and plywood to a maximum moisture content of 19 and 15 percent, respectively. Treat indicated items and the following:

C. Complete fabrication of treated items before treatment, where possible. If cut after treatment, apply field treatment complying with AWPA M4 to cut surfaces. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

2.03 MISCELLANEOUS LUMBER
A. General: Provide lumber for support or attachment of other construction, including cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.

B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.

C. Moisture Content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

D. Grade: For dimension lumber sizes, provide Construction Heart grade redwood or better as indicated per WCLIB or WWPA.

2.04 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.


C. Power-Driven Fasteners: CABO NER-272.

D. Wood Screws: ASME B18.6.1.

E. Lag Bolts: ASME B18.2.1.

F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, flat washers.

2.05 MISCELLANEOUS MATERIALS

A. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturers.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Install framing and anchors in accordance with 2016 CBC. See Notes on the Drawings.

B. Set carpentry work accurately to required levels and lines with members plumb and true.

C. Fit carpentry work to other work. Scribe and cope as required for accurate fit.

D. Provide nailers and blocking where required.

E. Shim with metal or slate for bearing on concrete substrates. Where indicated, grout with 1:3 Portland Cement-Sand grout for full-bearing.

F. Securely attach carpentry work to substrates by anchoring and fastening as shown and as required by recognized standards.
G. Provide washers under bolt heads and nuts in contact with wood.

H. Nail plywood to comply with the recommendations of the American Plywood Association.

I. Countersink nail heads on exposed carpentry work and fill holes.

J. Fasteners: Use common wire nails, except as otherwise shown or specified herein. Use finishing nails for exposed work. Do not wax or lubricate fasteners that depend on friction for holding power. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required. Do not drive threaded friction type fasteners; turn into place. Tighten bolts and lag screws at installation and retighten as required for tight connections prior to closing in or at completion of work.

K. Install manufactured materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with other work.

L. Comply with manufacturer's requirements for cutting, handling, fastening and working treated materials.

M. Restore damaged components. Protect work from damage.

N. Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate the work with a minimum of joints or the optimum jointing arrangement.

END OF SECTION 06 20 13
PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.

1.02 SECTION INCLUDES

A. This section includes specifications for:
   1. Picnic Tables
   2. Markerboard
   3. Welded Wire Mesh Panels

1.03 DESCRIPTION OF WORK

A. Refer to drawings and construction details for location and further description of site furnishings.
B. Types of furnishings required are listed in the Site Schedule.
C. Acceptable manufacturers are listed in the Site Schedule; or approved equal.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed installation of site furnishings similar in material, design, and extent to that indicated for this project and whose work has resulted in construction with a record of successful in-service performance.
B. Manufacturer Qualifications: A firm experienced in manufacturing site furnishings similar to those required for this project and with a record of successful in-service performance.
C. Source Limitations: Obtain each color, finish, shape and type of site furnishing from a single source with resources to provide components of consistent quality in appearance and physical properties.
D. Product Options: Drawings indicate size, shape and dimensional requirements of site furnishings and are based on the specific system indicated.

1.05 SUBMITTALS

A. Product Data: Submit manufacturer's “cut-sheets,” technical data, installation instructions, warranties, and finish samples for all site furnishings listed, in compliance with General Requirements section “Submittal Procedures”.
B. Manufacturer's warranties, as applicable.
C. Maintenance Data: For each site furnishing
   1. Include recommended methods for repairing damage to the finish.

1.06 JOB CONDITIONS

A. Contractor is solely responsible to protect all site furnishings from any damage or vandalism until acceptance of project, or written acceptance of individual site furnishings.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer’s original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
B. Storage: Store materials in clean, dry area in accordance with manufacturer’s instructions. Keep materials in manufacturer’s original, unopened containers and packaging until installation.
C. Handling: Protect materials and furniture during handling and installation to prevent damage.

1.08 WARRANTY

A. Manufacturer’s Warranty Information:
   1. Products will be free from defects in material and/or workmanship for a period of three years from the date of invoice.
   2. The warranty does not apply to damage resulting from accident, alteration, misuse, tampering, negligence, or abuse.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Site Furnishings shall be as specified on plans and details, or equal, as approved by Owner’s Representative. If so desired, the Contractor may submit "or equal" site furnishings to the Owner’s Representative a minimum of three (3) working days prior to bid date.
B. When requesting a substitution, it is the Contractor’s responsibility to provide the Owner’s Representative with a “side by side” comparison of the specified item and the proposed "or equal" to demonstrate equality of size, style, finish, quality and strength. Requests for “or equal” substitutions must be approved in writing by the Owner’s Representative prior to bid date.
C. All furnishings shall be designed and constructed specifically for commercial outdoor use. All furnishings shall be heavy-duty and designed for stability.
D. All metal furniture to be powder coated, factory finished or stainless, as appropriate.
PART 3 – EXECUTION

3.01 EXAMINATION

A. Do not begin installation until site is properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Install all site furnishings per respective manufacturer’s instructions in conjunction with all Contract Documents. Immediately notify Owners Representative of any conflicting information or discrepancies. As applicable, install all in-ground site furnishings with their concrete footings sufficiently below finish grade to allow for installation of specified finish materials above unless noted otherwise.

B. Immediately after installation of adjacent paving, plantings, or other fixtures, contractor shall completely wash down site furnishings contained within the area until clean and free of debris. Do not use harsh cleaning materials or methods that could damage finish.

C. Component Damage: Remove and replace damaged components that cannot be successfully repaired as determined by Owner’s representative.

D. Protect installed furniture to ensure that, except for normal weathering, it will be without damage or deterioration at time of Substantial Completion.

3.04 CLEAN-UP AND PROTECTION

A. Protect installed product until completion of project.

B. DO NOT ALLOW water from new concrete to run off or wash onto site furnishings to prevent damage from concrete exudates, lime, and efflorescence.

C. Touch up, repair or replace damaged products.

3.05 MAINTENANCE

A. Contractor shall maintain all site furnishings in a first-class, new condition until project final acceptance, or written acceptance of individual site furnishings.

END OF SECTION 12 93 00
SECTION 31 10 00 - SITE CLEARING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.

B. Related Sections:
   1. SECTION 02 41 19 –SELECTIVE DEMOLITION

1.02 DESCRIPTION OF WORK

A. Protecting existing vegetation to remain.

B. Removing existing vegetation.

C. Clearing and grubbing.

D. Stripping and stockpiling topsoil.

E. Removing above- and below-grade site improvements.

F. Temporary erosion- and sedimentation-control measures.

1.03 SECTION REQUIREMENTS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated or at an approved off-site location as directed by the Owner.

C. Utility Locator Service: Notify Underground Service Alert (USA - North) at 811 or (800) 227-2600 48 hours before start of work.

D. Do not begin site-clearing operations until temporary erosion and sedimentation control measures are in place.

E. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance.

B. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, in accordance with the contract documents.
C. Inspect, maintain, and repair erosion and sediment control measures during construction.

D. Protect existing site improvements to remain from damage. Restore damaged improvements to condition existing before start of site clearing.

E. Locate and clearly flag vegetation to remain or to be relocated.

F. Protect from damage and maintain all trees, shrubs and other vegetation that is not identified for removal on the project plans.

G. Do not store materials or equipment or permit excavation within drip line of remaining trees.

H. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.

I. Arrange with utility companies to shut off indicated utilities.

3.02 SITE CLEARING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction. Removal includes digging out stumps and obstructions and grubbing roots to a minimum depth of 24-inches.

B. Strip topsoil in a manner to prevent intermingling with underlying subsoil or other waste materials.
   1. Stockpile topsoil that will be reused in the Work away from edge of excavations.
   2. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
   3. Stockpile surplus topsoil to allow for re-spreading deeper topsoil as may be directed by the landscape plans.

C. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

D. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
   1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
   2. Neatly saw-cut limits of hardscape items identified for removal. Saw-cut to be straight and true to provide clean joint for construction of proposed improvements. Completed saw-cuts shall be examined by the Owner’s Representative for quality control. Saw-cuts that waiver and are otherwise not acceptable to Owner’s Representative will be re-performed until satisfactory. Additional saw-cut and site work required due to rejected work will be performed at the contractor’s expense.

3.03 DISPOSAL OF SURPLUS AND WASTE MATERIALS
A. Remove surplus soil material, unsuitable or excess topsoil, demolished materials, and waste materials, including trash, debris, and legally dispose of them off Owner's property. Burning waste materials on-site is not permitted.

B. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 31 10 00
SECTION 31 20 00 - EARTH MOVING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.

B. Related Sections:
   1. SECTION 02 41 19 – SELECTIVE DEMOLITION
   2. SECTION 31 10 00 – SITE CLEARING
   3. SECTION 31 25 00 – EROSION & SEDIMENT CONTROLS

1.02 DESCRIPTION OF WORK

A. Extent of earthwork is indicated on drawings. Additional earthwork is required in paving areas. This work can include, but is not limited to:
   1. Cutting and filling for establishment of: Green Schoolyard improvements.
   3. Erosion Control during construction.

1.03 QUALITY ASSURANCE

A. Stormwater Pollution Prevention: Contractor shall at all times be responsible to prevent any site soil erosion and discharge of silt and other pollutants into storm drain systems in compliance with local, state or federal requirements and per the discretion of the Owner's Representative. Contractors may wish to obtain the booklet "Blueprint for a Clean Bay- Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities" available through the Bay Area Stormwater Management Agencies Association (BASMAA), Oakland Ca. (510)286-0615 and, the Santa Clara Valley Non-Point Source Pollution Control Program, San Jose, CA. (800)794-2482 for use in achieving such compliance.

B. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

C. Testing and Inspection Service: Owner reserves the option to engage soil testing and inspection services for quality control testing during earthwork operations.

D. Certification: Contractor shall certify (in writing, if requested) that the grading is in conformance with the plans and specifications, prior to start of the landscape/irrigation work.

1.04 JOB CONDITIONS
A. Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, Contractor shall consult utility owner or Owner’s Representative immediately for directions and re-direct work so as to avoid delay. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair any damaged utilities to satisfaction of utility owner.

2. Do not interrupt existing utilities serving facilities occupied and used by Owner or others except when permitted in writing by Owner’s Representative and then only after acceptable temporary utility services have been provided.

3. Provide minimum of 48-hour notice to Owner’s Representative, and receive written notice to proceed before interrupting any utility.

4. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

B. Protection of Persons and Property: Barricade and cover open excavations occurring as part of this work and post with warning lights. This shall be an on-going procedure during the course of the project.

1. Operate warning lights as recommended by authorities having jurisdiction or as commonly used in construction.

2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

PART 2 – PRODUCTS

2.01 DEFINITIONS

A. Topsoil: See Specification SECTION 31 10 00 - SITE CLEARING

B. Fill: all soil material placed to raise the natural grade of the site or to backfill excavations.

C. On-Site Material: that which is obtained from the required excavation on the site.

D. Import Material: that which is hauled in from offsite borrow areas.

E. Engineered Fill: fill upon which A Geotechnical Engineer has made tests and observations to enable him/her to issue a written statement that in their opinion the fill has been placed and compacted in accordance with the specification requirements.

F. Subgrade: soil upon which paving or other construction will occur, depth at which topsoil ends and native parent soil is encountered and/or depth of required excavation for a particular installation.

H. Percent Compaction: the ratio, expressed as a percentage, of the dry density of the fill material as compacted in the field to the maximum dry density of the same material determined by California Test Method 216-F. Field densities shall be determined in accordance with ASTM D-1556 or ASTM D-2922-71 unless otherwise noted in project Geotechnical Investigation Report.

PART 3 – EXECUTION

3.01 EXCAVATION

A. The site shall be excavated to the required grades. All excavations shall be carefully made true to the grades and elevations shown, or implied, on the plans. The excavated surfaces shall be properly graded to provide good drainage during construction and prevent ponding of water.

B. Unauthorized Excavation: Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Owner's Representative. Unauthorized excavation, as well as remedial work as directed by Owner's Representative, shall be at Contractor's expense.

   1. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Owner's Representative.

C. Subgrade Inspection: When excavations have reached required subgrade elevations, notify Owner's Representative who will make an inspection of conditions.

   1. As applicable, if horticulturally or structurally unsuitable materials are encountered at subgrade elevations, carry excavations deeper and replace excavated material with suitable fill that has been approved by Owner's Representative.

   2. Removal of unsuitable material and its replacement as directed will be paid on basis of contract conditions relative to changes in work.

D. Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.

   1. Do not allow water to accumulate in excavations. Provide and maintain dewatering system components as may be necessary to convey water away from excavations.

   2. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to drain rain water and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

   3. All costs borne from dewatering activities shall be at the Contractor's expense.
E. Material Storage: Stockpile satisfactorily excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage. Do not mix topsoil with excavated subgrade soil or stockpile them close enough together for incidental mixing to occur.

1. Locate and retain soil materials away from edge of excavations. Do not store any materials within drip line of trees indicated to remain.

2. Dispose of excess soil material and waste materials in a legal fashion provided Owner has no use for such materials.

3.02 GRADING

A. General: Uniformly scarify and/or grade areas described on drawings, including adjacent transition areas, to required elevations. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

B. Finish Grades: Finished soil surfaces shall be free from irregular surface changes and as follows:

C. Shrub/Non-Turf Planting Areas: These areas shall contain or receive a minimum of 12” of clean, accepted topsoil. These areas shall be brought to grade with topsoil such that, after soil preparation (Section 32 91 13), finish grades for shrub and other planting areas are 2” below adjacent paving, headers, etc. Areas to receive topsoil shall be ripped 6” deep first. Owner’s Representative is to be called in to observe ripping depth prior to placement of topsoil (minimum 48 hours’ notice).

D. Paving Areas: Shape surface of subgrade areas under pavement to line, grade and cross-section, with finished subgrade not more than 1/2” above or below required elevation.

E. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

3.03 COMPACTION

A. General: Control soil compaction during construction providing minimum percentage of density specified for each area classification as indicated below.

B. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density (cohesive soils) determined in accordance with California Test Method 216- F.

C. Turf or Unpaved Areas: Scarify & recompact top 6" of subgrade and each layer of backfill or fill material at 85% maximum density (80% minimum).

D. Pavements & Walkways: Scarify & recompact top 6” of subgrade and each layer of backfill or fill material at 90% maximum density. Lifts not to exceed 6” layers.

E. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to a water content of one to three percent above laboratory optimum.
1. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

2. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value. After sufficient drying, utilize soil in appropriate ways or remove and dispose in legal manner.

3.04 BACKFILL AND FILL

A. General: Place fill material in layers to required elevations, for each area classification listed below.

1. Under planting areas, use acceptable stockpiled on-site or import topsoil as specified above.

2. Under pavements, use on-site fill material, imported material, or combination of both.

B. Backfill excavations as promptly as work permits, but not until completion of the following:

1. Inspection, testing, acceptance, and recording locations of underground utilities.


3. Removal of trash, debris, or water.

3.05 MAINTENANCE

A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.

1. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

C. Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, planting area or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.06 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Removal from Owner's Property: Contractor shall remove waste materials, including unacceptable or excess excavated material, trash and debris, and dispose of it in a legal manner off Owner's property as it accumulates.
SECTION 31 25 00 - EROSION AND SEDIMENTATION CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Special Conditions and all Specifications sections, may apply to work of this section.

B. Related Sections:
   1. SECTION 31 10 00 – SITE CLEARING
   2. SECTION 31 20 00 – EARTH MOVING

1.02 DESCRIPTION OF WORK

A. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary to install and maintain erosion and sedimentary control measures in compliance with all local, state and federal regulations. The Work shall also include the removal of temporary erosion and sedimentary control measures upon the completion of the project.

1.03 SUBMITTALS

A. Product Data:
   1. Submit data on erosion control materials.

B. Samples:
   1. Submit two samples each of erosion control materials.

C. Manufacturer’s Certificate: Certify Products meet or exceed specified requirements.

D. Project / water pollution control Schedule.

E. Erosion Control Plan.

1.04 EROSION CONTROL

A. Definition: The Contractor shall be responsible for complete and thorough erosion and sediment control within the project site or anywhere that project construction disturbs the surface vegetation or soil.

1. Contractor shall prevent erosion of graded areas during construction and until permanent planting, drainage and erosion control measures are installed.
2. Contractor shall prevent any sediment or dust from leaving the project site, either water-borne, air-borne, on the tires of vehicles, or by spillage from hauling.

3. Contractor shall thoroughly research and include the cost of all erosion and sediment control measures that would be required on site, per the drawings and specifications, in the bid price. No allowances will be made for Contractor’s failure to adequately determine the extent of such measures.

1.05 QUALITY ASSURANCE


B. Perform Work in accordance with the NPDES General Construction Storm Water Permit, latest amendment.

1.06 JOB CONDITIONS

A. The Owner’s Representative will review the erosion control work, however, because the Owner has little control over how the Contractor implements the work to be completed on this site, the Contractor shall at all times be completely responsible for erosion control on and off-site, until notice of completion has been filed.

B. Necessary materials shall be available on the project site and stockpiled at convenient locations to facilitate rapid construction of temporary devices or to repair any damage erosion control measures when rain is imminent or as necessary.

C. Do not move or modify devices without the approval of the Owner's Representative.

D. All removable protective devices shown shall be in place at the end of each working day when the five-day rain probability forecast exceeds 40 percent.

E. After a rainstorm, remove all silt and debris from check berms and desilting basins. Immediately repair any graded slope surface protection measures damaged during a rainstorm.

F. Fill slopes at the project perimeter must have silt fences in place at the conclusion of each working day.

G. Whenever the depth of water in any device exceeds two feet, barricade or guard the site for public safety until the water has subsided.

H. Do not pump or otherwise drain unfiltered water from the basins until sediment has settled.

I. Do not fill sand bags with gravel; use only sand or granular soil.
J. Do not use perforated risers as pond outlets.

K. Do not use filtering devices as a means of control.

L. Completely cover any pipe outlet from a desilting basin with sandbags as a final means of protection.

1.07 PERMANENT DRAINAGE FACILITIES

A. Any drainage structures, or detention devices which appear in the contract documents may be utilized in the Erosion and Sediment Control Plan on the condition that they are temporarily modified to serve the Contractor's purposes, and cleaned before project completion.

B. Such facilities have been designed for the Owner's use in drainage control upon completion of the Project, and shall not be considered as adequate for control during construction except by the independent determination of the Owner's Representative.

1.08 PLANTED AREAS

A. For the purpose of this section, newly planted areas indicated on the drawings are not considered to be installed until one year has elapsed since the time of planting, or until released by the Owner's Representative as being substantially established. Therefore:

1. Maintain planting, and erosion control measures around the planted area for at least one year.

2. Make repairs to any damaged areas during that time.

3. Where planting is lost due to erosion, replace it and begin the one-year period for that portion at the time of replacement.

1.09 REFERENCES


B. Construction Best Management Practices (BMP’s).

PART 2 – PRODUCTS

2.01 EROSION CONTROL MATERIALS

A. Straw bales: Shall be Molate Fescue or Elymus glaucus straw available from: CONSERVASEED, P.O. Box 455, Rio Vista, CA 94571, Phone: (916) 775-1676

B. Sand Bags: Shall be new or nearly new burlap bag with 60 to 90 lbs. capacity for sand.
C. Sand for Sand Bags: Shall be fine sand such as fill sand or concrete sand.

D. Erosion Control Blankets: Shall be Curlux hi-velocity blanket or equal, available from: West Tek Supply Inc. 1335 N. 10th Street, San Jose, CA 95112, Phone: (800) 575-8881.

E. Silt fence: Shall be prefabricated Mirafi Silt fence with posts or equal, available from: West Tek Supply Inc. 1335 N. 10th Street, San Jose, CA 95112, Phone (800) 575-8881.

PART 3 – EXECUTION

3.01 GENERAL

A. The Contractor shall have work crews available at all times to repair or put erosion control devices into place as necessary or as directed by the Owner's Representative.

B. All erosion control devices shall be in place for the duration of the project.

C. Install as necessary any erosion control device throughout the construction process as per the details provided or as submitted with the approved Erosion Control Plan.

3.02 SITE STABILIZATION

A. Incorporate erosion control devices into the Project at the earliest practicable time, as indicated on the Drawings and in accordance with the manufacturer’s specifications. Maintain the devices as necessary.

B. Construct, stabilize and activate erosion controls before site disturbance within tributary areas of those controls.

C. Stockpile and waste pile heights shall not exceed 15 feet. Slope stockpile sides at 2:1 or flatter.

D. Stabilize any disturbed area of affected erosion control devices on which activity has ceased and which will remain exposed for more than 20 calendar days.

E. Stabilize earth swales and stockpiles immediately.

3.03 EROSION CONTROL MATERIALS

A. Straw bales: Install where shown and as detailed in drawings or approved Erosion Control Plan.

B. Sand Bags: Install where necessary, where directed, and where shown on approved Erosion and Sediment Control Plan.
C. Wattling Bundles: Install where shown and as detailed in drawings or approved Erosion Control Plan.

3.04 FIELD QUALITY CONTROL

A. Inspect erosion control devices on a weekly basis and after each runoff event. Make necessary repairs to ensure erosion and sediment controls are in good working order.

B. When inspections indicate Work does not meet specified requirements, remove Work, replace and retest.

3.05 CLEANING

A. When sediment accumulation in sedimentation structures has reached a point one-third depth of sediment structure or device, remove and dispose of sediment.

B. Do not damage structure or device during cleaning operations.

C. Do not permit sediment to erode into construction, site areas or natural waterways.

D. Clean channels when depth of sediment reaches approximately one-half channel depth.

3.06 REMOVAL OF TEMPORARY MEASURES

A. Remove all temporary erosion and sediment control devices as directed by the Owner, within one year of completion of the entire project.

END OF SECTION 31 25 00
SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General Conditions and Special Conditions and all Specification sections, may apply to work of this section.

B. Related sections:

1. SECTION 31 20 00 – EARTH MOVING
2. SECTION 32 13 13 – CONCRETE PAVING

1.02 DESCRIPTION OF WORK

A. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary to install aggregate base course for:

1. Concrete paving

1.03 SUBMITTALS

A. General: Submit under the General Conditions, Special Conditions and SECTION 01 33 00 – SUBMITTAL PROCEDURES.

B. Product Data: Submit source, gradation, R-value, sand equivalent, and durability for the proposed base material.

C. Test Reports: Submit plant and field test reports as specified in Articles 2.02 and 3.05 herein.

1.04 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C136: Test Method for Sieve Analysis of Fine and Coarse Aggregates
2. ASTM D421: Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
4. ASTM D1557: Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
5. ASTM D2419: Test Method for Sand Equivalent Value of Soils and Fine Aggregate
7. ASTM D2922: Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
8. ASTM D3017: Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
9. ASTM D3744: Test Method for Aggregate Durability Index

B. State of California, Department of Transportation (Caltrans), Standard Specifications, current edition:

PART 2 – PRODUCTS

2.01 MATERIAL

A. Aggregate for base course at the time the base material is deposited on the prepared sub grade or sub base shall conform with ASTM D1241 and the following requirements:

1. Class 2 Aggregate Base:
   i. Class 2 aggregate base shall be free of vegetable matter, reclaimed asphalt, concrete, glass and other deleterious substances. Coarse aggregate, material contained on the No. 4 sieve, shall consist of material of which 25 percent by weight shall be crushed particles. ¾" Class 2 aggregate base shall conform to the following grading determined in accordance with ASTM C136:

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<thead>
<tr>
<th>Percentage Passing Sieves</th>
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<tbody>
<tr>
<td>Sieve Sizes</td>
</tr>
<tr>
<td>2-inch</td>
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<tr>
<td>1-1/2 inch</td>
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<tr>
<td>1-inch</td>
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<tr>
<td>3/4-inch</td>
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<td>No. 4</td>
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<td>No. 30</td>
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<td>No. 200</td>
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</table>

   ii. Class 2 aggregate base shall conform to the following additional requirements:

<table>
<thead>
<tr>
<th>ASTM Test</th>
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</thead>
<tbody>
<tr>
<td>Tests</td>
</tr>
<tr>
<td>Resistance (R-Value)</td>
</tr>
<tr>
<td>Sand Equivalent</td>
</tr>
<tr>
<td>Durability Index</td>
</tr>
</tbody>
</table>

2.02 SOURCE QUALITY CONTROL
A. The Contractor shall perform sampling and tests of the aggregate base material in accordance with the ASTM Test Methods herein specified and provide copies of such tests to City, to determine compliance with specified requirements. Samples shall be taken from material as delivered to the site, and shall be prepared in accordance with ASTM D421, as applicable.

B. Aggregate grading or sand equivalent test shall represent no more than 500 cubic yards of base material or one day’s production, whichever is the greater amount.

PART 3 - EXECUTION

3.01 EXAMINATION

A. The Contractor shall call for an inspection by the Owner and obtain written acceptance of the prepared sub grade or sub base before proceeding with the placement of aggregate base course.

B. The sub grade or sub base to receive aggregate base course, immediately prior to spreading, shall conform to the compaction and elevation tolerances indicated for the material involved and shall be free of standing water and loose or extraneous material in accordance 31 20 00- EARTH MOVING.

3.02 INSTALLATION STANDARDS

A. Aggregate base shall be applied over the prepared sub grade or sub base and compacted (95% relative compaction unless otherwise noted) in accordance with Section 26 of the Caltrans Standard Specifications.

B. Aggregate base shall have minimum uniform thickness after compaction of dimensions indicated. Where not indicated, compacted thickness shall be 6 inches.

C. All compaction expressed in percentages in this section refers to the maximum dry density as determined by ASTM D1557.

D. Do not place fill on soft, muddy or frozen surfaces.

E. Level and contour surfaces to elevations and gradients indicated.

F. Maintain optimum moisture content of fill materials to attain required compaction density.

G. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.03 SPREADING OF MATERIAL

A. Aggregate for base shall be delivered as uniform mixture of fine and coarse aggregate and shall be spread in layers without segregation.

B. Aggregate base material shall be free from pockets of large and fine material. Segregated materials shall be remixed until uniform.

C. Aggregate base material shall be moisture-conditioned to at least 2% over optimum moisture content.
D. Aggregate base 6 inches and less in thickness may be spread and compacted in one layer. For thickness greater than 6 inches, the base course aggregate shall be spread and compacted in two or more layers of uniform thickness not greater than 6 inches each per Caltrans Standard Specification Section 26.

3.04 COMPACTING

A. Relative compaction of each layer of compacted aggregate base material shall be not less than 95 percent as determined by ASTM D1557.

B. Thickness of finished base course shall not vary more than 3/4 inch from the indicated thickness at any point. Base that does not conform to this requirement shall be reshaped or reworked, watered, and recompacted to achieve compliance with specified requirements.

C. The surface of the finished aggregate base course at any point shall not vary more than 3/4 inch above or below the indicated grade.

3.05 FIELD QUALITY CONTROL

A. The Owner may, for Owner’s sole convenience, perform field tests to determine compliance with specified requirements for density and compaction of aggregate base material, and to determine moisture-content compliance of the installed base course.

B. Testing frequency by Owner, if performed, is anticipated to be not less than one test for every 2,000 square feet of base course material, per layer or lift. Contractor shall accommodate and cooperate with such testing activity.

END OF SECTION 32 11 23
SECTION 32 13 13 - CONCRETE PAVING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Special
   Conditions and all Specification sections, may apply to work of this section.

B. Related Sections:
   1. SECTION 03 30 00 - CAST-IN-PLACE CONCRETE
   2. SECTION 31 20 00 - EARTH MOVING
   3. SECTION 32 11 23 - AGGREGATE BASE COURSES

1.02 DESCRIPTION OF WORK

A. Provide all necessary materials, labor, tools and equipment to perform the work
   included in the section for the:
   1. Installation of forming for slabs-on-grade, walks, curbs, footings and paving.
   2. Placing reinforcement.

1.03 SUBMITTALS

A. Comply with City Standard Specifications and ACI 301, ACI 302.1R, ACI 305 R,

B. SHOP DRAWINGS: for reinforcing showing layout, dimensions and materials.

C. REPORTS/TESTS:
   1. Certificates or mill test reports indicating physical and chemical properties of
      reinforcing.
   2. Compressive strength test reports from previous applications for each class
      of concrete.

D. PRODUCT DATA: Concrete design mix, Color admixtures, non-shrink grout,
   curing compound, absorptive mats, expansion joint filler, and bonding agent.

E. MOCK-UPS: For a textured or colored concrete surface, construct a 24-by-24-
   inch test panel for each type of texture and color.

1.04 QUALITY ASSURANCE

A. Perform Work in accordance with ACI 301.
B. Maintain one copy of latest construction documents on site, including design drawings, approved shop drawings and permit drawings, and special inspection and testing agreement.

C. Acquire cement and aggregate from same source for all work.

D. Tolerances: Tolerances for sub-grade, subbase and finished grade shall be as specified by the Standard Specifications except that Contractor shall install the aggregate base and concrete to the minimum thickness shown. No combination of high and low tolerances will be permitted.

E. All concrete work installed that does not conform to the approved samples shall be removed and replaced by Contractor at Contractor's expense.

1.05 JOB CONDITIONS

A. Weather Conditions: 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.

1.06 REFERENCES

A. In addition to complying with all pertinent standards, codes and regulations, comply with all requirements of:
   1. ACI 308 - Standard Practice for Curing Concrete.
   2. ACI 309 - Guide for Consolidation of Concrete.
   3. ASTM C33 - Concrete Aggregates.
   4. ASTM C94 - Ready-Mixed Concrete.
   5. ASTM C150 - Portland Cement.
   6. ASTM C309 - Liquid Membrane-Forming Compounds

PART 2 – PRODUCTS

2.01 MATERIALS

A. Forming Materials:
   1. Unless otherwise indicated, materials for formwork shall be wood, steel, fiber or reinforced plastic and of suitable quality to achieve required finishes. Contractor shall conform to considerations and recommendations in ACI-347, Chapter 3.
   2. Unless otherwise indicated, contact surfaces in fabricated forms shall be smooth and uniform without warps, bends, dents, sags or irregular absorptive conditions and imperfections.
3. Form ties and spreaders shall leave a hole not larger than 7/8-inch nor less than ½-inch in diameter in the concrete surface. The portion of the tie remaining in the concrete shall be at least 1-inch back from the concrete surface that will be exposed to view, painted, damp proofed or waterproofed.

4. Radiused chamfer strips shall be milled from clear straight-grain lumber, surfaced on all sides. Other material of equal quality may be used only as authorized by Engineer’s representative or Owner. Radii shall be as detailed in the Landscape drawings.

5. Form coatings and bond breaking materials shall be non-staining and completely compatible with finish materials and other surface treatment materials to be used.

B. Reinforcement:

1. Reinforcing Bars: Deformed, new billet-steel bars, conforming to ASTM Designation A 615, Grade 60 or ASTM A706 unless noted otherwise.

2. Tie wires: ASTM A82

3. Reinforcement supports:
   i. At reinforcing placed over sand or earth, use precast concrete cubes.
   ii. At reinforcing placed over forms, provide supports with legs which are hot dip galvanized, stainless steel or plastic protected.

4. Mechanical Bar Splice: Xtender by Headed Reinforcement Corp. or equal to develop a minimum of 125% of yield strength of bar.

5. Dowels: Deformed steel bars, ASTM A 615, Grade 60, unless otherwise shown.


C. Portland Cement: ASTM C 150, Type II or V, gray as noted in 2.02 below. Shall be provided by one manufacturer.

D. Normal-Weight Aggregates: ASTM C 33, uniformly graded, 3/4-inch max. Provide aggregates from a single source. Pee gravel or smooth aggregate shall not be used.

E. Water: The water used in the concrete mix shall be clear and free from injurious amounts of oil, salts, acid, alkali, organic matter, or other deleterious substances.


G. No admixtures shall be allowed without written acceptance by the Owner’s Representative. Admixtures that have a negative impact on concrete finish shall not be used. When more than one admixture is used, admixtures shall be compatible. Provide letter from admixture manufacturer that it is appropriate for proposed mix design.

H. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

J. Joint Sealant Material: ASTM C-920, self-leveling polyurethane elastomeric sealant. Sikaflex 2c Sl or approved equal. Install per manufacturer’s recommendations. Color to match adjacent finished surfaces.

K. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days. SIKAGrout 212 or approved equal.

L. Epoxy Grout: Two-part epoxy adhesive product that conforms to the requirements of Simpson SET-XP High Strength Epoxy (ICC ESR-2508) by Simpson Strong Tie or equal product with prior written approval of the Owner’s Representative. Installation shall be in strict conformance with the manufacturer’s recommendations.

2.02 CONCRETE MIXTURES

A. Proportion normal-weight concrete mixes to provide the following properties:
   1. Compressive Strength: Minimum 3,000 psi at 28 days.
   2. Slump Limit: Minimum 2 inches, maximum 4 inches.
   4. W/C Ratio: 0.50 maximum at point of placement.
   5. Air Content: 3 percent plus or minus 1.5 percent.
   6. Drying Shrinkage Limit: 0.04 percent. Drying shrinkage limit is percentage of change in length after 21 days of drying when tested per ASTM C157.
   7. All other site concrete shall be mixed using gray Portland cement conforming to 2.01.C above.

2.03 CONCRETE COLORS

A. Colored Admixture for Integrally Colored Concrete: CHROMIX P Admixture and CHROMIX ML; L.M. Scofield Company.
   1. Admixture shall be a colored, water-reducing admixture containing no calcium chloride with coloring agents that are lime-proof and ultra-violet resistant.
   2. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194.

B. Curing Compound for Integrally Colored Concrete: Use to cure exterior flatwork that will be allowed to cure naturally with only occasional maintenance.

C. SUBSTITUTIONS: The use of products other than those specified will be considered provided that the Contractor requests its use in writing. This request shall be accompanied by the following:
1. A certificate of compliance from material manufacturer stating that proposed products meet or exceed requirements of the Section, including standards ACI 303.1, ASTM C979, ASTM C464 and ASSHTO M194.

2. Documented proof that proposed materials have a 10-year proven record of performance.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify requirements for concrete cover over reinforcement.

B. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

C. Subgrade: Verify that subbase is properly compacted and at suitable grade and prepare per the drawings.

D. Protection: Take all steps necessary not to discolor or damage existing improvements. If damage occurs, repair immediately and if repair cannot be made to the satisfaction of the Owner's Representative, remove and replace at no expense to the Owner.

3.02 PREPARATION

A. Accurately position and support reinforcement, and secure against displacement.

B. Locate and install contraction, construction, isolation, and expansion joints as indicated or required.

3.03 INSTALLATION

A. Place concrete in accordance with ACI 301.

B. Place concrete in a continuous operation within planned joints or sections. Do not add water to adjust slump.

C. Do not interrupt successive placement; if interrupted for more than 1/2 hour, place a construction joint.

D. Concrete shall be thoroughly consolidated during placement, and shall be worked around reinforcement and embedded fixtures.

E. In depositing concrete in piers, or thin sections, provide openings in forms, elephant trunks, tremies or other recognized devices, to prevent segregation and accumulation of partially hydrated concrete on forms or metal reinforcement above level of concrete being placed. Such devices shall be installed so that concrete will be dropped vertically. Unconfined vertical drop of concrete from end of such devices to placement surface shall not exceed 6 feet.
F. Joints: Construct expansion and construction joints true-to-line with face perpendicular to surface of the concrete, unless otherwise shown. Construct transverse joints at right angles to the centerline, unless otherwise noted.

1. Tool edges to a radius of 1/2 inch.
2. Tool joints to a radius of 1/4 inch, 1/4 depth of concrete thickness.
4. Separate slabs on grade from vertical surfaces with 1/2 inch thick joint filler. Place joint filler to required elevations. Secure to resist movement by wet concrete.
5. Extend joint filler from bottom of slab to within 1/4 inch of finished slab surface.
6. Furnish joint fillers in one-piece lengths for the full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together. Form top edge of filler to conform to top profile of concrete.
7. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.

G. Where new curb, gutter, and sidewalk adjoins existing, dowel to existing curb, gutter, and sidewalk with two #3 dowels 12-inches long.

H. Begin curing after finishing concrete. Keep concrete continuously moist for at least seven days.

I. Remove and replace concrete paving that is broken, damaged, or defective. Exclude traffic from paving for at least 14 days.

J. Notify the Owner’s Representative a minimum two working days prior to commencement of operations. Do not place concrete until forms and reinforcement as well as other required inspections have occurred and the Owner’s Representative is present to perform observations and testing during placement.

K. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

3.04 CONCRETE FINISHES

A. After striking-off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. After floating, test surface for trueness with a 10-foot straight-edge -- maximum 1/8-inch variation from any edge to concrete surface. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous, smooth finish. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to ½-inch radius, unless otherwise shown. Eliminate any tool marks on concrete surface. After completion of floating and when excess moisture or surface sheet has disappeared, complete surface finishing, as follows:
1. Concrete Paving Type A: Sand Blast Finish: After completion of floating apply TOP-CAST- surface retarder (Grade 05 – Powder Blue Violet) or approved equal uniformly to the wet concrete after the initial bleed water rises to the surface. Spray with plastic low-pressure sprayer until the surface has a complete hiding coat. Do not apply too sparingly. Use water for clean up. Allow to dry for approximately 4-6 hours. Wash away the retarded cement matric using high-pressure water. Protect adjacent finished surfaces to remain prior to application of surface retarder.

2. Concrete Paving Type B: Medium Broom Finish: Draw a stiff hair broom across concrete surface, perpendicular to line of traffic. Repeat operation if required to provide a fine line texture. Texture must be true and straight across entire width of concrete slab.

B. Texture while concrete is in the plastic stage. For textures that require concrete stamps, use stamp under manufacturer's recommendations.

C. Do not texture or grout grooved area and detectable warning surface on a curb ramp.

D. If textured concrete surface is grouted, place grout after initial curing of textured concrete. Remove curing seal and other deleterious substances before applying grout. Removal method must not stain or discolor area of textured concrete to remain exposed after grouting. Spread and consolidate grout over the textured concrete area under manufacturer recommendations. Remove excess grout from textured concrete area with a squeegee and damp burlap rags or other authorized method. Apply curing seal.

3.05 CURING AND PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

3.06 FIELD QUALITY CONTROL

A. The District may employ a testing agency to sample concrete, perform tests, and submit test reports during concrete placement as required.

B. Provide free access to Work and cooperate with Owner’s Representative.

C. Testing and Inspections shall be performed in accordance with District requirements.

D. One test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete it represents.

E. At a minimum one slump test will be taken for each set of test cylinders taken.

3.07 PATCHING
A. Allow Owner’s Representative to inspect concrete surfaces immediately upon
removal of forms.

B. Honeycomb or embedded debris in concrete is not acceptable. Notify Owner’s
Representative upon discovery.

C. Patch imperfections in accordance with ACI 301 and satisfaction of Owner’s
Representative.

3.08 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details,
dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the Owner’s
Representative.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon
express direction of Architect for each individual area.

D. No additional compensation will be allowed for repair of defective concrete.

END OF SECTION 32 13 13
SECTION 32 36 00 - LANDSCAPE BOULDERS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.

B. Related sections:
   1. SECTION 32 11 23 – AGGREGATE BASE COURSES

1.02 SECTION INCLUDES

1. Delivery and sorting of boulders
2. Locating/spotting boulders
3. Placing boulders

1.03 DESCRIPTION OF WORK

A. Provide all necessary materials, labor, tools and equipment to perform the work included in the section for the installation of decorative landscape boulders as shown on drawings.

B. The work includes, but is not necessarily limited to, the following:
   1. Furnishing, coordinating location of and placement boulders and rocks, and earth material as shown on the Drawings, as specified in these Specifications, and as directed by the Owner’s representative.

1.04 DEFINITIONS

A. Boulder: A detached, irregularly rounded mass of stone, typically worn smooth by erosion, with a diameter greater than 10 inches. Landscape boulders are ornamental, shall be irregularly shaped and vary in size. Their weight will vary depending on the material (sandstone, granite, etc).
   1. Medium Boulder: A boulder that is approximately 3’x3’x3’

B. Rock: A naturally occurring solid aggregate, part of the earth’s crust. In the use of the project rocks shall be referred to as relatively small pieces of this larger mass and shall be smaller than boulders and be moved by hand. They will either be headsize or double headsize.

C. Headsizes: A piece of rock approximately the size of a human head, 6”- 12” in diameter.

D. Double Headsize: A piece of rock approximately the two times the size of a human head, 12”- 20” in diameter.
E. **Slabs**: Irregularly shaped pieces of natural stone, generally with one split surface, halfway flay or finished face. Slabs may appear more ‘blocky’ rather than ‘rounded’ in shape.

F. **Wild**: A stone with moss and or lichen that has a natural appearance and has been hand collected. These stones shall be carefully delivered to the site to ensure ‘moss’ arrives intact. They shall not be exposed to continuous fresh or chlorinated water as water will kill the natural dry moss.

G. **Sorting Site**: An area on site where boulders can be laid out for identification and visible by all sized for easy hand selection. Rocks may be stockpiled.

### 1.05 SUBMITTALS

A. **General**:
   1. Submit under the provisions of General Requirements, SECTION 01 33 00 – Submittal Procedures.

B. **Product data**:
   1. Submit source supplying the boulders and rocks, along with color photos of the typical boulder selected for the project in all sizes indicated on the drawings. Image shall show tape measurements for the boulders for size verification.

### 1.06 QUALITY ASSURANCE

A. The Contractor shall provide two (2) samples of boulders for each size indicated on the drawings. One (1) sample shall be provided at the quarry and the other sample shall be placed at the construction site and may become part of the finished rock section. These samples shall be used as reference for judging the gradation of the boulders supplied. Any difference of opinion between the Owner’s representative and the Contractor shall be resolved by checking the gradation of the delivered boulders against the sample.

B. Notify Owner’s Representative at least 48 hours in advance of the following required observations:
   1. Review of boulders and proposed locations on site.

C. Mechanical equipment, a sorting site, and labor needed to sort boulders by size shall be provided by the Contractor at the Contractor’s expense.

### 1.07 COORDINATION

A. Coordinate work with that specified in other sections before start of construction or installation. Any installation found to be in conflict with such work as a result of neglected coordination, shall be removed and reinstalled in new locations designated by the Owner’s representative at no additional expense to the Owner.

B. Coordinate with Owner and Owner’s representative for site visit to determine boulder selection and placement.
1.08 DELIVERY, STORAGE AND HANDLING

A. Care should be taken during delivery and unloading of boulders and rocks. Any boulders damaged, cracked, or with large gashes or scrapes as designated by the Owner’s representative shall be removed and replaced at no additional expense to the Owner.

B. Contractor shall prepare a sorting site for the delivery and selection of the boulders and rocks.
   1. Boulders shall be grouped and labeled by their type based on the drawings and laid out individually, not stock piled, for identification and review by the Owner’s representative.
   2. Boulders shall be washed clean, free of dust, dirt or debris prior to Owner’s representative site visit to select and locate boulders.
   3. Contractor shall assist the Owner’s representative during the selection and location of boulders on site.
   4. Rocks may be stock piled and do not need hand selection and placement by the Owner’s representative.

PART 2 -- PRODUCTS

2.01 MATERIAL

A. Landscape Boulder Type A to be: Sandstone Boulder or other sedimentary type boulder. Boulder to be rounded with minimal sharp edges.

B. Landscape Boulder Type B to be: Water Washed Granite. Boulders to be rounded with minimal sharp edges

C. Color of stones to be either:
   1. White, black and grey speckled
   2. Brown body with light and dark accents
   3. Brown with green and black lichens

PART 3 -- EXECUTION

3.01 BOULDER SELECTION AND LOCATION

A. Boulders shall be hand selected by Owner’s representative from the sorting site and either keyed to a plan for location or direct contractor for final location on site at the time of selection.

B. If finish grading has not been completed at the time the Owner’s representative is on site to hand select and locate the boulders, grade stakes shall be set to help determine the appropriate size and elevation of the boulder in locations shown on the drawing.

3.02 INSTALLATION
A. Excavation:
   1. The boulder locations shall be excavated in preparation for the boulder placement, such that the boulders will be placed at a depth of at least 1/4 the boulder's diameter.

B. Design intent and boulder locations:

C. Site Placement
   1. Landscape boulders throughout site shall be placed as indicated in site plan.
   2. If possible, select boulders adjacent to paving that could be suitable for seating with a flat surface.
   3. After the boulders have been placed, backfill with native topsoil and vibrate the native topsoil into the voids.

END OF SECTION 32 36 00
SECTION 32 91 13 - SOIL PREPARATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Special Conditions and all Specification sections, may apply to work of this section.

B. Related Sections:
   1. SECTION 31 10 00 – SITE CLEARING
   2. SECTION 31 20 00 – EARTH MOVING

1.02 SECTION INCLUDES

A. Weed control
B. Topsoil
C. Soil amendments and fertilizer
D. Finish grading

1.03 DESCRIPTION OF WORK

A. The work includes, but is not necessarily limited to, the following:
   1. Weed abatement for all planting areas prior to amending and fertilizing the soil.
   2. Ripping, tilling and amending native soil or imported fill material for the preparation of planting areas to be planted.
   3. Importing topsoil for the use in planting areas, raised planters and/or planter pots.

B. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the installation of the planting work included in this contract.

1.04 DEFINITIONS

A. Topsoil: Upper, outermost layer of soil, possessing organic matter and horticultural nutrients. Typically, the top 2 to 8 inches of soil.
B. Subsoil: Layer of soil under the topsoil on the surface of the ground. Typically, the first densely packed soil layer under the topsoil.
C. Planting Soil: Surface soil mixed with soil amendments.
D. Fill material: Imported soil free of organic matter, containing no rocks or lumps larger than 2 inches in greatest dimension.
E. Finish grade: Elevation of finished surface of planting soil below mulch.
F. **Subgrade:** Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

### 1.05 SUBMITTALS

A. Product literature or “cut-sheets” on all specified products to be used listed below but not limited to:
   1. Raised planter backfill mix sample with soil test
   2. Amendments and fertilizers
   3. Weed control herbicides

B. Horticultural Soil Analysis Test and Recommendations: A soil fertility test and report shall be provided by a qualified soils laboratory. Soil amendments shall be specified according to the recommendations of the lab based on the test results. Soil samples for testing shall be collected of the existing soil conditions after the grading contractor has fine graded the site soil or added any imported fill material, in sufficient numbers (not less than 3 from different representative locations of the site) to account for any soil variations that may be present on the site. At a minimum, the following shall be tested for complete soil evaluation:
   1. Soil Saturation percent
   2. Soil Texture
   3. Infiltration Rate
   4. pH, including sulfur or lime requirements
   5. Organic Matter Content
   6. Conductivity, Total Dissolved Salts and CEC
   7. Available Nutrients (Potassium, Sodium, Calcium, Magnesium, Nitrate and Phosphate)

C. Appropriate documentation from installer to confirm to the Owners Representative that specified materials and quantities have been delivered and installed and that installer has complied with all local, state and federal documentation requirements.

D. If top soil material is to be imported, a horticultural soil test from a qualified lab is required prior to shipment and placing to evaluate the soil and revise any amendments outlined within this section.

### 1.06 DELIVERY, STORAGE AND HANDLING

A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer.

B. Protect materials from vandalism and deterioration during delivery, and while stored at site. The Owner’s Representative may mark certain containers upon, or after, delivery. All marked containers shall be stored on site, empty or full until final acceptance of the project for review by Owner’s Representative.
1.07 QUALITY ASSURANCE

A. Notify Owner’s Representative a minimum of 48 hours in advance of the following required observations by the Owner’s Representative:
   1. Delivery, quantity verification, and container marking of soil amendment materials.
   2. Site reviews to assure compliance with approved specifications.
   3. The cross ripping depth of soil by prior to contractor amending the soil.

PART 2 – PRODUCTS

2.01 TOPSOIL FOR PLANTING AREAS

A. On-Site Existing Topsoil
   1. May be stockpiled on site for re-use in landscape work.
   2. Contact Owner’s Representative prior to bidding for verification. If quantity of stockpiled topsoil is insufficient (refer to SECTION 31 20 00 – EARTH MOVING, as applicable), coordinate with Owner’s Representative and provide import topsoil as required to establish landscape finish grades.

B. Imported Topsoil

C. All Import Fill material used in planting areas shall meet the following requirements:
   1. All import soil shall be free of harmful physical or chemical materials, roots, rocks or other debris larger than 1 inches in any direction, and any living plant materials including weed seed, roots, rhizomes, culms and or bulbs that can grow, propagate or germinate.
   2. USDA CLASSIFICATION- of fraction passing 2.0-mm sieve: sandy loam, sandy clay loam or loam and conform to the following:

<table>
<thead>
<tr>
<th>Class</th>
<th>Particle size range</th>
<th>Maximum %</th>
<th>Minimum %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse sand</td>
<td>.5 – 2.0 mm</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>Silt</td>
<td>.002-.05 mm</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;.002 mm</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 – 13 mm</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>Rock</td>
<td>1/2 - 1 inch</td>
<td>5% by volume with non &gt; 1 inch</td>
<td></td>
</tr>
<tr>
<td>Organic</td>
<td>NA</td>
<td>15</td>
<td>0</td>
</tr>
</tbody>
</table>

   3. CHEMISTRY- SUITABILITY CONSIDERATIONS-
      i. Salinity: Saturation Extract Conductivity (ECe) = Less than 3.0 dS/m @ 25 degrees
      ii. Sodium: Sodium Adsorption Ratio (SAR) = Less than 6.0
      iii. Boron: Saturation Extract Concentration = Less than 1.0 ppm
iv. **Reaction:** PH of Saturated Paste = 6.0 – 7.5 without high lime content. Optimum lime content % CA CO3 <3.0.

4. **Nutrients-** Soil to contain sufficient quantities of available nutrients to support normal plant growth. In the event of nutrient inadequacies, provisions shall be made to add required materials. A range for required nutrients follows:

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Particle size</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td></td>
<td>25-75 ppm</td>
</tr>
<tr>
<td>Phosphorus</td>
<td></td>
<td>50-100 ppm</td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
<td>150-300 ppm</td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
<td>2000-4000 ppm</td>
</tr>
<tr>
<td>Magnesium</td>
<td></td>
<td>150-500 ppm</td>
</tr>
</tbody>
</table>

5. Prior to approval the Contractor shall submit a Horticultural Soil Analysis test for the exact soil proposed soil to be used for Import Fill material. The report shall be provided by a qualified soils lab. Soil samples for testing shall be collected of the existing soil conditions from the source in sufficient numbers (not less than 3 from different representative locations of the site or source stockpile) to account for any soil variations that may be present on the site. The recommendations of the soil test submitted for the actual fill material to be used in the planting area will supersede the soil amendment schedule provided within this section for bidding purposes only.

6. Obtain import topsoil from local sources or from areas having similar soil characteristics to that found at project site. Obtain topsoil only from naturally, well-drained sites where topsoil occurs in a depth of not less than 4”; do not obtain soil from bogs or marshes.

D. The amount of topsoil to be imported, if any, shall be calculated by the Contractor. The Contractor is required to provide topsoil to the specified grades or implied grading concept as shown on the plans and as described in SECTION 31 20 00 – EARTH MOVING.

### 2.02 SOIL AMENDMENTS AND FERTILIZER

The recommendations below shall be used for bidding purposes only; contractor shall have any the site retested with a horticultural soil analysis test if it has been filled with imported material or imported topsoil. The following amendments/fertilizers shall be revised based on recommendations by an approved lab. Contractor shall submit to report findings to the Owners Representative for review and approval prior to amending. Refer to submittals and preparation articles in this section for more information.

Soil Amendments and fertilizer shall consist of the following materials:

A. **Soil Amendment:** Shall be Nitrogen Stabilized (0 - 1/4") Organic Amendment, Ammonium Sulfate (21-0-0) and Potassium Sulfate (0-0-50)
B. Soil Conditioner: Shall be “Gro-Power Plus (5-3-1) with 4% sulfur”, available through Gro-Power Inc., 15065 Telephone Avenue, Chino, CA 91710-9614. 1-(800)-473-1307. No known equal.

C. Fertilizer Tablets: Shall be as manufactured by Gro-Power™ Inc. 7 gram tablets containing 12-8-8, NPK in a one-year time-release formulation with 4% Humic Acid, 20% Humus, 2% Iron, 3.5% Sulfur. No known equal.

D. Pre-Plant Fertilizer: Complete fertilizer of neutral character, with some elements derived from organic sources and containing the following percentages of available plant nutrients: 6-20-20 NPK.

E. Ferrous Sulfate: Non-staining, manufactured for horticultural use, Gro-Power “Premium Green” or acceptable equal.

F. Agricultural Gypsum: Manufactured for horticultural use with 90% minimum calcium sulfate.

G. Calcium Carbonate: Calcium Carbonate Lime (Oyster shell) for horticultural use.

H. Pre-emergent Weed Control: shall be Ronstar G or acceptable equal.

I. Lime: Ground limestone, if required, containing not less than 85% carbonates: 50% passing a No.100 sieve and 90% passing a No. 20 sieve.

J. Organic Amendments, if required:
   1. Composted manure is acceptable if well composted and if soluble salt levels are less than 3.0 millimhos/cm. Ash: Maximum, 0.6%
   2. Treated wood or sawdust; pine sawdust derived from wood or pine. Organic amendment must meet the following specifications:
      Physical Properties:
      95% - 100% passing, sieve size 6.35mm, (14');
      80%-100% passing sieve size 2.38mm. (no.8 mesh);
      0%-30% passing, sieve size 50 micron (no 35, 32 mesh)
      Chemical Properties:
      Nitrogen content (dry weight basis): 0.4 %-0.6%; Iron content: minimum 0.8% dilute acid soluble Fe on dry weight basis.
      Soluble salt; Maximum 3.5 millimhos/cm @ 25 C. as determined by saturation extract method

K. Amendments containing biosolids which require EPA Section 503 reporting are prohibited.

2.03 WEED CONTROL

A. Contractor shall keep disturbed areas in a weed free condition by Contractor’s choice of methods. If herbicides are used conform to all national, state, county and city reporting requirements.
B. Herbicide materials shall be delivered to the site in the original unopened containers bearing legible labels indicating the Environmental Protection Agency (EPA) registration numbers.

C. Pre-emergent: shall be Ronstar G or acceptable equal.

PART 3 - EXECUTION

3.01 GENERAL PREPARATION

A. All soil preparation shall be done while soil is in a dry, friable condition. Contractor shall not work in soil areas wet enough to become overly compacted or muddy. Any work done while soil is too wet is subject to rejection.

B. Contractor shall remove all vegetation and weeds, dead or alive, from the site per SECTION 31 10 00 – SITE CLEARING prior to beginning work on soil preparation.

C. Mechanically cross-rip all areas exhibiting less than 3:1 slope 10”-12” deep. Areas steeper than 3:1 shall be ripped by hand or rototiller to 6” depth.

D. Before mixing amendments, clean soil of stones over 1-1/2” in diameter, clay lumps, and other extraneous materials harmful or toxic to plant growth. Secure approval of ripping depth by Owner's Representative prior to amending.

3.02 FERTILIZER AND AMENDMENT PLACEMENT

The Contractor shall complete a Horticultural Soil Analysis Test with recommendations via a certified plant laboratory to confirm or supersede the soil additive schedule contained here-in.

A. Thoroughly incorporate the following soil additives and fertilizers with topsoil in all planting areas at rates specified below. Thoroughly mix soil additives into top 6” of soil by rototilling once in each direction.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil amendment</td>
<td>5 cubic yards/ /1000 SF Nitrogen</td>
</tr>
<tr>
<td></td>
<td>Stabilized Organic Amendment</td>
</tr>
<tr>
<td></td>
<td>7 pounds Ammonium Sulfate (21-0-0)</td>
</tr>
<tr>
<td></td>
<td>5 pounds Potassium Sulfate (0-0-50)*</td>
</tr>
<tr>
<td>Pre-plant fertilizer</td>
<td>12 lbs/1000 SF</td>
</tr>
<tr>
<td>Soil conditioner</td>
<td>200 lbs/1000 SF</td>
</tr>
<tr>
<td>Agricultural gypsum</td>
<td>30 lbs/1000 SF</td>
</tr>
</tbody>
</table>
* The rate may change based on the analysis of the chosen organic amendment. This rate is based on 270lbs. dry weight of organic matter per cubic yard of amendment. If a composted green waste product is chosen that is shown to have sufficient potassium, the potassium sulphate may be omitted.

B. Fertilizer and amendments shall be installed per the manufacturer’s published instructions.

C. Contractor shall save all soil conditioner bags with Owner’s Representative’s mark on-site for verification of proper installation of quantity and type of soil conditioning. Failure to do so shall result in the requirement of the Contractor to re-condition soil, and pay for additional lab testing and adjustments to soil condition.

D. Plant pits shall have neither more than 50% nor less than 25% amendment in backfill.

3.03 FINISH GRADING

A. Created landforms shall be integrated into the existing site providing naturalized contouring to integrate newly graded areas with the natural topography.

B. Compact amended planting areas by watering and soaking soil. For planting areas, soils shall be pre-irrigated. Soil shall be between 70-80% relative compaction (this should be attained naturally after pre-irrigation).

C. Fine grade planting areas to smooth, even surface with loose, uniformly fine texture. Limit fine grading to areas which can be planted immediately after grading. Finish grade of soil shall be 3 inches below top of paving, headers, boxes etc. to allow for 3 inches of mulch top dressing unless directed otherwise.

D. Finish grade shall maintain a minimum 2 percent slope away from buildings. Soil finish grades below finish grade of walks, pavements, and curbs shall be specified.

3.04 LEACHING

A. After soil amending, irrigate prepared planting areas with a minimum of 3" of potable water to leach and start fertilizer breakdown. Apply irrigation in increments of 1/2 to 3/4 of an inch of precipitation, and then allow ample time for infiltration, repeating this procedure until the specified amount of water has been applied. Do not create a muddy or overly compacted soil conditions.

B. Restore planting areas to specified condition if eroded or otherwise disturbed after fine grading.

3.05 CLEANUP

A. During all stages of work, keep pavements clean and work area in a clean and orderly condition.

END OF SECTION 32 91 13
PROPOSITION A
BOND PROGRAM

GREEN SCHOOLYARD
SCHOOL PROJECT

GREEN SCHOOLYARD
SAN FRANCISCO, CA 94108

PROJECT
No. 2805

ARCHITECT
LANDSCAPE ARCHITECTS

ENGINEER
RSR

CONTRACTOR
C & L CONTRACTORS

LAYOUT & GRADING PLAN

GRADING LEGEND

PROPOSED CONTOUR MAJOR
PROPOSED CONTOUR MINOR
GRADE BREAK
FLUSH CONDITION
EXISTING SPOT ELEVATION
PROPOSED SPOT ELEVATION
RUNS W/SLOPE DIRECTION

GRADING ABBREVIATIONS

SM

SF

PS

EL

CL

RM

Description
GRADE BREAK
FINISH GRADE SOIL
PROPOSED CONTOUR MAJOR
PROPOSED CONTOUR MINOR
EXISTING SPOT ELEVATION
PROPOSED SPOT ELEVATION
RIM ELEVATION

GRADING NOTES

1. THE CONTRACTOR SHALL CONTINUALLY REFER TO ALL DRAWINGS, SPECIFICATIONS, AND ADDENDA. CONTRACTOR IS RESPONSIBLE FOR PROVIDING 4'X4' SAMPLES OF ALL SPECIFIED FINISHES OF CONCRETE SURFACES WHICH IT IS DIMENSIONED UNLESS NOTED OTHERWISE. ALL REINFORCING AND FORMS SHALL BE SECURED IN PLACE AND INSPECTED BY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION, AND TO NOTIFY THE LANDSCAPE ARCHITECT IN CASE OF CONFLICT.

2. ALL EXISTING UTILITY BOXES, MANHOLE COVERS AND OTHER UNDERGROUND UTILITY SAMPLES. UNACCEPTABLE SAMPLES SHALL BE RE-PREPARED UNTIL ACCEPTED BY THE CONTRACTOR SHALL PROVIDE 4'X4' SAMPLES OF ALL SPECIFIED FINISHES OF CONCRETE.

3. ALL DIMENSION LINES ARE EITHER PERPENDICULAR TO OR PARALLEL TO THE ELEMENT FROM WHICH THEY ARE DRAWN. IT IS ASSUMED THAT THIS LAYOUT INFORMATION WILL BE USED IN CONJUNCTION WITH THE TOPOGRAPHIC MAP AND PLANS BY OTHERS AND MAY NOT REPRESENT TRUE LOCATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTHS OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. IMMEDIATELY NOTIFY OWNERS REPRESENTATIVE OF ANY SITE DISCREPANCIES OR VARIATIONS FROM THE PLANS AS DRAWN.

4. ALL EXISTING SURFACES ARE TO BE LEFT IN PLACE UNLESS SPECIFIED TO BE REMOVED.● EXISTING GRADE BREAKS ARE TO BE MAINTAINED.● EXISTING CONTOURS ARE TO BE MAINTAINED.● EXISTING SPOT ELEVATIONS ARE TO BE LEFT AS-IS UNLESS SPECIFIED TO BE REMOVED.● EXISTING SURFACES ARE TO BE LEFT IN PLACE UNLESS SPECIFIED TO BE REMOVED.

5. OWNER'S REPRESENTATIVE.

6. CONTRACTOR SHALL PROVIDE 4'X4' SAMPLES OF ALL SPECIFIED FINISHES OF CONCRETE SURFACES WHICH IT IS DIMENSIONED UNLESS NOTED OTHERWISE. ALL REINFORCING AND FORMS SHALL BE SECURED IN PLACE AND INSPECTED BY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION, AND TO NOTIFY THE LANDSCAPE ARCHITECT IN CASE OF CONFLICT.

7. ALL EXISTING UTILITY BOXES, MANHOLE COVERS AND OTHER UNDERGROUND UTILITY SAMPLES. UNACCEPTABLE SAMPLES SHALL BE RE-PREPARED UNTIL ACCEPTED BY THE CONTRACTOR SHALL PROVIDE 4'X4' SAMPLES OF ALL SPECIFIED FINISHES OF CONCRETE.

8. OWNER'S REPRESENTATIVE.

LAYOUT LEGEND

SYMBOL

DESCRIPTION

LINE DIMENSION

HORIZONTAL DIMENSION

LETTER DIMENSION

CENTERLINE

POINT OF ORIGIN

WEDGE ALIGNMENT

GRADING NOTES

1. ALL CUTS/PLUGS SHALL BE INSURED IN THE FIELD AND CHECKED FOR PLANE UNLESS SPECIFIED TO BE REMOVED.● CENTERLINES ARE TO BE MAINTAINED.● EXISTING GRADE BREAKS ARE TO BE MAINTAINED.● EXISTING CONTOURS ARE TO BE MAINTAINED.● EXISTING SPOT ELEVATIONS ARE TO BE LEFT AS-IS UNLESS SPECIFIED TO BE REMOVED.● EXISTING SURFACES ARE TO BE LEFT IN PLACE UNLESS SPECIFIED TO BE REMOVED.

2. CONTRACTOR SHALL PROVIDE 4'X4' SAMPLES OF ALL SPECIFIED FINISHES OF CONCRETE SURFACES WHICH IT IS DIMENSIONED UNLESS NOTED OTHERWISE. ALL REINFORCING AND FORMS SHALL BE SECURED IN PLACE AND INSPECTED BY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION, AND TO NOTIFY THE LANDSCAPE ARCHITECT IN CASE OF CONFLICT.
**D. TREE PLANTING**

**SCALE: 1/2" = 1'-0"**

- **NOTES:**
  1. **SCARIFY ROOT BALL BEFORE PLANTING.**
  2. STAKING PLAN, TIE TREE, STAKE TREE, USE SHOP DRAWS.
  3. **FERTILIZER CHART DISTRIBUTED PER TREE PLANTING PLAN.**
  4. **PREPARED SOIL TO FORM PEDESTAL BASE.**
  5. **ADJACENT CURB TO BE EQUAL TO DIAMETER OF TREE CANOPY PER PLANTING PLAN + 2'-0".**

- **TREE & PIT PREPARATION:**
  1. **SCARIFY SIDES OF PLANT PIT TO BE LOOSE TO ALLOW TREE MOVEMENT.**
  2. **ROOTBALL 2" ABOVE GRADE.**
  3. **(2) RECYCLED RUBBER TIRE TREE TIES.**
  4. **TREE STAGED BEFORE PLANTING.**
  5. **FERTILIZER TABLETS SHALL BE USED.**

- **ROOTBALL & FERTILIZER:**
  1. **15 GAL - 12 TABLETS.**
  2. **FERTILIZER CHART.**
  3. **ONE-YEAR TIME-RELEASE FORMULATION.**
  4. **3.5% SULFUR.**
  5. **MANUFACTURED BY GRO-POWER.**

- **Exercise:**
  - **PINE STAKES (TYP.)**
  - **4% HUMIC ACID, 20% HUMUS, 2% IRON, & 7% K.**

**C. ROOT BARRIER**

**SCALE: 1/2" = 1'-0"**

- **NOTES:**
  1. **ROOT BARRIER INSTALLATION DIAGRAM SHOWS ASSEMBLY, DIRECTIONS, AND MATERIALS.**
  2. **FACTORY CUT TO SIZE AS REQUIRED, APPROX. 4'-7" X 33".**
  3. **BOND PROGRAM.**

**B. LANDSCAPE BOULDER**

**SCALE: 1/2" = 1'-0"**

- **NOTES:**
  1. **ALL WOOD SHALL RECEIVE TWO COATS OF STAIN U.N.O.**
  2. **ALL WOOD SHALL BE CON-HEART REDWOOD U.N.O.**
  3. **PROVIDE HEAVY DUTY HOOK AND EYE LATCH TO SECURE DOORS IN THE OPEN POSITION.**
  4. **2 X 4 MOUNTING STUD.**
  5. **SLOPE TO SHED ELEVATION.**

**A. OUTDOOR TEACHING BOARD**

**SCALE: 1/2" = 1'-0"**

- **NOTES:**
  1. **OUTDOOR TEACHING BOARD EXTERIOR GRADE BLACK PULL HANDLE.**
  2. **STEEL PIANO HINGE.**
  3. **LOCKABLE SLIDING BOLT LATCH.**
  4. **SANTA CRUZ, CA 95060 SUITE 40-C.**
  5. **WWW.SSALA.COM.**

**GORDON J. LAU**

**ELEMENTARY SCHOOL**

**950 CLAY STREET SAN FRANCISCO, CA 94108**

**LANDSCAPE ARCHITECT & ENGINEER**

**S.F.U.S.D. PROJECT NO. 490**

**GREEN SCHOOLYARD PROJECT**

**2011 PROPOSITION A BOND PROGRAM**

**S.F. U.S.D.**

**135 VAN NESS AVENUE SAN FRANCISCO, CALIFORNIA 94102**

**Tel (415) 241-6152 Fax (415) 241-6178**

**GORDON J. LAU CRLA NO. 2805**

**Architect Engineer**

**S.F.U.S.D. PROJECT NO. 490**

**ARCHITECT**

**CONSULTANT**

**DRAFTER**

**CRLA NO. 2805**

**SANTA CRUZ, CA 95060 SUITE 40-C**

**www.ssala.com**

**CONSTRUCTION DETAILS**

**SHEET NO. 170021.01**

**FABRICATION & MATERIALS**

**CONSTRUCTION DETAILS**

**SHEET NO. 170021.01**

**FABRICATION & MATERIALS**
GORDON LAU ELEMENTARY SCHOOL - GREEN SCHOOL YARD

GENERAL HAZARDOUS MATERIALS ABATEMENT AND DEMOLITION NOTES

1. HAZARDOUS MATERIALS ABATEMENT PLAN AND SPECIFICATIONS HAVE BEEN PREPARED IN THE BRIEF OF EXISTING DOCUMENTS.zeichnet: inspection of interior inspections, location of all hazardous materials are identified for student statements. Authorization are general in nature. Drawings are intended to provide an approximate location of hazardous materials to be removed. The contractor shall be responsible for determining all hazardous materials, asbestos, lead, PCBs, leaded paint, asbestos containing materials, and other regulated materials to support the Proposition A School Bond Project.

2. THESE DRAWINGS ARE NOT TO BE CONSIDERED A STAND-ALONE DOCUMENT. COORDINATE ALL HAZARDOUS MATERIAL RELATED WORK WITH ARCHITECT’S DRAWINGS AND ALL WORK SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND COORDINATING ALL WORK WITHIN THE CONTRACT TO DETERMINE THE EXTENT OF HAZARDOUS MATERIALS ABATEMENT AND DEMOLITION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRING OR REPLACING ANY DETERIORATED OR REMOVED CONTAINMENT AREAS AS NEEDED TO PROCEED.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK UNDER THIS CONTRACT TO DETERMINE THE EXTENT OF HAZARDOUS MATERIALS ABATEMENT AND DEMOLITION ACTIVITIES. THE CONTRACTOR SHOULD CONSULT WITH THE DISTRICT’S ENVIRONMENTAL CONSULTANT PRIOR TO REMOVAL TO DETERMINE THE EXTENT OF HAZARDOUS MATERIALS ABATEMENT. REFER TO THE CONTRACT DOCUMENTS FOR REMOVED DETERMINED FOR AGE AND TYPE.

5. THE CONTRACTOR SHALL CAREFULLY CURRICULUM AND COORDINATE ALL REMOVALS OF HAZARDOUS MATERIALS AND ENSURE THAT ALL HAZARDOUS MATERIALS ARE REMOVED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL REMOVED HAZARDOUS MATERIALS ARE DISPOSED OF ACCORDING TO LAW.

6. ALL SUBMITS TO THE DISTRICT’S ENVIRONMENTAL CONSULTANT PRIOR TO THE START OF ANY HAZARDOUS MATERIAL RELATED WORK. REFER TO HAZARDOUS MATERIAL SPECIFICATIONS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL TEMPORARY POWER IS SUPPLIED AND MAINTAINED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL TEMPORARY POWER IS PROTECTED WITH GROUND FAULT INTERRUPTER SYSTEMS. THE CONTRACTOR SHALL SUPPLY ADEQUATE POWER TO EACH WORK AREA.

8. PROVIDE, OPERATE AND MAINTAIN SATELLITE DATABASES OR RECORDERS OF APPROPRIATE RANGE AT THE END OF EACH WORK AREA DURING ASBESTOS AND LEAD RELATED ACTIVITIES. ALL ASBESTOS OR LEAD WORK SHALL BE CONDUCTED UNDER THE SYSTEM IS INSTALLED, OPERATING AND RECORDING CORRECTLY.

9. THE CONTRACTOR SHALL DE-ENERGIZE AND LOCKOUT ELECTRICAL POWER TO THE WORK AREAS TO THE GREATEST EXTENT POSSIBLE. THE CONTRACTOR SHALL INSTALL TEMPORARY POWER FROM AN OUTSIDE SOURCE, PROVIDED BY THE CONTRACTOR. TEMPORARY POWER SHALL BE PROTECTED WITH GROUND FAULT INTERRUPTER CIRCUIT BREAKERS. THE CONTRACTOR SHALL SUPPLY ADEQUATE POWER TO EACH WORK AREA.

10. PROVIDE, OPERATE AND MAINTAIN MAGNAHELIC GAUGES OR RECORDERS OF APPROPRIATE RANGE AT THE END OF EACH WORK AREA DURING ASBESTOS AND LEAD RELATED ACTIVITIES. ALL ASBESTOS OR LEAD WORK SHALL BE CONDUCTED UNDER THE SYSTEM IS INSTALLED, OPERATING AND RECORDING CORRECTLY.

11. THE CONTRACTOR SHALL INSTALL AN ADEQUATE NUMBER OF CLEAR VIEW PORTS TO EACH WORK AREA. THE CONTRACTOR SHALL INSTALL AN ADEQUATE NUMBER OF CLEAR VIEW PORTS TO EACH WORK AREA. THE END OF EACH WORK AREA DURING ASBESTOS AND LEAD RELATED ACTIVITIES. ALL ASBESTOS OR LEAD WORK SHALL BE CONDUCTED UNDER THE SYSTEM IS INSTALLED, OPERATING AND RECORDING CORRECTLY.

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GENERAL NOTES

1. All work performed on site is conditioned on having lead-containing materials. All work performed shall be in accordance with the "METHOD OF ABDATION" of the contract documents. Failure to adhere to these methods will result in disqualification of the contractor from future work on the project.

2. All samples and test information are to be provided to the project team. These materials will be used to determine the extent of soil contamination and to develop a work plan for the removal of lead-containing materials. The contractor is responsible for ensuring that all work is performed in accordance with the contract documents and the project specifications.

3. Prior to lead sample collection, all work should be completed in accordance with the work plan approved by the project team.

4. The work plan will be developed in accordance with the "METHOD OF ABDATION" of the contract documents. The work plan will be reviewed and approved by the project team before work begins.

5. The project team will provide lead sample kits to the contractor for use in the field. Lead samples will be collected in accordance with the "METHOD OF ABDATION" of the contract documents. Lead sample results will be used to determine the extent of lead contamination and to develop a work plan for the removal of lead-containing materials.

6. The contractor is responsible for ensuring that all work is performed in accordance with the contract documents and the project specifications.

7. The project team will provide lead sample kits to the contractor for use in the field. Lead samples will be collected in accordance with the "METHOD OF ABDATION" of the contract documents. Lead sample results will be used to determine the extent of lead contamination and to develop a work plan for the removal of lead-containing materials.

ABATEMENT KEYNOTES

ASBESTOS-CONTAINING MATERIALS
1. All structures, including those built before January 1, 1973, may contain asbestos. All asbestos-containing materials must be removed before work begins.

2. All asbestos-containing materials must be removed from the work area before work begins.

3. All asbestos-containing materials must be removed from the work area before work begins.

4. All asbestos-containing materials must be removed from the work area before work begins.

5. All asbestos-containing materials must be removed from the work area before work begins.

6. All asbestos-containing materials must be removed from the work area before work begins.

LEAD-CONTAINING MATERIALS
1. All lead-based paint and lead work processes for removal and disposal of lead-based material must be performed in accordance with the contract documents.

2. All lead-based paint and lead work processes for removal and disposal of lead-based material must be performed in accordance with the contract documents.

3. All lead-based paint and lead work processes for removal and disposal of lead-based material must be performed in accordance with the contract documents.

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12. All lead-based paint and lead work processes for removal and disposal of lead-based material must be performed in accordance with the contract documents.

LEGEND

FIELD LOCATION

LIMIT OF WORK

SEDIMENTARY GARDEN

IGNEOUS GARDEN

SEE GENERAL NOTE 5 FOR SOIL INFO

LIMIT OF WORK

SEE GENERAL NOTE 5 FOR SOIL INFO

KEY MAP

NEGATIVE ACTIVITY KEY:

X = negative action

WASHINGTON ST

A1 L1 L2

B1 GARDEN

B2 GARDEN

H1 GARDEN

H2 GARDEN

YARD 1

YARD 2

YARD 3

YARD 4

YARD 5

YARD 6

YARD 7

YARD 8

YARD 9

YARD 10

YARD 11

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APPENDIX A
HAZARDOUS MATERIAL SPECIFICATIONS

San Francisco Unified School District

Gordon Lau ES
Green School Yard
950 Clay Street
San Francisco, California 94108

Prepared by:

Millennium Consulting Associates
A MECA Consulting, Inc. Company
401 Roland Way, Suite 250
Oakland, CA 94621
(925) 808-6700

December 20, 2019
(CD Set)

Millennium Job No. 19001.2119
SFUSD Project No.
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SECTION 003127

EXISTING HAZARDOUS MATERIALS CONDITIONS

PART 1 – GENERAL

1.01 SUMMARY

A. This section provides a list of known and assumed hazardous materials that may be impacted during renovation, demolition, repair, custodial and/or maintenance activities. The hazardous materials information has been provided through existing surveys conducted by San Francisco Unified School District (District) and the District’s environmental consultants.

B. Some materials and items found at the Site either contain or may contain materials known to the State of California to be either hazardous, carcinogenic or reproductive toxins. These include but are not limited to asbestos, lead, PCB’s, silica, and other materials.

C. The Contractor shall hold the District and its consultants harmless for claims, damages, losses, and expenses, including attorney’s fees arising out of the Contractor’s hazardous materials related work including releases from any incidental disturbance of existing hazardous materials, on-site or off-site spills of hazardous materials, or from non-compliance with the Contract Documents and regulatory requirements.

1.02 HAZARD COMMUNICATION

A. The District may have conducted previous hazardous materials abatement projects at the site. The hazardous materials abatement oversight information is available for review by appointment only through the District’s Asbestos Control Program at (415) 241-6226.

B. Copies of previous hazardous materials report(s) and the AHERA Management Plan for the Gordon Lau Elementary School (Gordon Lau ES) site are available for review by appointment only through the District’s Asbestos Control Program at (415) 241-6226. In addition, historical data for the site is also available for review through the District’s Environmental Consultant. The information listed below includes only those materials and areas proposed to be affected by the Green School Yard renovation and does not include items such as general interior and exterior building components typically associated with AHERA management.

C. Asbestos Hazards at Gordon Lau (related only to this project)

1. Asbestos has been identified at concentrations greater than one percent (≥1%) in the following materials:

   a. Exterior Sites

      1) Asphalt/concrete system material (coating and asphalt) located on the Lower East play yard of Building C; approximately 15,500 sq. ft.

   2. The following materials have not been sampled and shall be assumed to contain asbestos at concentrations greater than 1% [≥1%] (unless sampled prior to immediate removal and found not to
contain asbestos or found to contain less than 1% [<1%] asbestos) (related only to this project):

a. Exterior Sites

1) Any asbestos cement underground sewer, water, and drain piping located throughout the campus (should they be encountered)

3. Asbestos has been identified at concentrations less than one percent (<1%) in the following materials (after point count) (related only to this project):

a. Exterior Sites

1) Asphalt/concrete system material (coating and asphalt) (<0.1% Chrysotile) located on the Lower West and immediate East play yard of Building W; approximately 8,000 sq. ft.

4. The following sampled suspect materials had results that reported NO asbestos detected by PLM analysis (related only to this project):

a. Exterior Sites

1) Asphalt/concrete material located in the upper South play yard area near the main entrance (off Clay street)
2) Asphalt/concrete material located in the upper most West play yard of Building W.

5. Areas and/or Spaces known or presumed to be contaminated with asbestos containing materials, dust, and debris include (related only to this project):

a. Exterior Sites

1) None listed per historical data

6. Areas and/or Spaces where asbestos abatement was conducted include:

a. Exterior Sites

1) None listed

D. Lead Hazards at Gordon Lau ES (related only to this project):

1. Lead has been detected in individual painted surfaces and surface coatings (compiled per existing data and historical data) in concentrations greater than or equal to 5,000 parts per million (ppm) [≥ 5,000 ppm] lead or 1.0 milligram of lead per square centimeter (≥ 1.0 mg/cm²). Where ranges of lead levels are indicated, Contractor shall presume the highest level is typical. These lead surfaces include, but are not limited to the following:
a. Exterior Sites

1) None listed

2. Lead has been identified in individual painted surfaces and surface coatings (compiled per existing and historical data) in concentration less than 5,000 ppm [≤5,000 ppm] lead or 1.0 mg/cm². Where ranges of lead levels are indicated, Contractor shall presume the highest level is typical. These lead-containing surfaces include, but are not limited to the following surfaces:

a. Exterior sites

1) Blue paints on benches, red paints on asphalt floors of the play yard of Building C and W

NOTE: Historical data details site soils as having elevated lead content that have been known to be disposed of both California and Federal hazardous wastes (due to failing soluble tests for disposal).

3. The Contractor shall assume that all paints and surface coatings contain detectable quantities of lead requiring compliance with CAL/OSHA lead regulation in the absence of objective data to the contrary. Additionally, the Contractor shall assume that, at a minimum, lead is “present” in all of these materials at levels that have a potential, until proven otherwise, to create a lead hazard.

4. The District has not verified that any paints, coatings, dusts, or materials are “lead free” or below detectable limits. The Contractor shall treat all paints, coatings, dusts or materials as having a reportable lead concentration requiring dust controls and personal protective procedures for construction activities in conformance with the Cal/OSHA Lead Construction Standard, 8 CCR 1532.1 lead. Any paint, varnish, or other coating or finish not listed above shall be considered to be lead-based paint (LBP) with lead levels at or exceeding 5000 ppm lead or 1.0 mg/cm² for this contract.

5. The Contractor and all sub-contractors who disturb any component containing LBP shall be certified under the RRP (Renovate, Repair, and Paint) rule becoming a “Certified Renovator.” The firm shall have a properly trained “Lead Renovator” responsible for “on-site” training of employees who will impact LBP. Training shall include, but is not limited to: procuring pre-job submittals and submitting notifications to the proper regulatory agencies, performing proper work practices regarding containment, employee protection, controls, disturbance, clean-up and knowledge of final clearance criteria during all renovation activities, including final closeout procedures. All work practices should be performed in accordance with 40 CFR 745.

6. In addition to lead-containing paints and coatings, the Contractor shall assume that lead is present at detectable levels in existing plumbing components and solders, glazing compounds, roof jacks, and surficial soils.

E. The Contractor and all sub-contractors shall assume that all soils onsite, in addition to containing detectable amounts of lead, may contain various concentrations (from background to elevated) of metals and other constituents. The Contractor shall assume that soils may require specific
characterization for landfill disposal and/or re-use. The Contractor and all sub-contractors shall perform all soil trenching activities in accordance with applicable safety and environmental regulations and requirements of the Contract Documents, and shall be responsible for characterization, handling, and disposal of all soils produced from site trenching and excavation in terms of disposal/re-use. The Contractor shall assume that excess soils onsite (and not viable for backfill) may require disposal as a regulated waste pending further waste profiling, stockpile sampling, laboratory results, and landfill criteria. Copies of prior soil assessments, investigations and reports are available for review through the District’s consultant. **NOTE: Historical data details site soils as having elevated lead content that have been known to be disposed of both California and Federal hazardous wastes (due to failing soluble tests for disposal).**

F. Metallic Mercury and mercury compounds are present at this site in fluorescent lighting tubes, high intensity discharge lamps, mercury switches and mercury thermostats. All demolition and disposal of these items shall be conducted in accordance with applicable safety and environmental regulation and the requirements of the Contract Documents.

G. Polychlorinated biphenyl (PCB)-containing fluorescent lighting ballasts. This site DOES contain fluorescent lighting fixtures manufactured or installed prior to 1979. All fixtures known or presumed to have been installed prior to 1979 shall be considered to contain PCB ballasts unless otherwise noted in the contract documents. Also, this site contains window components with window glazing which should be re-inspected once the scope of work has been determined. Removal, handling and disposal of PCB ballasts and PCB-containing window glazing are subject to applicable regulation and requirements of the Contract Documents.

H. No visible mold was tested at the time of the survey. However, notable signs of water intrusion were observed. If visible mold is discovered during demolition, the affected area must be contained and controlled by trained and licensed restoration professionals prior to any continuance of demolition or new work. Remediation of the affected area may also contain asbestos and lead hazards.

I. Crystalline Silica is presumed present in all concrete, plaster, ceramic tile, grouts, and other cementitious materials at this site as well as soils. Worker protection and control of air dust during cutting, drilling, demolition and other construction operations is the responsibility of the Contractor.

J. The Contractor shall take into consideration all existing known and presumed hazardous materials that may be disturbed or otherwise impacted by the Work of this project. All work of this project that disturbs or otherwise impacts hazardous material shall be considered included in the Work of the project and shall be conducted in accordance with all applicable regulations and the Contract Documents. The Contractor shall use appropriately trained and qualified personnel to conduct all hazardous material related work and shall adhere to the requirements for handling, removal, clean-up, and disposal in accordance with the Contract Documents and all applicable Cal/OSHA, Cal/EPA, California Department of Public Health (CDPH), and Bay Area Air Quality Management District (BAAQMD) regulations.

1.03 RELATED DOCUMENTS

A. Contract Documents including hazardous material-related plans and specifications and all other project construction documents. Refer to Section 011110 Summary of Work, Article 1.04 Related Documents for a more detailed listing.
1.04 USE OF HAZARDOUS MATERIALS INFORMATION

A. Hazardous material information identified herein was obtained for the use of the District and its Consultants for planning and design stages of the Project. The above-mentioned survey data and reports are not, as a whole, part of the Contract Documents, but can be relied upon by the Contractor to characterize general site conditions, although quantities, friability and other factors may have changed or altered since the published report dates.

B. All statements, findings and interpretations in the above-mentioned reports are those of the Survey or Environmental Consultant. The District makes no representation, either expressed or implied, as to the completeness or adequacy of the above-mentioned reports. Bidders are advised that the limited testing of components allows for generalizations in describing the extent of hazardous materials. Contractors may visit the site and investigate to identify locations of hazardous materials identified herein. Specific components or materials, should be checked against the referenced survey reports and the Contract Documents, or be tested at affected locations, prior to disturbance of such components.

PART 2 – PRODUCTS: NOT USED

PART 3 – EXECUTION: NOT USED

END OF SECTION
SECTION 011110

SUMMARY OF HAZARDOUS MATERIALS WORK

1.01 GENERAL

A. The work required to be performed by the Contractor comprises

GREEN SCHOOL YARD PROJECT
SAN FRANCISCO UNIFIED SCHOOL DISTRICT
GORDON LAU ELEMENTARY SCHOOL
950 CLAY STREET
SAN FRANCISCO, CA 94108

SITE EPA I.D. #: CAL912613729

in conformity with plans and specifications herein after identified; including furnishing all materials, labor, tools, equipment, and services necessary there for and incidental there to, complete and ready for use, except as herein after otherwise provided.

B. The hazardous materials abatement portion of the project includes removal, clean-up, decontamination, and proper disposal of the following items:

1. Preparation, contractor assist, removal and disposal of asbestos-containing materials to receive new building systems and components. May include contractor-assist removal of materials with asbestos impacted by design renovation. Preparation and abatement may include constructing plastic containment barriers, abatement of all ACM and materials with detectable asbestos, and clean-up of contaminated debris, and final cleaning to the extent required to support clearance measures and general build back for the Gordon Lau ES Green School Yard Project.

2. Preparation and removal of painted concrete, stucco, plaster, gypsum board systems, architectural components and finishes with lead-containing paint to receive new building systems and components. Preparation and demo may include contractor assisted drilling, demolition, paint removal and cleaning of areas where installation may disturb lead-containing paints to the extent required to support the Gordon Lau ES Green School Yard Project.

3. Removal/recycle of other regulated materials such as site soils, concrete, and construction debris to be profiled to comply with landfill acceptance criteria and Department of Toxic Substance Control.

4. Removal and disposal, recycling, salvaging, protection and cleaning of District equipment and property, which includes site MEPFCD systems (mechanical, electrical, plumbing, fire, communications and data. Contractor to coordinate with District and Construction management to the extent required to support the Gordon Lau ES Green School Yard Project.
C. The Contractor and its associated Subcontractors shall take into consideration all identified and presumed hazardous materials present that will be impacted by the work of this Project. At minimum, the Contractor’s bid shall take into consideration the information provided in Section 003127, hazardous materials drawings and specifications, all contract documents, and the information resulting from Contractor’s own onsite investigation and review of site conditions.

D. Hazardous materials abatement documents are not to be considered stand-alone documents. In addition to the identified hazardous removal work shown on drawings and/or described in the scope of work, abatement shall include all incidental removal of hazardous materials required to complete the Work. Work will also include removal and/or demolition of materials with lead-containing coatings. All disturbance of said material are subject to the Cal/OSHA Lead in Construction Standard 8 CCR 1532.1, Title 17, Division 1, Chapter 8 CDPH Accreditation, Certification and Work Practices, and the Federal RRP requirements regarding training, personal protective equipment, engineering controls, lead safe work practices, cleaning and disposal. All lead-containing materials are also subject to waste profiling, characterization, transport and disposal in accordance with DTSC/DOT. All lead related work will be subject to requirements identified in Specification Section 028300. In addition, general non-haz soft demolition is subject to general safety construction practices and dust suppressions measures in accordance with the general industry safety orders 8 CCR 5139-5155. Contractor to coordinate all hazardous materials related work and non-hazardous related work of the Contract as indicated or inferred in the Contract Documents.

E. The Contractor shall carefully schedule and coordinate all phases of hazardous materials related work to ensure that unprotected personnel are not exposed to hazardous substances. This includes the coordination of all pre-demolition, demolition, alteration, repair, renovation, and new construction work.

F. All submittals as required by the project specifications must be approved prior to the start of any hazardous materials related work. The Contractor shall review Specification Sections 011110, 028200 and 028300, and Article 1.06 of this section for specific submittal requirements.

1.02 HAZARDOUS COMMUNICATION

A. Hazardous materials present in the building(s) and structures at this site include: asbestos containing materials (ACMs); assumed asbestos containing materials; asbestos containing construction materials (ACCMs); asbestos containing construction debris (non-ACCM), lead-based paint (LBP); lead-containing coatings and materials; polychlorinated biphenyl (PCB) light ballasts; electrical transformers with PCB oils; mercury containing fluorescent lighting tubes, lamps, switches, and thermostats; smoke detectors and signs with radioactive material sources; emergency batteries; building materials with visible mold growth; and building materials with visible pigeon droppings and biological contamination. These materials may significantly impact demolition and renovation activities. The Contractor shall review Specification Section 003127 – “Existing Hazardous Materials Conditions” for known and assumed hazardous materials that are to be or could become impacted by the project.
1.03 SCOPE OF WORK

A. The Contractor(s) work includes the removal of hazardous materials to the extent specified and/or necessary prior to normal demolition, renovation, alteration, repair, or other construction operations. The Contractor is responsible for locating, accessing and removing all hazardous materials in areas of project work including materials and assemblies scheduled for removal and any necessary removal coincidental to the completion of the work of the project. All removal shall be to the extent necessary to properly complete the work of the project. This project requires close coordination with all other trades and work on this project. The Contractor’s hazardous materials scope of work includes but is not limited to the following:

1. Preparation, removal, disposal and cleaning of site systems with materials containing detectable asbestos down to the native soil for the purposes of renovation.

2. Preparation, removal, disposal and cleaning of wall finishes with lead containing paint at scheduled locations where removal of the existing finish and system down to substrate will be required for the scope of renovation.

3. Implement safe lead work practices that conform with the OSHA Lead in Construction Standard, Federal RRP requirements and specific method specifications identified in Specification Section 028300 for removal or installation of any finish or equipment assumed to disturb lead containing paint, for the purpose of renovation.

4. Protection of site utilities where work will be required for renovation.

5. Removal and disposal of site soils and debris profiled for compliance with landfill acceptance criteria and DTSC.

B. The Contractor shall refer to the Hazardous Materials Finish Schedule (where one is present), Architectural Drawings, HAZMAT drawings or other project drawings and the Contract Documents for approximate locations and extent of hazardous materials related work, project phasing, bid alternates, and other requirements for completion of the Work.

C. All hazardous materials related work shall be conducted in accordance with applicable federal, state, local regulations and the Contract Documents. The most stringent requirements shall take precedence.

1. All lead-related work shall be conducted in accordance with Section 028300 – Lead Impacted Construction & Abatement.

2. All asbestos-related work shall be conducted in accordance with Section 028200 – Asbestos Abatement.

D. The Contractor shall ensure that any hazardous materials contamination resulting from any construction activities on this site is cleaned up prior to each room or work area is turned back over to the District. The same hazardous materials clearance methods and standards shall be used to determine adequacy and completeness of the Contractor’s final clean-up operation prior to
returning each room or work area to the District.

E. The Contractor shall ensure that their Asbestos Supervisor, Department of Public Health (DPH) Lead Supervisor and/or RRP trained foreman on this project speaks fluent English and is present on the project during all asbestos and lead-related activities.

F. Hazardous materials related work entails adhering to special requirements for the protection of workers, occupants, the public and the environment, and requires consideration of, and close coordination with, work specified elsewhere for this site.

1.04 RELATED DOCUMENTS

A. Hazardous Materials Related Documents


2. Section 028200 – Asbestos Abatement.


4. Hazardous Materials Abatement Drawing(s):
   a. HM-1 through HM-2


1.05 DEFINITIONS

A. Definitions Applicable to All Hazardous Materials Specification Sections:

1. Abatement: Special methods and procedures to control or prevent hazardous releases during removal, repair, encapsulation, and enclosure of hazardous materials. This definition is not meant to imply intent to reduce or eliminate an existing hazard unless so stated in the project work scope.

2. Air Filtration Equipment: A portable air re-circulation system equipped with HEPA filtration and used to cleanse air of particulate matter within an abatement Work Area or containment. Air filtration equipment is essentially the same as differential pressure equipment except it re-circulates air instead of exhausting it.

3. Airlock: A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area. Typically consisting of chamber with two curtained doorways at least 3 feet apart. Note: See Curtained Doorway.

4. Air Monitoring: The process of measuring the airborne levels of one or more air contaminates, such as asbestos, lead, by collecting a specific volume of air in a stated period of time. “Personal” air monitoring is used to determine compliance with exposure limits; “general area” and “perimeter” air samples are used to evaluate the effectiveness of hazard controls;
“background” air monitoring is used to monitor initial conditions prior to disturbance or abatement; and “clearance” air is used for comparison with air quality standards established for assessing status and acceptability of work completion.

5. Amended Water: Water to which a surfactant (chemical wetting agent has been added to improve penetration and wetting.

6. Authorized Visitor: The District’s Project team member, the District’s Representative, and any Representative of a regulatory or other agency having jurisdiction over the project.

7. Competent Person: One who is capable of identifying existing asbestos, lead or other hazards in the workplace and selecting the appropriate control strategy for worker exposure, who has the authority to take prompt corrective measures to eliminate them. All work performed in regulated work areas must be supervised by a “Competent Person” specially trained in accordance to regulation.

8. Containment or Containment System: The system of physical barriers and protective coverings (e.g. plastic sheeting) used to enclose or “contain” the hazardous materials within a Regulated Area (or Work Area) and thereby prevent personnel exposure and environmental contamination outside the Regulated Area. Includes simple mini-containments to full HEPA exhausted negative pressure enclosure (NPE) with contiguous worker and/or equipment Decontamination Enclosure System(s). Also see related Mini-containment below and Negative Pressure Enclosure definitions.

9. Critical Barrier: A unit of temporary construction of air tight and impermeable barrier, which provides the only separation between an asbestos or other hazardous material of the work area from an adjacent, potentially occupied area.

10. Curtained Doorway: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms. Typically constructed by placing two overlapping sheet of plastic sheeting over a existing or temporary doorway, securing each along the top of the doorway, and securing the outer vertical edge of each of the sheets along the adjacent vertical sides of the doorway.

11. Decontamination Enclosure System: A series of connected rooms, with airtight doorways between any two adjacent rooms, for the decontamination of workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock.

12. Differential Pressure Equipment: A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated areas from adjacent uncontaminated areas. Also referred to as “HEPA units” or “HOGS”.

13. District: The San Francisco Unified School District (SFUSD) and its designated representatives (District’s Representatives) for this project. For the hazardous materials-related work of this project, the District’s Representatives include the District’s Project Manager, Construction Manager, Inspector of Record (Construction Inspector) and other persons designated or appointed to represent the District in all matters concerning the construction of the Project.
14. Disturbance: Contact or activities, which disrupt the matrix of a hazardous material, crumble or pulverize a hazardous material, or otherwise cause airborne dust and/or visible debris containing hazardous constituents to be released. Typically applied to asbestos or lead related work.

15. Environmental Consultant: Firm and its representatives retained to provide environmental consulting services for the District including surveys, project design, bid support, construction technical support and construction compliance observation and monitoring services. Also known as the District’s Environmental Consultant.

16. Equipment Decontamination Enclosure: That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment, typically consisting of a wet sponge area, a washroom and a holding area.

17. Exposure Assessment: Sampling of the concentrations asbestos, lead or other airborne contaminate within the breathing zone of worker during representative work operations and shifts to determine airborne exposure levels as required by regulation.

18. Fixed Object: A unit of equipment, furniture or other features in the Work area that cannot be removed from the Work Area. Fixed Objects typically require protection from contamination during abatement or related work that disturbs asbestos, lead or other hazardous materials.

19. HEPA Filter: High Efficiency particulate air filter means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. Required filtration system for vacuums, local exhaust systems for asbestos, lead and other specified hazardous material work. For respirator cartridges, the equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters where HEPA filtration is required (e.g. asbestos, lead, cadmium, etc.)

20. HEPA Vacuum Equipment: Vacuuming equipment with a HEPA (UL 586 labeled) filter system.

21. Mini-containment or Mini-enclosure: A small temporary enclosure constructed of impervious material (e.g. plastic sheeting) with at least one air lock to permit ingress and egress. The entire Work Area is enclosed or contained within this system to prevent the release of contamination outside the work area.

22. Negative Exposure Assessment (NEA): Air sampling of representative operations to demonstrate employee exposures are below the permissible exposure limits for similar operations undertaken using similar method and procedure, production rates, by similarly trained and skilled employees. Often conducted for limited maintenance and operations type work involving asbestos and/or lead. To be accepted as valid, the NEA must have been conducted within last 12 months.

23. Regulated Area: A controlled access work area where asbestos, lead, or other hazardous materials are being removed or otherwise disturbed. Access is limited to specially trained and protected personnel. The perimeter of the regulated area is established to preclude airborne
hazards to personnel or environmental contamination outside the Regulated Area. Minimum controls involve signage and barrier tape but controls can range all of the way up to full negative pressure containment with HEPA filtration.

24. View Port: A clear material, typically Plexiglas, which allows observation of all possible areas inside the work area.

25. Waste Generator Label: Waste Generator Label shall include the Generator’s Name, ID Number, Address and Waste Manifest Number.

26. Wet Cleaning: The process of eliminating asbestos, lead or other contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as contaminated waste. Often used in conjunction with detergents and/or other agents for lead, mold or other contamination.

27. Work Area: Designated rooms, spaces, or areas of the project in which abatement, removal or other disturbance activities involving asbestos, lead or other hazardous materials are undertaken or which may become contaminated as a result of such abatement actions. A contained Work Area is one which has been sealed and equipped with a decontamination enclosure system. A non-contained Work Area is a controlled-access Work Area which has not been sealed nor equipped with a decontamination enclosure system. Also known as a “Regulated Area”.

28. Worker Decontamination Enclosure System: That portion of a decontamination enclosure system designed for controlled passage of Workers, and other personnel and authorized visitors, typically consisting of a clean room, shower room, and an equipment room.

B. Definitions specific to a particular hazardous material are found in the specific hazardous material abatement specification section and are to be used to supplement the definitions of this section.

1.06 SUBMITTALS

A. **General.** Submit Pre-Job hazardous materials abatement submittals in accordance with the Submittals Section of the Contract Documents and at least 14 days prior to any planned work. Allow a minimum of 14 days for review by the Environmental Consultant. Additional review time will be required for re-submittals of rejected or incomplete submittals. Upon written approval of the Pre-Job submittal package, the hazardous materials abatement contractor may mobilize to site but shall submit the required remaining Pre-Start submittal items prior to starting any hazardous materials abatement work. Daily Submittals are due within 24 hours of completion of each day of site work. Inspection, Weekly, and Close-out Submittals are to be submitted within the time frames indicated below. At least one copy of each completed submittal shall be maintained on-site and shall be available for review. Refer to the Submittal Check Sheet which is provided as Appendix A to this section.

B. **Pre-job Submittals.** Submit a minimum of four (4) copies and one (1) electronic copy of each of the following hazardous materials submittals. Submittals shall be organized by type of work (asbestos abatement, lead impacted construction and abatement, mold remediation, PCBs, mercury
containing fluorescent light tubes, etc.) and otherwise in the order specified herein. Note that not all type work will be performed for this project. Partial submittals and/or submittals not organized in the required order will be considered deficient and not acceptable for review. No hazardous materials related work will begin until the submittal package has been fully approved in writing. Refer to the Submittal Check Sheet which is provided as Appendix A to this section.

1. Licensing and Registration: Submit copies of current and valid certificates for the following:

   a. Contractor’s license and Contractor’s asbestos certificate issued by the California State Licensing Board (CSLB);
   b. Registration for asbestos-related work from OSHA in accordance with 8 CCR, Article 2.5 (asbestos abatement contractors only).
   c. EPA Certified LEAD Renovator under the Renovate, Repair and Paint Rule (RRP)

2. Notifications, Communications and Postings. Provide copies of all required notifications including the following: {Edit List as Appropriate}

   a. Division of Occupational Safety and Health
      Local Office
      (Temporary work site notification-asbestos)
      (Pre-start notification lead)

   b. Bay Area Air Quality Management District (BAAQMD)
      939 Ellis Street
      San Francisco, CA 94109
      (415) 771-6000
      (10-day notification for asbestos abatement/demolition)

   c. Department of Public Health
      Childhood Lead Poisoning Prevention Branch
      850 Marina Bay Parkway
      Building P, Third Floor
      Richmond, CA 94804-6403
      (Abatement of Lead Hazards Notification – only if applicable)

   d. City and County of San Francisco
      Department of Building Inspection
      (Notification of Paint Disturbing Work – only if applicable)

   e. Where local police and fire departments have jurisdiction, provide required notifications.

3. Respiratory Protection Plan: Submit a site specific written respiratory protection plan along with a written standard operating procedure governing selection, fit testing, use, and storage of respirators in accordance with applicable regulation. Include NIOSH Certification and manufacturer’s information that indicates respirators to be used in this project have been properly selected for the anticipated hazards and hazard levels.
4. Detailed Work Plan: Submit a detailed work plan proposed for use in complying with the requirements of each specification section (028200 and 028300) applicable to the work to be performed for each hazardous material (asbestos abatement, lead impacted construction and abatement, etc.) at each abatement/removal location and phase. Each work plan shall include:
   
   b. A drawing or sketch showing details of the containment area including location of the containment boundaries, Decontamination Enclosure System(s), portable fire extinguishers, Differential Pressure Equipment (HEPA Units), and emergency exit routes;
   c. Calculations for each NPE Work Area used to determine number of HEPA Units to achieve required negative pressure and number of air changes per hour (as or where specified);
   d. Description of Regulated Area/Containment construction including materials;
   e. Description of proposed removal methods, equipment, and materials for each type of hazardous material and condition;
   f. Method of containment and clean-up of hazardous materials if there is an unexpected breakage or breach.

5. The Contractor shall submit a detailed schedule for completing hazardous materials work within the allowable time frame. The schedule shall identify hours of work and locations of work and the anticipated schedule of completion for each regulated work area.

6. Method of secure storage of hazardous materials and hazardous wastes at the site.

7. Waste Transportation and Disposal:
   
   a. Name, address, EPA I.D. number and telephone number of each transporter of hazardous material waste and removed hazardous materials to be recycled.
   b. Method of disposal for each type of waste generated (i.e. hazardous asbestos, non-hazardous (e.g. non-friable) asbestos, lead, PCBs, universal wastes, etc.) indicating land disposal (treated or non-treated), incineration, recycling, etc.
   c. Name, class, address, EPA I.D. number and telephone number of each treatment, storage, and disposal (TSD) waste site(s) to be utilized for disposal and facility or site to be used for recycling hazardous wastes. Clearly indicate what wastes are anticipated to be disposed or recycled at each TSD site or facility.

8. Rental Equipment Notifications: When rental equipment is to be used in removal areas or to transport waste materials, provide a copy of written notification given to the Rental Company informing them of the nature of use of the rented equipment. Otherwise, certify that no rental equipment is to be used.

9. Product Data: Manufacturers product data for all items required for complete and proper execution of the work, this includes product data for items listed in Part 2 Products of Sections 028200 and 028300 as applicable. Product data shall include manufacturing product data, specifications, application instructions; safety data sheets (SDS) and other information as necessary or required. All data sheets must be legible. Do not submit data for products not intended for use on this project.
C. **Pre-start Submittals.** Submit a minimum of one (1) copy of the following hazardous materials submittals to the Environmental Consultant at the site prior to the start of hazardous materials work. Additionally, the Contractor shall maintain one (1) copy at the site at all times during hazardous materials related work. Submittals shall be organized by type of work (asbestos abatement, lead impacted construction and abatement, mold remediation, PCBs, mercury containing fluorescent light tubes, etc. [note that not all hazardous material types may become disturb – only include materials that will or will likely become disturbed]) and otherwise in the order specified herein. The Contractor's Supervisor shall be held responsible for the accuracy and authenticity of the submittals provided. Discovery of altered or misleading personnel documents provided by the Contractor will result in the removal of such person(s) from the project immediately. Repeated offenses with result in the removal of the Contractor's Supervisor. Refer to the Submittal Check Sheet which is provided as Appendix B to this section.

1. **Personnel Qualifications:** Personnel documents required by this section shall be organized by individual employees and must be current and valid. All workers who will be performing work at the site will be required to show photo documentation prior to approval of their personnel documents. Workers who do not have all the required documentation present at the site, including photo documentation, will be denied access to the type of hazardous material Work Areas for which they are lacking full valid documentation.

   a. **Training Certificates for Asbestos:** Submit proper documentation that Competent Person(s) and Workers scheduled for this project have successfully completed Cal/OSHA and EPA approved courses for asbestos abatement;

   b. **Training Certificates for non-abatement trade work in asbestos contaminated spaces** for workers performing incidental work on asbestos-containing finishes (penetrations less than 4” in diameter): Submit documentation of EPA 16-hour O & M training completion.

   c. **Lead Certifications.** Employee training certifications demonstrating that all employees engaged in lead removal activities have attended formal training by a Department of Public Health (DPH) accredited training provider to conduct lead related activities in accordance with the worker training provisions in the CAL/OSHA and DPH lead regulations, including the EPA Renovate, Repair and Paint Rule, and this specification:

      1. The minimum acceptable training course duration is 40 hours for the Contractor's Supervisor/Competent Person and 24 hours for abatement workers.
      2. The Contractor's Supervisor(s) and workers shall be certified through the DPH lead accreditation program for lead-related construction. Copies of each employee's certification shall be provided.
      3. Updated information shall be provided in advance of on-site lead worker personnel changes.
      4. The Contractor's DPH Accredited Lead Supervisor shall be onsite at all times during lead-related work as necessary, or within 45 minutes travel time from the job-site.
      5. OSHA/CDPH level lead awareness and task specific training documentation, which may include drilling, penetrations, and installation into lead-containing materials shall be provided for all workers who will disturb lead-containing materials of penetrations less than 4” in diameter.
d. Other Training Certificates for non-abatement trade work in asbestos contaminated spaces or repair of damaged TSI as Class III work: Submit documentation of EPA 16-hour O & M training completion

e. Training Certificates: Submit proper documentation that Competent Person(s) and Workers scheduled for this project are familiar with the procedures outlined in the EPA Document “Mold Remediation in Schools and Commercial Buildings” (EPA Document No.: EPA 402-K-01-001, March 2001). [Only required if mold is found].

f. Medical Examination: Submit proper documentation, in the form of the physician’s written opinion, showing that all hazardous materials abatement personnel scheduled for this project have had the appropriate medical examinations applicable to their assignments. Exams must be in accordance with 8 CCR 1529 for asbestos, 8 CCR 1532.1 for lead, and 8 CCR 5144 for respiratory protection. All exams must have been conducted within the last 12 months. Respiratory use evaluation exams alone do not suffice for asbestos and lead related work. Do not submit actual medical exam results. The written physician’s opinion should indicate what exam(s) were provided and whether there are limitations on the worker.

g. Baseline blood lead testing performed in accordance with CAL/OSHA 8 CCR 1532.1 Lead and Federal OSHA 29 CFR 1926.62 Lead. The baseline blood lead shall have been within the past 30 days.

h. Respirator Fit Tests: Submit proper documentation that personnel who will be entering Regulated Areas have had a qualitative respirator fit test performed within the last 6 months for all face fitting respirators.

i. Provide a signed copy of Certificate of Worker’s Acknowledgment (Appendix C) for each worker conducting hazardous materials related removal work.

j. All other hazardous materials hazard communication training and related documentation for general construction work shall be kept on site for review upon request.

2. Calibration Data: Submit calibration data for the secondary standard (rotometer) that will be used on this project to calibrate personal air sampling pumps. The secondary standard must be calibrated to a primary standard within the last (6) six months.

3. HEPA Filtration Certifications:

a. Provide third party test certificates for all Differential Pressure Equipment and HEPA Vacuums to be used on this project. Such Certificates shall document that each item of equipment has been tested on-site prior to start-up and that the results have demonstrated that each HEPA equipment assembly meets the efficiency requirement for HEPA filtration as an installed system or unit of equipment.

b. All HEPA filtration testing must be conducted by challenging the installed filter system with 0.3 micrometer diameter particles using a dioctyl phthalate (DOP) particle generator & appropriate aerosol measurement test equipment designed for this purpose. Alternate test
methods may be accepted if demonstrated to be equivalent and approved by the Environmental Consultant.

c. Test certificate stickers shall be placed on each machine tested and a copy of the testing certification shall be provided to the Environmental Consultant. The test result, date and time of testing, testing firm, and signature of qualified test technician shall be included on each certification along with equipment identification information.

D. **Daily Submittals.** As applicable, within 24 hours following the completion of each work shift, the Contractor shall submit the following information to the Environmental Consultant, as required by the applicable section.

1. Submit an employee roster for each work shift (Appendix D).
2. Work Area entry/exit logs (Appendix E).
3. Copies of Manometer recordings (Appendix F) as applicable.
4. Personal Air Monitoring Results: Provide copies of all personal air sampling results, 8-hour time weighted average (TWA) and short-term exposure limit (STEL) results as applicable. Results shall be submitted on a daily basis or as approved by the Environmental Consultant.
5. Waste Manifests: Each time Hazardous Waste (i.e. asbestos, lead, PCBs, etc.) and Non-Hazardous Asbestos Waste is removed from the site; the Contractor shall submit complete and signed manifests to the Environmental Consultant. For hazardous waste manifests, submit the generator (yellow) and the DTSC (blue) copies including a completed Land Disposal Restriction Form for each manifest to the Environmental Consultant.
6. Special Reports: The Contractor shall submit a special report of unusual events of significance which occurs at the site. The report shall include the date and time of the event, activities leading up to the event, a detailed account of the event, persons involved, corrective actions taken and action taken to prevent a reoccurrence.

E. **Inspection Submittals.** The Contractor shall submit to the District and the Environmental Consultant a completed Pre-start or Final Inspection Form (Appendices G, H, I) at minimum 48 hours prior to inspection requests. Failure to properly notify the District and the Environmental Consultant in writing 48 hours in advance of a required hazardous materials inspection shall NOT result in an increase in number of days and/or shifts to the Contractor’s allotted schedule.

F. **Weekly Submittals.** The Contractor shall submit an updated detailed schedule for completing hazardous materials work within the allowable time frame on a weekly basis. The schedule shall identify hours of work and locations of work and the anticipated schedule of completion for each regulated work area. The Short Interval Schedule (SIS) or an equivalent weekly “look ahead” schedule can be used for this purpose.

G. **Close-Out Submittals.** Within 10 days following the completion of the Contractor’s work, the Contractor shall submit the following information to the Environmental Consultant.
1. The Contractor shall provide lists and quantities of ACCMs, ACMs, assumed ACMs and/or PACMs remaining in the work areas where they performed asbestos-related work and an abatement “as-built” drawing showing actual extent of removal.

2. All outstanding submittal information including; personal air sampling results, manifests, daily logs, sign-in/sign-out logs, manometer logs for all work areas, and all appendices required by this contract.

1.07 WORK SCHEDULE

A. Onsite hazardous materials related work shall not commence until all required submittals have been reviewed and approved. Delays due to deficient submittals will not result in contract time extensions.

B. Within the overall construction schedule, the total allotted estimated time allowed for completion of all hazardous materials abatement work required by the Contract Documents is as follows:

1. Ten (10) eight-hour “regular shifts” for exterior hazardous materials related work for preparation, demolition, removal, disposal and cleaning of interior and exterior finishes with asbestos or lead containing materials at scheduled areas of work

C. The Contractor shall refer to the Contract Documents for construction phasing associated with the above allotted time to complete all interior and exterior hazardous materials related work.

D. The total number of work shifts allotted for the Contractor’s completion of hazardous materials related work for each phase of hazardous materials work includes the time required for the Environmental Consultant to conduct final clearance inspections and testing.

E. The Contractor will be responsible for additional costs incurred by the District for the Environmental Consultant for additional monitoring, consulting and analytical costs associated with working hours beyond the stipulated number of hours per shift and any additional shifts worked beyond the allotted number of shifts scheduled for the hazardous materials related work at the hourly rates, shift rates, and analytical rates established in Article 1.12 of this section.

F. Failed inspections and failed clearance tests shall be considered the result of defective work by the Contractor and, therefore, the Contractor shall be responsible for any additional travel, labor, and analytical costs associated with additional inspections and clearance testing by the Environmental Consultant.

G. The Contractor shall submit a detailed schedule for completing hazardous materials related removal and abatement work within the allowable time frame. The schedule shall identify hours of work and locations of work and the anticipated schedule of completion for each regulated work area. This schedule shall be provided prior to the start of any hazardous materials related removal or abatement work.

H. The Contractor shall provide to the District and the Environmental Consultant a minimum of one-week (7 days) advance notice prior to start of each phase of work. In addition, the Contractor shall provide the District and Environmental Consultant a minimum 48 hours written notice for all pre-
start and final visual hazardous materials inspection requests within each phase of work. Failure to properly notify the District and the Environmental Consultant in writing 48 hours in advance of a required hazardous materials inspection may result in inspection delays but shall NOT result in an increase in number of days and/or shifts to the Contractor’s allotted schedule. Cost associated with failure to provide timely notices shall be borne solely by the Contractor.

I. The Contractor shall be bound to conducting its work activities during the dates and times specified in the approved construction schedule. Schedules and times that deviate from the schedule must be submitted and approved 72 hours in advance by the District and Environmental Consultant.

J. The Contractor shall provide to the District and the Environmental Consultant a minimum of 24 hours notice of their intent to cancel a previously scheduled workday. Failure to properly notify the District and the Environmental Consultant in writing will result in the loss of a full day or full shift to the Contractor's allotted schedule and the Contractor will be responsible for the Environmental Consultant shift cost established in Article 1.12 of this section.

1.08 SEQUENCE OF CONSTRUCTION OPERATIONS

A. The recommended sequence of construction operations for this project is as follows: (Note: sequences may vary to best accomplish the work in a logical flow and/or to accommodate the District’s needs. The Contractor may propose alternate sequences for approval by the District and Environmental Consultant.)

1. Isolate Construction Areas from Occupied Areas as required by the Contract Documents.

2. Set-up of regulated areas (including NPE’s where required) for hazardous materials related work.


4. Remaining Construction Work

5. Final Inspections and return areas to the District

1.09 PRE-CONSTRUCTION MEETING FOR HAZARDOUS MATERIALS RELATED WORK

A. An initial progress meeting recognized, as "Pre-Construction Meeting" will be convened by the District prior to the start of any hazardous materials related work. Meet at the project site at a date and time to be determined.

B. This is an organizational meeting to communicate and review project communication lines, responsibilities, schedules, submittal issues, project details, temporary facilities, security issues and other project related issues.

C. The following individuals shall attend this meeting: the District; the Environmental Consultant; the Contractor's Principal or Superintendent; the Contractor's Competent Person scheduled for the
project, and; any pertinent subcontractors.

1.10 ENVIRONMENTAL CONSULTANT

A. The Environmental Consultant is authorized to have free access to all hazardous materials Work Areas at any time. The Contractor shall supply the Environmental Consultant with disposable coveralls, respirators, replacement respirator cartridges, knee pads, flashlights, two-way radios and any other required equipment.

B. The Environmental Consultant is authorized to conduct intermittent or continuous compliance observation and monitoring including, but not limited to:

1. Start up, progress, and clearance inspections for adequacy of containment, procedural compliance with contract documents, and completeness of work;
2. Air sampling for asbestos, lead or other contaminate to determine containment integrity;
3. Dust wipe, surface, bulk, or soil sampling for lead, PCB, or other hazardous materials to determine initial conditions and to evaluate Contractor containment controls;
4. Clearance air and surface sampling to evaluate compliance with completion standards; and
5. Collection and review of documentation to be provided by the Contractor including Pre-Start, Daily, Inspection, Weekly, and other required submittals.

C. The Contractor shall ensure that full cooperation is provided to the Environmental Consultant in carrying out the Environmental Consultant's responsibilities as the District's Representative including the immediate correction of any problems identified. The Contractor shall fully comply with the specifications and any applicable regulations.

1.11 ENVIRONMENTAL TESTING

A. The Environmental Consultant will be collecting dust wipe samples at the completion of lead related activities where required or deemed appropriate by the District. Sample results in excess of lead dust clearance levels (refer to Section 028300) will require cleanup by the Contractor of the affected areas using approved cleaning techniques at no additional cost to the District. All costs for additional testing (i.e. Consultant fees and laboratory analysis) shall be the responsibility of the Contractor.

B. The Environmental Consultant will be collecting air samples during asbestos related work activities and at completion of asbestos abatement operations in the impacted Work Areas. In some instances, samples will be collected prior to start or removal to benchmark an area. The collection of other types of samples will be at the discretion of the District and Environmental Consultant and on an "as needed" basis.

C. Air sample results in excess of 0.01 fibers per cubic centimeter (f/cc), as determined by phase contrast microscopy (PCM) analysis for samples collected outside the asbestos abatement Regulated Area or Containment during asbestos related work will be considered the result of defective work and will require cleaning of the affected areas by the Contractor using approved cleaning and decontaminating techniques at no additional cost to the District. Likewise, for clearance air samples, results in excess of AHERA PCM or transmission electron microscopy (TEM) clearance standards will be considered the result of defective work and will require re-
cleaning of the affected areas by the Contractor using approved cleaning and decontaminating techniques at no additional cost to the District.

D. The Environmental Consultant will be collecting post clean-up non-viable mold air samples at completion of microbial related activities. Sample results in excess of outdoor fungal spore concentrations on a genera basis will require cleanup by the Contractor of the affected areas using approved cleaning techniques at no additional cost to the District. All costs for additional testing (i.e. Environmental Consultant fees and laboratory analysis) shall be the responsibility of the Contractor.

E. Contractor shall carefully coordinate all work activities to avoid impacting air sampling during asbestos related activities. All costs, including consultant labor fees and analytical fees, for additional testing required due to air sample results outside the Work Area containment exceeding 0.01 fibers per cubic centimeter as analyzed by PCM shall be the responsibility of the Contractor. Likewise, all consultant and analytical costs for failed clearance air samples by either PCM or TEM shall be the responsibility of the Contractor. All results of PCM sampling during asbestos related work will be considered to represent actual measured asbestos fiber levels unless proven otherwise at no additional cost to the District.

1.12 CONSULTANT FEES AND TESTING COSTS

A. In accordance with the General Conditions (00700, Article 9.09) or General Conditions of the Contract Documents or as specified elsewhere in the Contract Documents by the Owner/District, the Contractor shall be responsible for additional costs incurred by the District for monitoring and consulting work by the Environmental Consultant when the additional work and/or costs are caused by the Contractor or the Contractor’s work activities as described herein.

B. When the Contractor’s work activities, actions or inactions are determined by District to have resulted in any of the following circumstances or conditions, the Contractor shall be responsible for taking action to correct any of these deficient condition(s) identified and shall be responsible for all associated costs including the cost of the Environmental Consultant and all associated analytical costs:

1. Breach of containment, hazardous materials spills (i.e. lead, asbestos, mold, PCBs, etc.) outside the Work Area based on visual evidence containment failure or contamination release;

2. Containment failure or other releases as evidenced by air sample results over 0.01 f/cc by PCM outside the asbestos Work Area and/or lead dust wipe sample results over 40 µg/ft² outside the lead-related construction Work Area;

3. Other hazardous materials related emergencies arising out of the Contractor’s work;

4. Re-work of defective and/or incomplete abatement work as evidenced by failed visual inspections or failed clearance test results;

5. Incomplete abatement work (i.e. additional removal of hazardous materials due to lack of proper planning, proper layout for removal, etc.) as evidenced by the set-up of additional regulated areas (containments) requiring additional removal, inspections and testing at work.
areas/zones where the hazardous materials related work was previously completed by the Contactor;

6. Failure to complete scheduled hazardous materials work within the total allotted number of work shifts specified in this section for the base bid, phase, or alternate as applicable. Partial shifts shall be counted as whole shifts for the purpose of determining the total number of hazardous material related work shifts worked for this Contract.

7. Failure to provide the District’s Project Manager and the Environmental Consultant a minimum of 24 hours notice of their intent to cancel a previously scheduled workday. This will result in the Contractor being responsible for the entire work shift cost of the Environmental Consultant as though the shift had been worked.

C. The following rates shall be used to determine the additional Environmental Consulting costs and shall be considered agreed upon for determining the monitory damage to be back charged to the Contractor for any of the conditions described in Paragraph B above:

1. **Daily Hourly Rates (Regular Business Hours – Monday thru Friday)** – Hourly rates for each technician for additional on-site monitoring and/or consulting shall be: $105 per hour for each additional hour of work over 8 hours but less than 12 hours in a day; $140 per hour for each hour worked over 12 hours but less than 24 hours per day;

2. **Off Shift Hourly Rates (Weekends and Night Work)** – Hourly rates for each technician for on-site monitoring and/or consulting shall be: $105 per hour for each hour of work less than 12 hours in a day; $140 per hour for each hour worked over 12 hours but less than 24 hours per day;

3. **Daily Shift Rates (Regular Business Hours – Monday thru Friday)** – Shift rates shall be charged at the rate of $695 per 8-hour shift; $905 per 10-hour shift; and $1,115 per 12-hour shift for compliance observation and monitoring. Each shift includes up to six (6) PCM air samples or six (6) lead air samples;

4. **Off Shift Rates (Weekends and Night Work)** – Shift rates shall be charged at the rate of $975 per 8-hour shift; $1,185 per 10-hour shift; and $1,395 per 12-hour shift for compliance observation and monitoring. Each shift includes up to six (6) PCM air samples or six (6) lead air samples; and

5. **Analytical Costs** – Analytical costs will be charged at actual costs plus 15 percent for additional samples required for additional shifts, spills, other emergencies and re-work.

### 1.13 SPECIAL PROVISIONS

A. Prior to disturbing any hazardous materials, the Work Area must be effectively isolated from interior and exterior areas occupied or in use by the District. Isolation shall be by rigid physical construction barriers and HVAC isolation by shut down and/or capping in addition to any required critical barriers or other specific containment and control requirements. Alternative methods may be proposed by the Contractor but must be approved by the District and Environment Consultant in advance.
B. All plastic sheeting and construction materials for construction of barriers, containments, decontamination units, critical barriers and related controls shall be flame retardant or fire rated.

C. The Contractor shall keep one un-used decontaminated HEPA vacuum certified to be clean, have all new filters, and DOP test certification available on-site in a secure storage location for emergency response clean up in the event that friable asbestos is disturbed and released during abatement or construction. Include this provision in the emergency response portion of the Detailed Work Plan Submittal.

D. All electrical power to the Work Areas shall be de-energized and locked out to the extent possible with any remaining energized lines clearly demarcated and protected. The Contractor is responsible for establishing temporary power protected by ground fault circuit interrupters (GFCIs). In addition, the Contractor shall provide an adequate number of GFCI protected electrical power outlets and extension cords for dedicated use of the Environmental Consultant. At minimum, provide six power cords inside each containment and two outside each containment unless otherwise noted or agreed upon.

E. All negative pressure enclosures (NPEs) shall be equipped with accurate and functioning magnahelic gages with circular chart recorders that continuously document negative pressure conditions. Recording charts shall be replaced daily. Copies shall be provided to the Environmental Consultant mounted on a completed Appendix F form within 24 hours as a Daily submittal.

F. The Contractor shall take all necessary precautions and modify work procedures to prevent hazardous materials spills or releases of any kind. The Contractor shall immediately extend the boundaries of the Regulated Work Area to incorporate the affected area if a spill or release occurs. The Contractor shall immediately contact the District and the Environmental Consultant.

G. If at any time during the course of this project additional suspect hazardous materials are identified or different conditions are encountered by the Contractor, the Contractor shall immediately notify the District and Environmental Consultant in writing and request an investigation.

H. Minimum respiratory protection for this project during all asbestos related activities shall be full face, powered air purifying respirators (PAPRs) with HEPA filters for Class I activities and half-face air purifying respirators (APRs) with HEPA filters for any Class II asbestos work, unless otherwise noted.

I. Minimum respiratory protection for this project during all lead and mold related activities shall be half-face air purifying respirators, upgrading as necessary depending on the trigger task performed.

J. The Contractor shall hold the District and its consultants harmless for claims, damages, losses, and expenses, including attorney’s fees arising out of the Contractor’s asbestos, lead, or other hazardous materials related work including releases from any incidental disturbance of existing hazardous materials, on-site or off-site spills of hazardous materials, or from non-compliance with the Contract Documents and regulatory requirements.
1.14 SECURITY

A. The Contractor shall take all necessary security measures to prevent unauthorized personnel access to the Building(s), hazardous materials Work Area(s), and waste bin(s) storing hazardous waste for the duration of the project.

B. The Contractor shall make all necessary arrangements for deactivation and re-activation of security alarms for work during off hours, weekends, and holiday in advance of scheduled work.

1.15 AUTHORITY TO STOP WORK

A. The District has the authority to stop work if it is determined that conditions or procedures are not in compliance with the specifications and/or applicable regulations; or the Contractor is deficient on submitting daily required paperwork; or the Contractor is impacting Facility and/or adjacent operations; or a potential release of lead, asbestos, or other hazardous material contamination outside the Work Area could occur; or if any other unsafe condition deemed to represent an immediate hazard to adjacent building occupants exists.

B. The work stoppage shall remain in effect until conditions have been corrected and corrective measures have been taken to the satisfaction of the District and the Environmental Consultant. All standby time and testing costs required to correct the above-mentioned problems shall be borne solely at the Contractor's expense.

PART 2 - PRODUCTS: NOT USED

PART 3 - EXECUTION: NOT USED

END OF SECTION
## PRE-JOB SUBMITTAL CHECKLIST

Instructions:

Use of this check sheet is required but should be understood to be a brief listing of the major submittal items required. It is not intended to be a substitute for the detailed submittal requirements of the contract. The Contractor’s submittal must comply with the requirements of Section 011110 Article 1.06 and be in technical compliance with applicable technical specification sections and regulations.

### I. OWNER INFORMATION

<table>
<thead>
<tr>
<th>Owner Name:</th>
<th>San Francisco Unified School District</th>
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</thead>
<tbody>
<tr>
<td>Address:</td>
<td>135 Van Ness Avenue, San Francisco, CA 94102</td>
</tr>
<tr>
<td>Point Of Contact:</td>
<td>Chiye Azuma</td>
</tr>
<tr>
<td>Phone No.:</td>
<td>415-241-6152</td>
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<tr>
<td>Project Title:</td>
<td>2016 Prop A Bond Measure Program – Gordon Lau Green School Yard</td>
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### II. ENVIRONMENTAL CONSULTANT (EC) INFORMATION

<table>
<thead>
<tr>
<th>Consultant Name:</th>
<th>Millennium Consulting Associates</th>
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<tbody>
<tr>
<td>Address:</td>
<td>401 Roland Way, Suite 250, Oakland, CA 94621</td>
</tr>
<tr>
<td>Point Of Contact:</td>
<td>Millennium Consulting</td>
</tr>
<tr>
<td>Phone No.:</td>
<td>(925) 808-6700</td>
</tr>
</tbody>
</table>

### III. CONTRACTOR INFORMATION

General Contractor Name:  
Address:  
Point Of Contact:  
Email Address:  
Phone No.:  
Fax No.:  

Haz. Mat. Contractor Name:  
Address:  
Point Of Contact:  
Email Address:  
Phone No.:  
Fax No.:  

### IV. SUBMITTAL INFORMATION

<table>
<thead>
<tr>
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<th>Millennium Proj. No.</th>
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<td>Date Reviewed by EC:</td>
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<td>Review Performed by:</td>
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<tr>
<td>No. Copies of Submittal Distributed:</td>
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V. PRE-JOB SUBMITTALS—Refer to Section 01110 Article 1.06 for detailed requirements:

Pre-job Submittals must be approved prior to the initiation of any hazardous materials related work including set-up operations. At minimum, ensure the following is submitted and complete.

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<thead>
<tr>
<th>Item Submitted</th>
<th>Required</th>
<th>Accepted</th>
<th>Review Comment</th>
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<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>1. Licensing &amp; Registration</td>
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<td>2. Notifications</td>
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<td>a. Cal/OSHA</td>
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<td>b. AQMD/APCD/EPA</td>
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<td>c. CDPH</td>
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<td>d. EPA RRP</td>
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<td>3. Resp. Protection Plan</td>
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<td>4. Detailed Work Plan</td>
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<td>a. Drawing</td>
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<td>b. NPE Calculations</td>
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<td>c. Desc. of Reg. Area</td>
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<td>d. Desc. of removal methods, equipment &amp; materials</td>
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<td>e. Method of clean-up if unexpected spill or breakage</td>
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<td>5. Detailed Schedule</td>
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<td>6. Secure Waste Storage</td>
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<td>7. Waste Disposal Info.</td>
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<td>a. Transporter Info.</td>
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<td>b. Disposal Method/Type</td>
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<td>c. Treatment, Storage &amp; Disposal Waste Site</td>
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<td>8. Rental Equip. Notifications</td>
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<td>9. Product Data</td>
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Submittal Review No.: ___________ Review Date: ___________

This Submittal has been reviewed for conformance with the Contract Documents. MILLENNIUM has the following comments:

☐ Approved, No Exceptions
☐ Approved as Noted Above
☐ Rejected Completely. Revise & Resubmit

Reviewed By: __________________________ Signature: __________________________
PRE-START SUBMITTAL CHECKLIST

Instructions:

Use of this check sheet is required but should be understood to be a brief listing of the major pre-start submittal items required. Pre-start Submittals must be approved at the site prior to the initiation of any hazardous materials related work. They may be submitted earlier but must be limited to documentation and certification for assigned workers and equipment. Do not submit extraneous information, but update later as needed for changes. The Contractor’s submittal must comply with the requirements of Section 011110 Article 1.06 and be in technical compliance with applicable technical specification sections and regulations.

I. OWNER INFORMATION

| Owner Name: | San Francisco Unified School District |
| Address: | 135 Van Ness Avenue, San Francisco, CA 94102 |
| Point Of Contact: | Chiye Azuma |
| Email Address: | AzumaC@sfusd.edu |
| Phone No.: | 415-241-6152 |
| Fax No.: | |

II. PRE-START SUBMITTALS - Reference 011110 (1.06):

<table>
<thead>
<tr>
<th>Item Submitted</th>
<th>Required</th>
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<tr>
<td>1. Personnel Qualifications</td>
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<td>a. Asbestos Sup. &amp; Workers Certs.</td>
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<td>b. 16 Hr. Asbestos Certs.</td>
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<td>c. CDPH Lead Sup. &amp; Workers Certs.</td>
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<td>d. Mold Certs</td>
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<td>e. Medical Exams</td>
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<td>f. Blood Leads (&lt; 30 days)</td>
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<td>g. Resp. Fit Tests</td>
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<td>i. Haz. Comm. Training</td>
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<td>3. HEPA Certifications</td>
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NOTE: After start up of hazardous material work, progress submittals including Daily, Inspection, and Weekly Submittals are required. Upon completion of all hazardous materials work, Close Out Submittals are required. Refer to Section 011110 Article 1.06 for detailed information and requirements.
CERTIFICATE OF WORKER’S ACKNOWLEDGMENT

PROJECT NAME: 2016 Prop A Bond Measure Program – Gordon Lau ES Green School Yard

PROJECT ADDRESS: 950 Clay Street, SF, CA 94108

CONTRACTOR’S NAME: 

WORKING WITH HAZARDOUS MATERIALS CAN BE DANGEROUS.

Your employer's contract with the Owner for the above project requires that: You will be supplied with the proper respirator and be trained in its use. You will be trained in safe work practices and in the use of the equipment found on the job. You will receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: I have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. I have a copy of the written respiratory protection manual issued by my employer. I have been equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: I have completed a training course of not less than 4 days for the types of hazards I will be working with. I have been trained in the dangers inherent in handling hazardous materials and in proper work procedures and personal and area protective measures. The topics covered in the course included the following:

- Physical characteristics of hazards
- Associated Health hazards
- Respiratory protection
- Use of personal protective equipment
- Pressure Differential Systems
- Work practices including hands-on or on-the-job training
- Personal decontamination procedures
- Air monitoring, personal, and area

MEDICAL EXAMINATION: I have had a medical examination within the past 12 months in accordance with applicable regulations (asbestos, lead, mold, etc.), which was paid for by my employer. This examination included: health history, pulmonary function tests, and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer, the Contractor.

Printed Name: 

Signature: ___________________________ Date: ___________________________

Witness: ___________________________
EMPLOYEE DAILY ROSTER

MILLENNIUM PROJECT

DATE: ___________________________ NUMBER: ____________

PROJECT TITLE: 2016 Prop A Bond Measure Program – Gordon Lau ES Green School Yard

CONTRACTOR: ____________________________________________

COMPETENT PERSON: ______________________________________

IMPORTANT NOTE: ALL PERSONS ENTERING AND EXITING THE WORK AREA MUST SIGN IN AND OUT EVERY TIME.

<table>
<thead>
<tr>
<th>No.</th>
<th>PERSONS NAME (PRINT)</th>
<th>START TIME</th>
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</table>
# WORK AREA ENTRY/EXIT LOG

**DATE:**

**MILLENNIUM PROJECT #:** 19001.2119

**CONTRACTOR:**

**PROJECT TITLE:** 2016 Prop A Bond Measure Program – Gordon Lau ES Green School Yard

**BUILDING NAME:**

**LOCATION OF WORK AREA:**

**DESCRIPTION OF WORK:**

**IMPORTANT NOTE:** ALL PERSONS ENTERING AND EXITING THE WORK AREA MUST SIGN IN AND OUT EVERY TIME.

<table>
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<th>SIGNATURE</th>
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DAILY MANOMETER REPORT

2016 Prop A Bond Measure Program – Gordon Lau ES Green School Yard

Project Title:  

Work Area Location:  

Contractor:  

Competent Person:  

Start Date:  

Stop Date:  

Start Time:  

Stop Time:  

(CONTRACTOR IS TO ATTACH A COPY OF THE NEGATIVE PRESSURE RECORDING HERE AND COMPLETE THIS FORM FOR EACH WORK AREA ON A DAILY BASIS).

I hereby declare the above data is true and correct.

Competent Person’s Signature:  

Date:  

______________________________
PRE-ABATEMENT VISUAL INSPECTION FORM

CLIENT NAME: San Francisco Unified School District

MILLENNIUM REF. NUMBER: 19001.2119

PROJECT TITLE: 2016 Prop A Bond Measure Program – Gordon Lau ES Green School Yard

BUILDING NAME: ____________________________

LOCATION OF WORK AREA: ____________________________

DESCRIPTION OF WORK: ____________________________

__________________________

**VISUAL INSPECTION**

**CONTRACTOR** hereby certifies that he has visually inspected the Work Area and has found it to be prepared in accordance with the project specifications. This inspection included the verification that Primary Barriers have been installed and are sealed, specified number of layers of polyethylene sheeting have been installed properly, Decontamination Enclosure System(s) is fully functional, HEPA units are operational, negative air pressure is at least -0.02 inches of water (if applicable), manometer unit recording properly (if applicable), HVAC and electrical systems have been locked and tagged out, there is adequate power and lighting, and all electric sources are supplied from GFIs outside the Work Area.

NAME: ____________________________ INSPECTION DATE: ________________

SIGNATURE: ____________________________ CERTIFICATION #: ________________

**OWNER’S CONSULTANT** hereby certifies that he has conducted a pre-abatement visual inspection of the referenced Work Area, and verifies that the Contractor has prepared the Work Area in accordance with the Specifications and is ready to start abatement operations.

NAME: ____________________________ INSPECTION DATE: ________________

SIGNATURE: ____________________________ CERTIFICATION #: ________________
FINAL VISUAL AND CLEARANCE CERTIFICATION FORM (ACM/PB)

CLIENT NAME: San Francisco Unified School District

PROJECT TITLE: 2016 Prop A Bond Measure Program – Gordon Lau ES Green School Yard

BUILDING NAME:

LOCATION OF WORK AREA:

DESCRIPTION OF WORK:

VISUAL INSPECTION

CONTRACTOR hereby certifies that he has visually inspected the Work Area and has found no dust, debris or residue. This inspection included all surfaces including pipes, beams, ledges, walls, ceiling, floor, Decontamination Unit, sheet plastic, etc.

NAME: ____________________________  INSPECTION DATE: ____________________________

SIGNATURE: ____________________________  CERTIFICATION #: ____________________________

OWNER'S CONSULTANT hereby certifies that he has performed the final visual inspection of the referenced Work Area, and verifies that this inspection has been thorough and to the best of his knowledge and belief, the Contractor's Certification above is a true and honest one.

NAME: ____________________________  INSPECTION DATE: ____________________________

SIGNATURE: ____________________________  CERTIFICATION #: ____________________________

CLEARANCE AIR SAMPLING

PRE-ABATEMENT/BACKGROUND FIBER LEVELS:

OWNER’S CONSULTANT hereby certifies that the results of air samples collected and analyzed in this work area meet the clearance criteria indicated below:

☐ Not Applicable – Cleared by Visual Inspection Only – Exterior Work Area
☐ Not Applicable – Cleared by Visual Inspection Only for the following Reasons: ____________________________

☐ ___________ Aggressive PCM Samples at or below ___________ Fibers/cc
☐ ___________ Non-Aggressive PCM Samples at or below ___________ Fibers/cc
☐ ___________ Aggressive TEM Samples at or below ___________ Structures/mm²
☐ ___________ Non-Aggressive TEM Samples at or below ___________ Structures/mm²

Millennium Clearance Air Sample Numbers: ____________________________
CLEARANCE DUST WIPE SAMPLING

PRE-ABATEMENT DUST WIPE SAMPLE RESULTS:
Floors Areas: \( \mu g/ft^2 \)  
Window Sills: \( \mu g/ft^2 \)  
Window Troughs: \( \mu g/ft^2 \)

(Provide Average Concentration or N/A if no Pre-samples)

OWNER’S CONSULTANT hereby certifies that the results of dust wipe samples collected and analyzed in this work area meet the clearance criteria indicated below:

☐ 40 \( \mu g/ft^2 \) for Floor Areas
☐ 250 \( \mu g/ft^2 \) for interior Window Sills
☐ 400 \( \mu g/ft^2 \) for exterior Window Sills/Window Troughs, Bare Concrete Surfaces and Exterior Horizontal Surfaces
☐ Not Applicable – Cleared by Visual Inspection Only for the following reasons: __________________________

Millennium Dust Wipe Sample No: ________________________________

NAME: ____________________________  INSPECTION DATE: ____________________________

SIGNATURE: ____________________________  CERTIFICATION #: ____________________________

REVIEWER: ____________________________  CERTIFICATION #: ____________________________
SECTION 028200

ASBESTOS ABATEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Class I Asbestos Removal Operations
B. Class II Asbestos Removal Operations
C. Class III Asbestos Removal Operations

1.02 RELATED DOCUMENTS

A. Contract Documents including hazardous material-related plans and specifications and all other project construction documents. Refer to Section 011110 Summary of Work, Article 1.04 Related Documents for a more detailed listing.

1.03 REFERENCES

A. General - Codes, regulations and references applicable to asbestos abatement work include by are not limited to the most current edition of the following:

1. Code of Federal Regulations:

29 CFR 1910 Subpart I Personal Protective Equipment.
29 CFR 1926.1101 Asbestos.
29 CFR 1926.103 Respiratory Protection.
40 CFR Part 763 Asbestos-Containing Materials in Schools; Final Rule and Notice.
42 CFR Part 84 HEPA Filters

2. California Code of Regulations:

Title 8, Article 2.5 Registration for Asbestos Work Sections 341.6 through 341.14.
Title 8, Section 1529 Asbestos.
Title 8, Section 5144 Respiratory Protection.
Title 22, Division 4 Minimum Standards for Management of Chapter 30 Hazardous and Extremely Hazardous Waste.


5. Local Fire Department Regulations

6. American National Standards Institute (ANSI) publications:
   - Z87.1 Occupational and Educational Eye and Face Protection.
   - Z89.1 Requirements for Protective Headgear for Industrial Workers.
   - Z41 Personal Protection - Protective Footwear.
   - Z88.6 Respiratory Protection - Respiratory Use Physical Qualifications for Personnel.

7. American Society for Testing and Materials (ASTM) publications:
   - D1331-56 Surface and Interfacial Tensions of Solutions of Surface Active Agents.
   - E849-82 Safety and Health Requirements Relating to Occupational Exposure to Asbestos.
   - E1368 Practice for Visual Inspection for Asbestos Abatement Projects.

8. ANSI/Compressed Gas Association, Inc.:
   - G-7.1 Commodity Specification for Air

   - No. 70. National Electrical Code.


11. National Institute for Occupational Safety and Health (NIOSH)

1.04 Definitions

A. In addition to the definitions in Section 011110 Summary of Hazardous Materials Work, the following definitions are specific to work of this section:

   1. Asbestos: includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite asbestos, and any of these minerals that have been chemically treated or altered.
2. Asbestos Containing Construction Material (ACCM): Any manufactured construction material, which contains more than one tenth of one percent asbestos by weight.

3. Asbestos Containing Material: Any material containing more than one percent asbestos.

4. Asbestos Containing Waste Material: Any waste generated by the disturbance or removal of ACM including, but not limited to: ACCM, ACM, asbestos waste generated from control devices, particulate asbestos material, asbestos slurries, unfiltered waste water, used asbestos contaminated polyethylene sheeting, use disposable protective clothing and equipment, and any used mop heads, rags or other miscellaneous clean-up equipment waste.

5. Asbestos-related Work: Any activity, which by disturbing ACCMs, ACMs or PACMs may release asbestos fibers into the air.

6. Class I Asbestos Removal Operations: Class I Asbestos work means activities involving the removal of thermal system insulation (TSI) and surfacing ACM and PACM.

7. Class II Asbestos Removal Operations: Class II Asbestos Work means activities involving the removal of ACM, which is not TSI, or surfacing material. This includes but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheetrock, roofing and siding shingles, and construction mastics.

8. Class III Asbestos Removal Operations: Class III Asbestos Work means activities involving the repair and maintenance operations, where ACM, including TSI and surfacing ACM and PACM, is likely to be disturbed. Class III Asbestos Removal Operations are limited to operations that generate no more waste than what can fit into one 60”x60” waste bag.

9. Glovebag: An impervious plastic bag-like enclosure affixed around not more than a 60”x60” ACM or ACCM, with glove-like appendages through which material and tools may be handled.

10. Hazardous Asbestos Waste: Friable waste with an asbestos content equal to or greater than one percent asbestos including all associated dust, debris and plastic sheeting used during abatement.

11. Naturally Occurring Asbestos (NOA): Any of six incombustible, chemical-resistant, fibrous minerals of impure magnesium silicate, occurring in either serpentine or amphibole form found in soils. All NOA disturbance work shall be considered as Class II work.

12. Negative Pressure Enclosure (NPE): An enclosed or contained area of any configuration constructed of polyethylene sheeting with a minimum of four (4) air changes per hour and a negative pressure of -0.02 inches of water as compared to surrounding area outside the enclosure. NPE must be maintained until final air clearance sampling.

13. Non-Hazardous Asbestos Waste: Wastes which are non-friable and/or are below one percent asbestos by weight as determined by objective testing approved by the Environmental Consultant. These wastes require OSHA Asbestos Hazard warning labels and disposal at landfills which accept such asbestos wastes.

15. Surfacing Material: Any material that is sprayed, troweled-on or otherwise applied to surfaces. Includes materials such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing and other purposes.

16. Thermal System Insulation (TSI): Thermal insulation materials applied to pipes, fitting, boilers, breeching, tanks, ducts or other plumbing or mechanical components to prevent heat loss or gain.

17. Waste Generator Label: Waste Generator Label shall include the Generator’s Name, ID Number, Address and Waste Manifest Number.

18. Wet Washing: The process of eliminating asbestos contamination from areas such as crawlspaces, tunnels, boiler rooms, etc., using wet washing methods (i.e. airless sprayers) to systematically wash down all surfaces within the effected area. “Wet Washing” should only be used after the affected area has first been fully cleaned using HEPA vacuums.

1.05 SUBMITTALS

A. Refer to Section 011110 Summary of Hazardous Materials Work for submittal requirements applicable to this Section and Section 013300 Submittal procedures unless otherwise noted.

B. For work (soft or hard on concrete, structures, plaster, etc) regarding materials with asbestos concentrations greater than 0.1%, demo Contractor shall provide DOSH registration and CSLB license for asbestos work. For materials with asbestos concentrations less than 0.1%, Contractor shall provide certificates and documentation of supervisor and worker training in accordance with 8 CCR 1529 regarding work practices, handling and worker protection for work on materials with any detectable amount of asbestos.

1.06 POSTINGS

A. Prior to the commencement of any asbestos related work at the site, post required CAL/OSHA warning signs in and around the Work Area to comply with regulation. Note updated signage beginning June 1, 2016. Signage shall bear the following information:

**DANGER**
**ASBESTOS**
**MAY CAUSE CANCER**
**CAUSES DAMAGE TO LUNGS**
**AUTHORIZED PERSONNEL ONLY**

In addition, where the use of respirators and protective clothing is required in the regulated area under this section, the warning signs shall include the following:

**WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA**
B. Post copies of the Contractor’s CSLB license, Cal-OSHA registration certificate, temporary job-site notifications, local agency notifications, emergency exit diagram, emergency phone numbers, CAL/OSHA poster on worker’s rights, and worker’s compensation poster at proximate to the entrance to each Work Area.

C. Contractor shall have at least one copy of the Contract Documents including project plans and specifications, and a copy of 8 CCR 1529 asbestos.

D. Bilingual Worker Protection Procedures (English and Spanish) – To Be Posted in Clean Room.

1.07 SAFETY

A. The Contractor shall take all necessary personal protective measures and provide sufficient safety training related to the following anticipated hazards, including but not limited to: airborne asbestos, lead, and organic vapors from solvent solvents and other chemical agents used; noise; heat stress; confined space; electrical (lockout and tag out); fall hazards (ladders, scaffolding, floor holes, roofs, etc); water usage around hot objects; boiler room safety; power tools, eye hazards, and falling objects.

B. Safety Compliance: The Contractor shall comply with this section and all laws, ordinances, rules, and regulations of federal, state, regional, and local authorities regarding removal, handling, storing, transporting, and disposing of asbestos waste materials and conducting construction work. Where requirements of this section and any regulation or reference documents vary, the most stringent requirements shall apply. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work.

C. Emergency Precautions and Procedures

1. Establish emergency and fire exits from the Work Area. Stage two full sets of protective clothing and respirators at each emergency exit. A diagram of all emergency and fire exits must be prepared, and displayed in a conspicuous location in the clean room and/or entry to clean room.

2. Local medical emergency personnel, both ambulance crews and hospital emergency room staff, shall be notified prior to commencement of abatement operations as to the possibility of having to handle containment or injured workers, and shall be advised on safe decontamination.

3. Contractor’s (on-the-job) Competent Person shall be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination. When an injury occurs, the Contractor shall stop Work and implement fiber reduction techniques until the injured person has been removed from the Work Area.

1.08 SPECIAL PROVISIONS

A. The Contractor shall hold the District, District’s Representatives, Agents and Environmental Consultant harmless for claims, damages, losses, and expenses, including attorney’s fees, arising out of or resulting from the Contractor’s asbestos or other hazardous materials work, asbestos and
hazardous spills on the site or enroute to the disposal site, or any other condition resulting from the Contractor’s non-compliance with regulation or the Contract Documents.

PART 2 - PRODUCTS

2.01 GENERAL

A. Submit manufacturer’s product data and material safety data sheet for all products listed below per Section 011110 requirements.

B. The product submittal shall be limited to only those materials scheduled for use on this project. Do not submit data for products not scheduled for use.

C. Submittals that are incomplete, disorganized, unreadable, or not project specific will be rejected.

2.02 PROTECTIVE COVERING (PLASTIC)

A. Fire Retardant Polyethylene sheets 6-mil and 4-mil sizes to minimize frequency of joints, approved and listed by State Fire Marshall per Section 13121 and/or 13144.1 of the California Health and Safety Code.

2.03 TAPE, ADHESIVE, SEALANTS

A. Duct tape 2” or wider, or equal, capable of sealing joints of adjacent sheets of plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

B. Spray adhesive for sealing polyethylene to polyethylene shall contain no methylene chloride compounds.

C. Fire resistant sealants shall be compatible with concrete, metals, wood cable jacketing, etc. Sealant shall prevent fire, smoke, water and toxic fumes from penetrating through sealants. Sealant shall have flame spread, smoke and fuel contribution of zero, and shall be ASTM and UL rated for 3 hours for standard method of fire test for Fire Stop Systems.

2.04 PROTECTIVE PACKAGING

A. Appropriately labeled 6-mil sealable polyethylene bags as a minimum.

B. Appropriately labeled, impermeable drum containers with lids.

C. Bilingual labels (English and Spanish) on containment glove bags, waste packages, contaminated material packages and other containers shall be in accordance with Cal/OSHA standards.

2.05 WARNING LABELS AND SIGNS

A. As required by 29 CFR 1926.1101, 29 CFR 1910.145, 8 CCR 1529. Warning labels and signs shall adhere to all updated language as required since June 1, 2015 for labels, and since June 1, 2016 for signage per 29 CFR 1926.1101 and 8 CCR 1529.
2.06 SURFACTANT

A. Surfactant, or wetting agent, for amending water will be 50 percent polyoxyethylene ether and 50 percent polyethylene ester, or equivalent, at a concentration of one ounce per 5 gallons of water.

2.07 ENCAPSULANTS

A. After removal use a clear encapsulant that will be compatible with replacement materials. The encapsulant shall be applied in a fine mist application and shall not be allowed to pond at any time or for any duration.

2.08 SOLVENTS

A. Solvents shall be non-toxic, non-carcinogenic, non-flammable (flash point in excess of 200 degrees Fahrenheit), non-reactive with or damaging to materials it will come in contact with and approved for indoor use by regulatory agencies. Provide ventilation of Work Area as required by manufacturer. Vent exhaust to the exterior of the building and in a manner that will not result in adverse affects to other areas of the facility, adjacent facilities or public areas. Solvents shall not be used in areas where food is stored or to be stored.

2.09 DIFFERENTIAL PRESSURE EQUIPMENT

A. Provide Differential Pressure Equipment - High-efficiency particulate absolute (HEPA) filtration systems shall be equipped with filtration equipment in compliance with ANSI Z9.2, local exhaust ventilation. No air movement system or air filtering equipment shall discharge unfiltered air outside the Work Area. The differential pressure creating a negative pressure within the Work Area shall be maintained at 0.02 inches of water (-0.02") or greater and shall provide a minimum of 6 air changes per hour during abatement.

B. Provide Air Filtration Equipment with HEPA filtration system to cleanse air of particulate matter during abatement. Replace HEPA filters when filters become clogged with particulate matter. Provide enough air filtration devices within the work area to maintain fiber levels within the protection factors of workers' respirators.

C. All Differential Air Pressure Units and HEPA vacuums proposed for use onsite shall be tested onsite using DOP or Portacount methods by an independent third party and certified to meet the HEPA standard of efficiency by the testing firm. Copies of certificates must be provided prior to start up of abatement activities.

2.10 PERSONAL PROTECTIVE EQUIPMENT

A. Personal Protective Equipment shall comply with the requirements of 29 CFR 1910, Subpart I.

B. Work clothes shall consist of disposable, full-body coveralls, head covers, boots, rubber gloves or equivalent in accordance with 29 CFR 1926.1101, and ANSI Z41. Sleeves at wrists and cuffs at ankles shall be secure.

C. Eye protection and hard hats shall be available as required by applicable safety regulations and shall conform to ANSI 87.1 and 89.1.
D. Provide authorized visitors with suitable protective clothing, headgear, eye protection, and footwear whenever they are required to enter Work Area.

2.11 RESPIRATORS

A. Provide all workers, foremen, superintendents, authorized visitors, and inspectors personally issued and marked respiratory equipment approved by NIOSH. When respirators with disposable filters are employed, provide sufficient filters for replacement as recommended by respirator manufacturer(s). Selection of respirators shall be made according to the guidance of 29 CFR 1910 Subpart I; ANSI Z88.2; CGAI F7.1; EPA 560 OPTS-86.001; and Table I of this section. Selection of HEPA filters shall be made according to 42 CFR Part 84 (N100, R100, P100).

B. When positive pressure supplied air Type “C” equipped with full face piece respirators are employed, the Air Supply System shall provide Type I Grade “D” breathing air in accordance with OSHA 29 CFR 1910 Subpart I and ANSI Z88.2 and CGAI G7.1.

C. The compressed Air system for Type “C” Respirators shall be high pressure (nominal 100 psi), with a compressor capacity to satisfy the respirator manufacturer’s recommendations. The receiver shall have sufficient capacity to allow a 15-minute escape time for the respirator wearers in the event of compressor failure of malfunction. Type C supplied air respirators with HEPA filter disconnect may be used as an alternate to the 15-minute escape time required with event of compressor failure for Type C respirators. The Compressed Air System shall have compressor failure alarm, high temperature alarm, carbon monoxide alarm, and suitable in-line air purifying sorbent beds and filters to assure Grade “D” breathing air.

D. The minimum respiratory protection required for this project is as follows:

1. Use half or full-face mask and dual cartridge air purifying respirator with cartridges approved for asbestos and with high efficiency filters for all asbestos related work (except Class I Asbestos Work) where the Contractor's Exposure Assessment indicates the exposure level to employees will not exceed 1.0 fibers/cc.

2. For all large Class 1 type work, and if airborne fiber concentrations outside the respirator exceed 1.0 fibers/cc, use high efficiency powered air-purifying respirators (PAPRs) or Type “C” respirators supplied-air, full face piece, Type “C” pressure demand or pressure demand with auxiliary positive pressure self-contained breathing apparatus. When exposure limits are established, respirators presented in Table I that afford adequate protection for the maximum concentrations of airborne asbestos may be used, except for Class I Asbestos Work. The minimum respiratory protection for all Class I Asbestos Work, regardless of airborne concentrations, is PAPRs. If respirators other than a Type “C” pressure-demand, supplied-air respirator, are provided, determine the exposure of each employee to airborne asbestos during each type of removal operation. Determine both the ceiling limit and the 8-hour, time-weighted average concentration of asbestos fibers to which each of the employees is exposed during each type of removal operation.

   a. Type “C” Respirators shall be worn with belt to minimize possibility of dislodging face mask when hose becomes snagged in the work area.

   b. Provide a minimum of two spare hoses to be available at any time to the District and their authorized visitors and inspectors to connect to their assigned clean Type “C” respirator without having to displace workers from the abatement area to obtain a hose connection if use of Type “C” becomes necessary.
c. The Environmental Consultant will consider alternate respiratory protection systems proposed by the Contractor. Negative Exposure Assessment documentation must be provided by the Contractor demonstrating that asbestos levels during previous, comparable jobs were within the protection factors of the respirators to be used as outlined in Table I. The use of the following type of respirators is contingent upon approval by the Environmental Consultant.

<table>
<thead>
<tr>
<th>Maximum Airborne Fiber Concentration Outside Respirator</th>
<th>Protection Factor</th>
<th>Minimum Acceptable Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 fiber/cc**</td>
<td>1</td>
<td>Half or full-face mask and dual cartridge air purifying respirator with cartridges approved for asbestos and with high efficiency filters. *</td>
</tr>
<tr>
<td>1.0 fibers/cc</td>
<td>10</td>
<td>Powered air purifying respirator (half or full-face piece) and with high efficiency filters. *</td>
</tr>
<tr>
<td>1.0 fibers/cc</td>
<td>10</td>
<td>Type “C” supplied air respirators, full face piece, continuous flow.</td>
</tr>
<tr>
<td>5.0 fibers/cc**</td>
<td>50</td>
<td>Type “C” supplied air respirators, full face piece, pressure demand mode.</td>
</tr>
<tr>
<td>Over 5.0 fibers/cc**</td>
<td>50</td>
<td>Type “C” supplied air respirators, full face piece, pressure demand mode, equipped with an auxiliary positive pressure, self-contained breathing apparatus.</td>
</tr>
</tbody>
</table>

Disposable (single use respirators are not to be worn for protection against asbestos.

* Greater respiratory protection is always acceptable regardless of asbestos concentrations.

** Must demonstrate that the fiber levels will not exceed 0.01 f/cc inside the respirator based on quantitative mask fit testing for each individual using the respirator factor formula.

d. When Type “C” respirators are not required according to the OSHA standard (29 CFR 1926.1101 or this specification, whichever is more stringent), provide workers with approved, permanent, personally-issued and marked respirators with replaceable filters. Provide sufficient quantity of filters jointly approved by NIOSH/MSHA for use in asbestos environments so that workers can change filters as required by manufacturer during the work day. Filters shall not be used any longer than one work day. Respirator filters shall be stored at job site in clean room and shall be totally protected from exposure to asbestos prior to their use.

E. Compressors shall meet the requirements of 29 CFR 1910 Subpart I. Periodic inspection of the carbon monoxide monitor shall be evidenced. Documentation of adequacy of compressed air system/respiratory protection system shall be retained on site. Documentation shall include a list of compatible components with the maximum number and type of respirators that may be used with the system. Periodic testing of compressed air shall insure that systems provided air of sufficient quality.

PART 3 - EXECUTION
3.01 COORDINATION REQUIREMENTS

A. Coordinate all hazardous material related work with non-hazardous work to prevent exposure to unprotected personnel and building occupants. Phase hazardous material related work activities and non-hazardous work accordingly to prevent impacting air sample results outside Regulated Areas. The Contractor will be responsible for extra costs related to additional laboratory analyses or additional testing.

B. Coordinate timing of site demolition with the District and the Environmental Consultant for inspection and sampling of sewer pipe systems and soil conditions which may contain asbestos cement or naturally occurring asbestos. The Contractor shall be aware that these inspections and activities must take place before demolition can continue.

C. Building access requirements and/or site restrictions shall be discussed at the pre-construction meeting.

D. Coordinate timing of waste bag-out activities with the District and the Environmental Consultant. The Contractor shall be aware that these activities may need to take place during times when it is most convenient to the District.

E. Coordinate with the General Contractor the shut down and isolation of power to the Work Area(s) in addition to power requirements. Power lines which are unable to be shut down, such as those that provide service to outside the Work Area, shall be adequately protected and marked.

F. Coordinate and provide to Environmental Consultant the required number of power outlets needed inside and outside each work area. These outlets shall be solely dedicated for the use of the Environmental Consultant.

3.02 PROJECT PROCEDURES

A. Prior to the start of on-site work, the Contractor shall hold an on-site start-up safety meeting for all of his employees that addresses at least the following issues specific for the project:

1. Safety and health hazards;
2. Procedures and work practices;
3. Respiratory protection and instruction;
4. Special conditions and work requirements.

B. Worker Protection Procedures (Bilingual: English and Spanish) – To Be Posted in Clean Room.

1. Provide authorized visitors with suitable protective clothing, headgear, eye protection, and footwear whenever they are required to enter Work Area.

2. Each worker and authorized visitor shall, upon entering the job site: Remove street clothes in the clean-change room and put on a respirator and clean protective clothing before entering the equipment room or Work Area.
3. Workers shall, each time they leave the Work Area: Remove gross contamination from clothing before leaving the Work Area; proceed to the equipment room and remove clothing except respirators; still wearing the respirator, proceed naked to the showers; clean the outside of the respirator with soap and water while showering; remove the respirator; thoroughly shampoo and wash themselves.

4. Following showering and drying off, each worker shall proceed directly to the clean change room and dress in clean clothes at the end of the each day’s work, or before eating, smoking, or drinking. Before re-entering the Work Area from the clean-change room, each worker and authorized visitor shall put on a clean respirator and shall dress in clean protective clothing.

5. Contaminated work footwear shall be stored in the equipment room when not in use in the Work Area. Upon completion of asbestos-related work, dispose of footwear as contaminated waste.

6. Workers removing waste containers from the equipment decontamination enclosure shall enter the holding Area from outside wearing a respirator and dressed in clean disposable coveralls. No Worker shall use this system as a means to leave or enter the washroom or the Work Area.

7. Color of disposable clothing worn outside the Work Area shall be different in color or markings from disposable clothing work inside Work Area.

8. Workers shall not eat, drink, smoke, or chew gum or tobacco while in the Work Area.

9. Workers and Authorized Visitors with beards shall not enter the Work Area unless equipped with respiratory protection approved for use with beards.

3.03 PREPARATION

A. General Requirements:

1. Shut down electric power to the Work Area to the greatest extent possible. Consult with the District and District’s Representative before shutting down power. Provide temporary power and lighting and ensure safe installation of temporary power sources and equipment per applicable electrical code requirements and provide ground-fault interrupter circuits as power source for electrical equipment.

2. Shut down and isolate heating, cooling, ventilation air systems to prevent contamination and fiber dispersal to other areas of the structure. If shut down is not feasible, duct capping and sealing will be required according to an approved plan. During the Work, vents within the Work Area shall be sealed with tape and plastic sheeting and as indicated on plans (if available).

3. Install a Decontamination Enclosure System or equivalent prefabricated portable decontamination unit(s) as approved. This system will be the primary entrance and exit to the Work Area.

4. Seal off all other accesses to the Work Area with polyethylene sheeting sealed with tape.
5. Install Differential Pressure Equipment for all Class I and Class II Asbestos Removal Operations, and for Class III Asbestos Removal Operations where specified in accordance with the requirements herein.

6. Pre-clean fixed objects within the proposed Work Areas, using HEPA filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclose with protective barriers. Protective barriers will consist of plastic sheeting and plywood as appropriate.

7. Clean the proposed work areas using HEPA filtered vacuum equipment and wet cleaning methods as necessary to maintain fiber levels at or below 0.01 f/cc. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters shall not be used. Use only HEPA filtered vacuums on electrical equipment. Brush attachments and vacuum lines to be plastic.

8. Seal all remaining openings, including but limited to ducts, grills, diffusers, and any other penetrations of the Work Areas, with 2 layers of 6 mil polyethylene sheeting sealed with tape. Seal all joints of conduit, junction boxes, and ductwork with duct tape and plastic sheeting. Cover and protect during abatement.

9. Establish and maintain emergency and fire exits from Work Areas at all times.

B. Decontamination Enclosure System (General):

1. Construct decontamination enclosure system(s) with suitable framing for rigid doorways and walls. Walls and floor of decontamination enclosure system(s) shall be lined with 2 layers of 6 mil polyethylene sheeting sealed with duct tape.

2. Access between contaminated and uncontaminated rooms or areas shall be through an airlock. Access between any two rooms within the decontamination enclosure system(s) shall be through a rigid doorway. Rigid doorways to shower room shall be provided with an interlocking device to prevent the opening of both doors simultaneously.

3. A Fixed Louver shall be provided in all rigid panel doors of a decontamination enclosure system. Fixed Louvers may be installed in rigid walls in lieu of installing them in rigid panel doors.

4. Extra precautions shall be taken by the Contractor to prevent leaking of any kind from the Decontamination Enclosure System. The Contractor shall conduct inspections before, during and at the end of each work shift to ensure there is no standing water or leaks.

5. The Decontamination Enclosure System shall be securable and lockable.

C. Worker Decontamination Enclosure System: Construct a worker decontamination enclosure system contiguous to the Work Area consisting of three totally enclosed chambers including a clean room, a shower, and an equipment room.

D. Equipment Decontamination Enclosure System:

1. Provide or construct an equipment decontamination enclosure system consisting of three totally enclosed chambers including a washroom, a wet sponge area and a holding area.
E. Separation of Work Area from Occupied Areas:

1. Separate parts of the building required to remain in use from parts of the building that will undergo asbestos-related work by means of airtight barriers, constructed as follows:
   a. Build suitable wood or metal framing and apply 3/8” minimum thickness sheathing on work side.
   b. Cover sheathing with minimum of 2 layers of 6 mil plastic sheet, sealed with duct tape as specified on Work Area side.
   c. Seal all penetration points to the work area by using minimum of 2 layers of 6 mil plastic sealed with duct tape.

F. Maintenance of Enclosure Systems:

1. Ensure that barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.
2. Visually inspect enclosures at the beginning of each work period.
3. Use smoke methods to test effectiveness of barriers prior to implementing asbestos removal and as directed by the District.

G. Asbestos abatement work shall not commence until:

1. Submittals as required herein have been reviewed and approved in writing by the District and the Environmental Consultant.
2. Arrangements have been made for disposal of waste at an acceptable site and there is a securable waste dumpster present on-site lined with one layer of 6 mil polyethylene sheeting.
3. The Contractor’s Competent Person and the Environmental Consultant have inspected and approved the containment system for start of asbestos-related work and the “Pre-Abatement Visual Inspection Form” (Section 011110 – Appendix G) is completed and signed by both parties.
4. Arrangements have been made for securing the Work Area.

3.04 CLASS I ASBESTOS REMOVAL OPERATIONS

A. Work Area Preparation (General)

1. In addition to the requirements specified in Article 3.03 Preparation, Cover floor and wall surfaces with two independent layers of 6 mil polyethylene sheeting sealed with tape. For each layer, cover the floor first so that the polyethylene sheeting extends up the wall at least 12 inches, then cover the wall down to the floor level. An additional layer of polyethylene sheeting encompassing the entire floor of the work area shall be used during gross removal as a drop sheet.

2. Cover ceilings with one layer of 6 mil polyethylene sheeting where noted and/or where floor mastic is to be removed utilizing a chemical solvent and mechanical buffers with abrasive pads and/or utilizing bead or shot blasting and/or with any other type of mechanical removal. The
only time a ceiling will not be required for floor mastic removal is if the floor mastic is being removed manually or if the ceilings are to be removed and disposed of as a regulated asbestos containing material (RACM).

3. Differential pressure shall be installed, operating and able to maintain a negative pressure of 0.02 inches of water with a minimum of 6 air changes per hour during abatement.

4. Mini Containments: The use of mini-containments shall only be permitted if the disturbance or removal can be completely contained by the enclosure. Mini-containments shall be constructed out of a minimum of one layer of 6 mil polyethylene sheeting sealed with tape. The mini-containment shall have rigid framing for support. The enclosure shall have a decontamination enclosure system in accordance with the requirements herein or as approved by the Owner’s Environmental Consultant. The containment shall be placed under negative pressure for the duration of work in the containment until final air clearance is obtained.

B. Abatement Procedures (General):

1. Spray asbestos materials with amended water, using only spray equipment capable of dispensing a fine mist application. Saturate material without causing excess dripping or pooling. Spray materials and work area repeatedly during work process to control airborne fiber levels. In work areas with active electrical equipment, spray material with only enough amended water to dampen material, do not saturate material. Immediately vacuum up any standing water on floor of the Work Area.

2. Remove saturated asbestos materials in small manageable sections. As it is removed, immediately place materials in six mil sealable plastic bags or appropriate containers labeled in accordance with 29 CFR 1910.1101 (g) (2) and 8 CCR 1529 (n) (3).

3. All waste put in plastic bags must be sealed using the “goose neck” technique by twisting the neck of the bag, bending it over and taping it with multiple wraps of tape. Clean external surfaces of containers thoroughly by wet sponging in the designated wet sponge area, which is part of decontamination enclosure system. Move containers to wash room, wet clean each container thoroughly, and move to holding area pending removal to uncontaminated areas. Ensure that containers are removed from the holding area by workers who have entered from un-contaminated areas dressed in clean coveralls. Ensure that workers do not enter from uncontaminated areas into the wash room or the Work Area.

4. After completion of asbestos-related work, surfaces from which asbestos has been removed shall be Wet Cleaned and/or Wet Sponged or cleaned by an equivalent method to remove all visible material and residue. During this work the surfaces being cleaned shall be kept damp. Do not allow water to pond at any time.

5. Remove outer layer of polyethylene sheeting (drop sheet) only. Clean all surfaces of the work area including remaining sheeting by use of damp-cleaning and HEPA filtered vacuuming.

C. Glovebag Technique:

1. Method or work practice not used

D. Cut, Wrap and Take Technique:
1. Method or work practice not used

E. Removal of Asbestos Containing Surfacing Materials (Includes Wall and Ceiling Plasters):
   1. Method or work practice not used

F. Asbestos Removal and/or Entry Preparation (Crawlspace, Tunnel, and Plenum Areas):
   1. Method or work practice not used.

G. Removal of Boiler Brick, Caulkings, Gaskets, Packings and Sealants:
   1. Method or work practice not used.

H. Removal of Sheet Flooring and Associated Backing:
   1. Method or work practice not used

I. Removal of Asbestos Containing Ceiling Tiles/Panels:
   1. Method or work practice not used

J. Painting and Surface Preparation of Asbestos Containing Surfacing Materials, TSI and PACMs (Where the total quantity of asbestos waste generated is greater than what can fit in one 60” x 60” waste bag.)
   1. Method or work practice not used

3.05 CLASS II ASBESTOS REMOVAL OPERATIONS

A. Work Area Preparation (Interior Areas):
   1. Cover floor and other horizontal surfaces not scheduled for removal with two layers of 6 mil polyethylene sheeting extending at least 12 inches up all vertical surfaces (i.e., walls) and sealed with duct tape and spray adhesive (as necessary) to the wall surfaces. Cover wall surfaces with a minimum of one layer of 4 mil polyethylene sheeting from above the baseboard to the ceiling and seal with tape.

   2. Cover ceilings with one layer of 6 mil polyethylene sheeting where noted and/or where floor mastic is to be removed utilizing a chemical solvent and mechanical buffers with abrasive pads and/or utilizing bead or shot blasting and/or with any other type of mechanical removal. The only time a ceiling will not be required for floor mastic removal is if the floor mastic is being removed manually or if the ceilings are to be removed as a regulated asbestos containing material (RACM).

   3. In cases where Class I Asbestos Work and Class II Asbestos Work are scheduled to occur in the same Work Area, Contractor shall prepare the Work Area in accordance with the Class I Asbestos Work and sequence removal activities accordingly.
B. Work Area Preparation (Exterior Areas):

1. Cover ground and horizontal surfaces with one layer of 6 mil polyethylene sheeting extending at least five feet from wall surfaces and seal with duct tape and spray adhesive (as necessary).

2. Install barrier tape a minimum of ten feet away from the perimeter of Work Areas.

3. Establish a regulated area consisting of barriers/barrier types and warning signs at least 10 feet from the point of removal. The edge of construction fencing can be considered such a barrier if sufficient controls have been established to prevent loss or spillage of materials out of the construction area. Regulated areas may also include construction of privacy containment and barriers (with all applicable engineering controls) to isolate the work area from adjoining workers, construction personnel, and public site activities. Cover all exterior air handlers, inlets, with one layer of 6 mil polyethylene sheeting during prior to removal processes.

Variances to procedures shall be reviewed and approved by the District/Environmental Consultant.

4. For areas within a NPE, install negative air machines, establishing a negative pressure minimum of 0.02 inches of water.

C. Work Procedures (General):

1. Remove asbestos-containing materials intact where possible using wet methods. All interior work shall be conducted within a negative pressure enclosure (NPE). As materials are removed, immediately place materials in six mil sealable plastic bags or appropriate containers labeled in accordance with 29 CFR 1910.1101 (g) (2) and 8 CCR 1529 (n) (3). Collect all dust and debris using vacuum cleaners equipped with HEPA filters. Modify methods where the use of water and/or HEPA vacuums could create an electrical hazard or other unsafe condition.

D. Gypsum Board/Joint Tape Compound/Texture Removal:

1. Method or work practice not used

E. Removal of Asbestos Cement Piping, Asbestos Cement Panels, Asbestos Cement Sinks and Asbestos Cement Counters:

1. Install one layer of 6 mil polyethylene sheeting in the area where the asbestos cement product is being removed. Polyethylene sheeting shall extend a minimum of five feet from the point of removal.

2. Spray the asbestos cement product with amended water and keep wet at all times. Remove asbestos cement product in whole sections without breaking.

3. Where possible, wrap two independent layers of 6 mil polyethylene sheeting sealed with tape around the asbestos cement product and remove and dispose of as a whole component.

4. All resulting asbestos cement waste is to be bagged up as asbestos waste and removed from the Work Area prior to continuing hazardous material work.
5. If asbestos cement products are to be removed by mechanical means, removal shall be completed utilizing removal procedures as specified in 3.04 of this section for Class I work.

F. Removal of Chalkboards, Tackboards, or Ceiling Tiles with Asbestos Mastics:
   1. Method or work practice not used

G. Removal of Asbestos Fire Doors:
   1. Method or work practice not used

H. Removal of Sinks with Asbestos Containing Coatings:
   1. Method or work practice not used

I. Floor Tile Removal:
   1. Method or work practice not used

J. Flooring Mastic Removal:
   1. Method or work practice not used

K. Removal of Asbestos Containing Concrete, Stuccos Hard Plasters or Terrazzo:
   1. Removal of hard cementitious asbestos containing materials shall be performed in a negative pressure enclosure and coordinated with other removal work specified elsewhere to prevent the waste material becoming commingled with other wastes that may be produced.

   2. Continuously mist the asbestos containing materials being removed with amended water. There shall be a dedicated person applying mist at each point of removal. Clean up any standing water immediately.

   3. Place removed asbestos containing materials in impervious containers with asbestos warning labels as they are removed. Complete Work Area clean-up when the asbestos containing surfacing material removal is complete or at the end of the shift, whichever comes first.

   4. When applicable, separate metal lath and black iron from asbestos materials. Metal that can not be properly decontaminated shall be packaged appropriately and disposed of as asbestos waste. Metal that can be properly decontaminated, shall be cleaned and removed from the work area and disposed of as general construction debris or recycled.

   5. All removed asbestos containing materials, contaminated and associated debris shall be packaged and labeled for disposal as an asbestos waste.

L. Removal of Building Components (i.e. Gas Lines, Piping, HVAC Equipment, etc.) with Asbestos Containing Paints/Coatings/Sealants/Mastics:
1. Method or work practice not used

M. Removal of Exterior Asbestos Containing Paints by Chemical Removal

1. Method or work practice not used.

N. Removal of Asbestos Containing Materials by Mechanical Removal

1. Removal of asbestos containing surfaces by mechanical removal shall be performed within negative pressure enclosures.

2. All mechanical removal equipment and systems shall be approved by the Owner's Consultant. Such equipment includes but is not limited to needle guns, abrasive wheels, and roto-peen equipment.

3. All power tools shall be designed and equipped with HEPA-filtered exhaust systems.

4. The Contractor shall submit a separate workplan for containment of fugitive dust and debris emissions.

O. Drilling/Anchoring/Coring/Cutting/Abrading Asbestos Containing Surfaces

1. Prepare the Work Area as specified herein for Asbestos abatement.

2. Remove all interfering structures and store for replacement when work is complete.

3. Where installation of materials requires drilling, cutting, coring, anchoring or abrading the asbestos containing surfaces, the Contractor shall take additional appropriate precautions including, but not limited to, use of protective drop cloths, glove-bag enclosures, clean-up and decontamination as specified herein.

4. Place plastic drop sheet below area of impaction.

5. Install leak-tight glove-bags to the area of impaction.

6. Lightly moisten the asbestos containing surface to be impacted.

7. Conduct impaction operations (i.e. drilling, anchoring, abrading, etc.).

8. Continue misting asbestos containing surface within the glove-bag during impaction to control airborne dust.

9. HEPA vacuum and wet-wipe frequently to prevent accumulation and spread of lead-containing dust and debris.

P. Stabilization of Exterior Asbestos Containing Paints, Coatings, Sealants, Mastics, Stucco, Plaster and Skim Coats Prior to Repainting Activities

1. Method or work practice not used
Q. Removal of Exterior Building Components which Impact Asbestos Containing Exterior Stucco/Plaster, Paints and Coatings
   1. Method or work practice not used

R. Removal of Roofing Materials
   1. Method or work practice not used

S. Removal of Construction Mastics, Sealants, Paints, Coatings, Caulkings and Glazing Compounds:
   1. Method or work practice not used

T. Removal of Exterior Asphalt/Concrete
   1. Establish a regulated area consisting of barriers/barrier type and warning signs at least 10 feet from the point of removal. The edge of construction fencing can be considered such a barrier if sufficient controls have been established to prevent loss or spillage of materials out of the construction area. Regulated areas may also include construction of privacy containment and barriers (with all applicable engineering controls) to isolate the work area from adjoining workers, construction personnel, and public site activities and properties.

   2. Establish a regulated area for work access. This will be the point of entry/exit to the regulated area. For entering/exiting the work area, the Contractor may use a remote decontamination system.

   3. No removal work shall begin until the work areas have been properly regulated and is inspected by the District and/or the Environmental Consultant.

   4. Remove asphalt/concrete/materials in small manageable sections using wet methods and promptly place in properly labeled containers doubly lined with six-mil plastic high density poly ethylene plastic. All smaller debris shall be wetted, double bagged, goose-necked, and labeled prior to loading receptacle. Asphalt/concrete removed with breaking equipment shall be wetted at all times during removal and during loading procedures onto waste containers and trucks. All load material shall be placed in bins and covered at the end of the work day if waste is to be stored onsite. No stockpiles will be allowed for waste storage at the end of a work shift.

   5. For work using blasting mechanisms (sand blaster, bead blaster, etc) for stripping or scarifying asphalt systems, a separate work plan shall be prepared by the Contractor for review and approval by the Environmental Consultant, Construction Manager and District prior to start of work.

   6. All asbestos waste shall be removed from the work area at the end of each work day.

   7. In no case shall waste disposal containers be dropped or thrown. All waste disposal containers shall be handled in a careful manner to prevent a spill and resulting fiber release of airborne asbestos.
8. Acceptable clearance criteria for exterior asphalt/concrete removal shall be no visible debris at removal locations.

9. All non-friable asphalt/concrete shall be disposed of as a non-hazardous waste. Should removal methods utilized create a friable product, all waste will be deemed as asbestos hazardous waste.

3.06 CLASS III ASBESTOS REMOVAL OPERATIONS

A. Work Area Preparation (Interior Areas):

1. Cover floor and other horizontal surfaces not scheduled for removal with two layers of 6 mil polyethylene sheeting extending at least 12 inches up all vertical surfaces (i.e., walls) and sealed with duct tape and spray adhesive (as necessary) to the wall surfaces. Cover wall surfaces with a minimum of one layer of 4 mil polyethylene sheeting from above the baseboard to the ceiling and seal with tape.

2. In cases where Class I Asbestos Work and Class II Asbestos Work are scheduled to occur in the same Work Area, Contractor shall prepare the Work Area in accordance with the Class I Asbestos Work and sequence removal activities accordingly.

B. Work Procedures (General)

1. Use wet methods or methods that minimize or eliminate the generation of dust during cutting or drilling operations. Alternate methods may include the use of foams or negative pressure glovebags or gloveboxes, and/or mini-containments.

2. To the extent feasible, the work shall be performed using local exhaust HEPA vacuums at point of dust generation.

3. Adequately wet the material with Amended water before and during Disturbance using airless sprayers.

4. Promptly place all waste in properly labeled plastic bags or waste containers. Plastic bags must be sealed using the “goose neck” technique by twisting the neck of the bag, bending it over and taping it with multiple wraps of tape.

5. Upon completion of Class III operations, remove drop sheets and thoroughly HEPA vacuum and wet wipe all surfaces within the Work Area.

C. Work Procedures for ACM other than TSI or Surfacing:

1. Method or work practice not used

D. Work Procedures for Thermal System Insulation (TSI), Surfacing ACM and PACMs:

1. Method or work practice not used
E. Painting and Surface Preparation of TSI, Surfacing ACMs and PACMs (Where the total quantity of asbestos waste generated is less than what can fit in one 60”x60” waste bag.)

1. Method or work practice not used

F. Glovebag Systems

1. Method or work practice not used

G. Drilling/Anchoring/Cutting/Abrading Asbestos Containing Surfaces

1. Prepare the Work Area as specified herein for Asbestos abatement.
2. Remove all interfering structures and store for replacement when work is complete.
3. Place plastic drop sheet below area of impaction.
4. Where installation of materials requires drilling, cutting, anchoring or abrading the asbestos containing surfaces, the Contractor shall take additional appropriate precautions including, but not limited to, use of protective drop cloths, glove-bag enclosures, use of shaving cream or equivalent, clean-up and decontamination as specified herein.
5. Install leak-tight glove-bags to the area of impaction.
6. Lightly moisten the asbestos containing surface to be impacted.
7. Conduct impaction operations (i.e. drilling, anchoring, abrading, etc.).
8. Continue misting asbestos containing surface within the glove-bag during impaction to control airborne dust.
9. HEPA vacuum and wet-wipe frequently to prevent accumulation and spread of lead-containing dust and debris.

3.07 EXTENSION OF WORK AREA

A. If a Critical Barrier is breached and/or a spill occurs outside the Work Area or Regulated Area, the Contractor shall extend the work area to include the effected area. The Contractor shall take all precautions to prevent the spread of asbestos debris and/or asbestos fibers during extension of the Work Area. The effected area shall be constructed in the same manner required for that class of asbestos work.

B. The Owner’s Environmental Consultant will determine the extent of the Work Area boundaries.

3.08 DECONTAMINATION OF WORK AREA

A. Clean all surfaces within the Work Area using wet methods and HEPA vacuum equipment. Floor and wall surfaces shall be free of any visible asbestos material, debris and dust.

B. The Contractor’s Competent Person shall perform a complete visual inspection of the Work Area under adequate lighting to ensure that the Work Area is free of visible asbestos material, debris,
dust, waste bags or containers, and unnecessary equipment. The Competent Person shall ensure that additional cleaning is completed if the area is not acceptably clean. The Contractor’s request for inspection will be recognized upon receipt of a completed and signed copy of the Final Visual and Clearance Certification Form (Section 011110 – Appendix H). No inspections will be conducted without a completed and signed copy of the Final Visual and Clearance Certification Form (Section 011110 – Appendix H).

C. Upon successful completion of final visual inspection by the Owner’s Environmental Consultant, spray substrate(s) with encapsulant compatible with finish materials. Encapsulant should be applied using airless spray equipment as specified by the manufacturer.

D. The Owner’s Environmental Consultant shall conduct the final air clearance testing after a minimum 12 hour wait period. Final clearance air sampling and analysis shall be conducted in accordance with 40 CFR 763. After written notification from Owner’s Environmental Consultant accepting decontamination of the Work Area (Section 011110 – Appendix H), remove inner plastic layer isolation barriers and proceed with any remaining repairs or refinish work and reestablishment of objects and systems as specified. If applicable, the Contractor may elect to leave the final layer of plastic sheeting for material replacement.

3.09 WASTE HANDLING AND DISPOSAL

A. Under no circumstances shall asbestos waste be stored at any time in the building, surrounding buildings, outside the building, or be allowed to accumulate inside the Work Area. Asbestos Waste must be taken from the Work Area directly to a securable waste dumpster via leak tight carts covered with polyethylene sheeting at the end of each work day.

B. Waste Manifests: Each time Hazardous Asbestos Waste and Non-Hazardous Asbestos Waste is removed from the site, the Contractor is responsible for submitting the generator (yellow) and the DTSC (blue) copies to the Owner’s Representative and copies to the Owner’s Environmental Consultant. For Hazardous Asbestos Waste, complete and submit a copy of the Land Disposal Restriction Form.

C. The sealed asbestos containers shall be delivered to Contractor’s pre-designated approved hazardous waste site for burial; in accordance with Title 22, CCR, EPA guidelines and 40 CFR 61.156 and local Air Pollution Control District Regulations. Contractor shall be responsible for safe handling and transportation of hazardous waste generated by this Contract to the designated Hazardous Waste Site.

D. Notify the Owner 48 hours in advance of the time when contaminated materials are to be removed from the site.

3.10 AIR MONITORING

A. Area Air Monitoring:

1. Throughout the abatement process area air monitoring will be conducted by the Owner’s Environmental Consultant to ensure work is done in conformance with fiber concentration limits of these Specifications.
2. If area air monitoring results outside the Work Area are in excess of 0.01 f/cc or background air samples, which ever is greater, Contractor shall make changes in work procedures to assure compliance with minimum standards. At a minimum, Contractor shall stop all work and clean the effected area to the extent necessary as determined by the Owner’s Environmental Consultant. Contractor shall be responsible for all costs associated with air fiber counts outside the Work Area including asbestos air analysis by transmission electron microscopy (TEM).

B. Contractor shall submit written report to Owner’s Environmental Consultant of Contractor’s personnel monitoring within 24 hours or as approved. Personnel air monitoring shall not exceed the levels recommended for the type of respiratory equipment in use.

C. The Owner’s Environmental Consultant shall conduct the final air clearance testing after a minimum 12 hour wait period. Final clearance air sampling and analysis shall be in accordance with 40 CFR 763. The first set of clearance samples will be collected and analyzed at the Owner’s Expense.

D. If an unacceptable final air clearance is obtained, the Work Area decontamination for the entire area shall be considered incomplete and re-cleaning must be repeated in accordance with the procedures outlined herein. The Contractor shall also be responsible for all costs associated with such failure such as Consultant fees and laboratory costs.

### 3.11 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

A. When clean-up and installation of replacement finishes is complete:

1. Relocate objects moved to temporary locations in the course of work to their former positions.

2. Re-secure mounted objects removed in course of work in their former positions.

3. Re-establish HVAC, mechanical and electrical systems in proper working order. Install new filters and dispose of used filters as asbestos contaminated waste.

### 3.12 REPAIR AND PAINTING

A. Damage to finishes and other items as a result of work under this section shall be repaired or replaced, painted, or cleaned to match existing adjacent surfaces to satisfaction of Owner and as specified elsewhere. Coordinate all work with General Contractor to avoid unnecessary repairs.

### 3.13 CLEAN-UP

A. Maintain a clean project site during and upon completion of work of this section. Cleaning shall be in accordance with the General Conditions.

### 3.14 PROJECT CLOSEOUT

A. Contractor shall provide all outstanding submittal information to the Owner’s Environmental Consultant within 10 working days from the completion of abatement work. The Owner reserves
the right to withhold final payment to the Contractor until all required submittal information is received and approved by the Owner’s Environmental Consultant.

END OF SECTION
SECTION 028300

LEAD-IMPACTED CONSTRUCTION AND ABATEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This section specifies requirements for lead-impacted construction and lead hazard abatement including but not limited to:

1. Submittals
2. Contractor's Monitoring Program
3. Products
4. Abatement Execution including:
   a. Work Area preparation
   b. Worker protection and decontamination
   c. Removal of Lead containing components
   d. Removal of Lead containing ceramic tile
   e. Removal of Plaster with Lead-based/containing paint
   f. Removal of deteriorated Lead containing coatings for enclosure
   g. Abatement by enclosure
   h. Encapsulation of Lead containing coatings/surfaces
   i. Removal of Lead containing coatings by chemical stripping
   j. Removal of Lead containing coatings by mechanical removal
   k. Removal of Lead containing coatings by abrasive blasting
   l. Drilling and Anchoring of Lead containing surfaces
   m. LBP and Lead coating stabilization
   n. Cleaning and decontamination
   o. Clearance inspection testing
   p. Waste characterization and disposal
5. Stop work orders
6. Project closeout

1.02 REGULATIONS

A. The Contractor shall comply with the requirements of the current issue of the following regulations and guidelines governing lead abatement and disposal and other applicable Federal, State, and Local Government regulations. The regulations listed herein are incorporated by reference.

a. 29 CFR 1926, Construction Standards  
b. 29 CFR 1926.62, Lead in Construction  
c. 40 CFR Part 50.12, Ambient Air Quality Standard for Lead  
d. 40 CFR Parts 261, 265 and 268, Hazardous Waste Management  
e. 40 CFR Part 745 Lead; Lead Based Paint Poisoning in Certain Residential Structures (EPA RRP)  
f. 49 CFR Part 172, 173, 178, 179, Hazardous Material Transportation  

2. California Code of Regulations:  

a. 8 CCR Division 1, Chapter 4, Subchapter 4, Construction Safety Orders  
b. 8 CCR 1532.1, Lead in Construction  
c. 8 CCR 5144, Respiratory Protection  
d. 26 CCR Division 22, Hazardous Waste  
e. 17 CCR Division 1, Chapter 8, Accreditation, Certification and Work Practices for Lead-based Paint and Lead Hazards.  


4. San Francisco Building Code, Chapter 36, Section 3604.3, Work Practices for Exterior Lead-Based Paint  

1.03 RELATED DOCUMENTS  

A. Contract Documents including hazardous material-related plans and specifications and all other project construction documents. Refer to Section 011110 Summary of Work, Article 1.04 Related Documents for a more detailed listing.  

1.04 DEFINITIONS  

A. In addition to the definitions in Section 011110 Summary of Hazardous Materials Work, the following definitions are specific to work of this section:  

1. Lead Hazard Abatement -- Any set of measures designed to reduce or eliminate lead hazards.  

2. Certified Lead Supervisor -- An individual who is responsible for implementing lead-related construction work and enforcing work practices that ensure worker safety in residential or public buildings and who has received a certificate or an interim certificate from the Department of Public Health (DPH) as a certified lead supervisor.  

3. Certified Lead Worker -- An individual who performs lead-related construction work in residential or public buildings under the direction of a certified lead supervisor and has received a certificate from the DPH as a certified lead worker.  

4. Certificate -- “Certificate” means the document issued by the Department to an individual who
meets the requirements for certification as described in sections 35083, 35085, 35087, 35089, or 35091 of Title 17.

5. Child-Occupied Facility – “Child-occupied Facility” means a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least two different days within any week (Sunday through Saturday), provided that each day’s visit last at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may include, but are not limited to, day care centers, preschools and kindergarten classrooms. Child-occupied facilities may be located in target housing or in public or commercial buildings. With respect to common areas in public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only those common areas that are routinely used by children under age 6, such as restrooms and cafeterias. Common areas that children under age 6 only pass through, such as hallways, stairs and garages are not included. In addition, with respect to exteriors of public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only the exterior sides of the building that are immediately adjacent to the child-occupied facility or the common areas routinely used by children under age 6.


7. Component -- A structural element or fixture, including but not limited to a wall, floor, ceiling, door, window, molding, trim, trestle, tank, stair, railing, cabinet, gutter, or downspout.

8. CDPH – “CDPH” means the California Department of Public Health.

9. Deteriorated Paint -- Paint or surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, or otherwise separating from a component.

10. Encapsulation -- All herein specified procedures necessary to coat or seal lead containing coatings/surfaces with some durable coating which is applied as a liquid to the painted surface. Lead-free paint is not to be considered as an encapsulant. The encapsulating material shall be airtight, impermeable, and provide a semi-permanent barrier that can be expected to last 20 years. The encapsulant shall be approved for use by the District and Environmental Consultant.

11. Enclosure -- Accomplished by enclosing the Lead containing surface with a rigid and durable substance such as drywall, paneling, metal, vinyl or wood siding, or some other construction material. The enclosure must be dust-tight or sealed at all edges to provide a dust-tight enclosure. The construction materials used shall be approved for use by the District and Environmental Consultant.

12. Hazardous Waste -- Lead debris shall be classified as hazardous due to the characteristic of toxicity, as determined by testing in accordance with the California Code of Regulations, Title 22, Division 4, Chapter 30, Article 11. Any substance(s) listed in Article 11 Section 66699 at concentrations greater than their listed Soluble Threshold Limit Concentration (STLC) or
Total Threshold Limit Concentration (TTLC) may need to be further characterized by the Toxicity Characteristic Leaching Procedure (TCLP) in accordance with 40 CFR 261 and other tests prior to disposal as a hazardous waste. Note: whole painted components or architectural debris with intact LBP is not typically expected to exceed hazardous waste criteria and may be evaluated by a consideration of the ratio of all materials in the waste to the lead content of the associated paint.

13. Industrial Building -- A structure that is used primarily for industrial activity, which is generally not open to the public, including but not limited to, warehouses, factories, and storage facilities. Industrial building does not include any structure which fits the definition of a public building or a residential building.

14. Intact LBP Components -- LBP components removed substantially intact with LBP firmly adhering to the surface. Examples are door, door trim, baseboards, etc., with intact paint. Also referred to as architectural debris with intact paint.

15. Lead-Based Paint (LBP) -- The concentration of lead in paint or other surface coatings in the amount of or equal to 0.5% lead by weight when analyzed by AAS or ICP-AES or 1.0 milligrams of lead per square centimeter (mg/cm²) as determined by XRF testing or as identified by specification.

16. Lead-Based Paint Related Waste -- Paint chips, vacuum dust, and debris, used cleaning articles, waste water, plastic sheets and other disposable items which were used during the Lead abatement process and as a result are considered lead contaminated waste or assumed hazardous waste pending further characterization.

17. Lead-Containing Paint/Surface Coatings – The concentration of lead in paint or other surface coatings less than 0.5% lead by weight when analyzed by AAS or ICP-AES or 1.0 mg/cm² as determined by XRF testing or as identified by specification.

18. Lead-Contaminated Dust -- The amount of lead equal to, or in excess of, 40 micrograms per square foot (µg/ft²) for floor surfaces, 250 µg/ft² for horizontal window sills and 400 µg/ft² for window wells (troughs) and exterior horizontal surfaces.

19. Lead-Contaminated Soil -- Bare soil that contains an amount of lead equal to, or in excess of 400 parts per million (ppm) in children’s play areas and 1,000 ppm in all other areas.

20. Lead Hazard -- Deteriorated lead-based paint or lead-containing surface/coating material, lead contaminated dust, lead contaminated soil, disturbing lead-based paint or lead-containing surfaces/coating materials or presumed lead-containing surfaces without containment, or any other nuisance which results in environmental lead contamination.

21. Lead Hazard Abatement -- Special abatement activities undertaken with the specific intent to eliminate or reduce existing lead hazards as defined herein. Not to be confused with abatement controls on normal lead-related construction work in construction areas with restricted access to the general public. In this latter case, lead is present in or on construction materials and is impacted by the work but is not the focus of the work to be undertaken.
22. Lead-Related Construction Work -- Any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup that, by using or disturbing lead-containing materials, surfaces or soil, may result in significant exposure of adults or children to lead.

23. Lead Stabilization – Process of controlled surface preparation using containment and wet methods and/or HEPA vacuuming to prepare a deteriorated LBP surface for painting and followed by application of approved primer and finish coats of paint. Process may be incorporated in a normal painting process for environmental protection.

24. Minor Repair and Maintenance Activities – Minor repair and maintenance activities are activities, including minor heating, ventilation or air conditioning work, electrical work, and plumbing, that disrupt 6 square feet or less of painted surface per room for interior activities or 20 square feet or less of painted surface for exterior activities where none of the work practices prohibited or restricted by 40 CFR 745.85(a)(3) are used and the work does not involve window replacement or demolition of painted surfaces. When removing painted components, or portions of painted components, the entire surface area removed is the amount of painted surface disturbed. Jobs, other than emergency renovations, performed in the same room within the same 30 days must be considered the same job for purposes of determining whether the job is a minor repair and maintenance activity.

25. Pamphlet – Pamphlet means the EPA pamphlet titled, “Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools,” developed under CFR Section 406(b) of TSCA, or any State or Tribal pamphlet approved by EPA pursuant to 40 CFR 745.326 that is developed for the same purpose. This includes reproductions of the pamphlet when copied in full and without revision or deletion of material from the pamphlet (except for the addition of State or local sources of information). Before December 22, 2008, the term “pamphlet” also means any pamphlet developed by EPA under Section 406(a) of TSCA or any State or Tribal pamphlet approved by EPA pursuant to 40 CFR 745.326.

26. Presumed Lead-Based Paint -- Any paint or surface coating affixed to a component in or on a structure, excluding paint or surface coating affixed to a component in or on a residential dwelling constructed on or after January 1, 1978 or a school constructed on or after January 1,1993.

27. Public Building -- A structure which is generally accessible to the public, including but not limited to schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building.

28. Qualified Person -- The individual identified by the Contractor to be responsible for conducting air sampling, calibration of air sampling pumps, evaluating sampling results, and conducting respirator fit tests.

29. Removal -- All herein specified procedures necessary to remove and clean-up all LBP and lead-containing surface coatings, lead-contaminated dust, and lead-contaminated soil from the designated areas and to dispose of these materials at an acceptable site in accordance with Federal, State and Local Regulations.
30. Renovation – Renovation means the modification of any existing structure, or portion thereof, that results in the disturbance of painted surfaces, unless that activity is performed as part of an abatement as defined by 40 CFR 745.223. The term renovation includes (but is not limited to): The removal, modification or repair of painted surfaces or painted components; the removal of building components; weatherization projects, and interim controls that disturb painted surfaces. A renovation performed for the purpose of converting a building, or part of a building, into target housing or a child-occupied facility is a renovation under 40 CFR 745. The term renovation does not include minor repair and maintenance activities.

31. Renovator – Renovator means an individual who either performs or directs workers who perform renovations. A certified renovator is a renovator who has successfully completed a renovator course accredited by EPA or an EPA-authorized State or Tribal Program.

32. Residential Building -- A structure which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

33. Training Hour – Training hour means at least 50 minutes of actual learning, including, but not limited to, time devoted to lecture, learning activities, small group activities, demonstrations, evaluations, and hands-on experience.

34. Visually Clean -- Free of visible dust, paint chips, dirt, debris, or films removable by vacuuming or wet cleaning methods specified. For outside soil or ground cover areas, visually clean shall mean free of construction or paint debris, chips or dust distinguishable from the initial soil or ground conditions.

1.05 HAZARD COMMUNICATION

A. The Contractor shall refer to Specification Section 003127 – Existing Hazardous Materials Conditions for a list of all known or assumed hazardous materials including lead, asbestos, PCBs and other materials. All lead-related work shall be conducted with full consideration of any other hazardous materials impacted and required protective measures and controls.

1.06 SUBMITTALS AND NOTICES

A. Refer to Section 011110 Summary of Hazardous Materials Work for submittal requirements applicable to this Section and Section 01330 Submittal procedures unless otherwise noted.

1.07 ENVIRONMENTAL CONSULTANT

A. The Environmental Consultant is authorized to provide compliance observation and monitoring, testing, and technical oversight services for the lead-impacted construction and abatement work of this project without limitation.

1.08 CONTRACTOR'S COMPLIANCE AND QUALITY ASSURANCE

A. The Contractor shall have a Competent Person who is a CDPH Certified Lead Supervisor onsite at all times while lead-related work or Lead/LBP abatement is in progress. The Contractor's
Competent Person shall communicate and coordinate with the Environmental Consultant with regard to work schedules, inspections, daily submittals, and compliance issues.

B. The Contractor's Competent Person shall:

1. Ensure the Contractor's compliance with the plans and specifications.

2. Conduct worker exposure monitoring using a Qualified Person and provide results to the Environmental Consultant.

3. Pre-inspect Work Areas for compliance and completion prior to notifying the Environmental Consultant of the Work Area's readiness for inspection.

4. Accompany the Environmental Consultant during Work Area pre-start and clearance inspections.

5. Ensure all of the Contractor's workers have current and valid medical, blood-lead test, training, and respirator fit test records and provide copies of all new or updated records to the Environmental Consultant for approval before assigning the workers to any work within Work Areas.

6. Take timely and appropriate corrective actions to ensure compliance with the abatement plans and specifications and to eliminate unsafe, unhealthful, and environmentally unsound work practices regardless of whether or not they are brought to the Contractor's attention by the Environmental Consultant.

7. Adhere by the results for the characterization of waste for proper packaging, labeling, storage, transportation and disposal of waste.

8. Provide completed daily project documentation to the Environmental Consultant at the end of each work day. This includes daily rosters, entry/exit logs, foreman reports, and any other project information.

1.09 SPECIAL PROVISIONS

A. The Contractor shall hold the District, District’s Representatives, Agents and Environmental Consultant harmless for claims, damages, losses, and expenses, including attorney’s fees, arising out of or resulting from the Contractor’s lead or other hazardous materials work, lead and hazardous materials spills on the site or enroute to the disposal site, or any other condition resulting from the Contractor’s non-compliance with regulation or the Contract Documents.

PART 2 - PRODUCTS

2.01 PROTECTIVE COVERING

A. Polyethylene sheets, of 6 mil thickness in size (dimensions) to minimize the frequency of joints.
2.02 CLEANERS

A. For clean-up and decontamination a lead-specific wash solution shall be used. Alternative cleaning and decontamination agents shall be subject to approval by the Environmental Consultant and District.

2.03 TAPE

A. Duct tape (or approved equivalent) two (2) inches or wider, capable of sealing joints of adjacent sheets of polyethylene sheeting and for attachment of polyethylene sheeting to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions.

2.04 PRIMER/SEALER

A. The primer/sealer paint applied after Lead removal and/or stabilization shall be compatible with the painting systems to follow under this contract.

2.05 ENCAPSULANT

A. Design is based on the following manufacturers. Products with like attributes may be considered.

1. Lead coat by Certane.

2. Encapsulastic 7000 series by Encapsulation Technologies Corporation.

3. Heavy Duty Trim Coating by Fibertec Coating Corp.


B. If material cannot be tinted to desired color, two coats of approved latex enamel paint are to be applied over encapsulant.

C. Elastic acrylic coatings shall be warranted by the manufacturer to be heavy-bodied and compatible with the substrate they are applied to. Elastic acrylic coatings shall be long-lasting and resist cracking, peeling, algae, and fungus. Elastic formula should allow for some movement in walls without cracking. Coatings shall contain no hazardous ingredients by OSHA definition and be non-flammable.

2.06 SPRAY ADHESIVE

A. Provide spray adhesive in aerosol cans which is specifically formulated to stick to sheet polyethylene.

B. Spray adhesive for sealing polyethylene to polyethylene shall contain no methylene chloride compounds. Use only in a well-ventilated area. Use of such material shall not create, directly or indirectly, hazardous concentrations of chemicals in or around the work area, which can create, cause, or assist in creating a flammable or combustible environment.
2.07 DISPOSAL CONTAINERS

A. Provide six (6) mil thick polyethylene sheeting, six (6) mil leak-tight polyethylene bags and other impervious containers as required by applicable regulations. All waste shall be labeled as hazardous or potentially hazardous waste unless proven otherwise by appropriate sampling and laboratory analysis.

B. All hazardous waste shipping containers shall meet applicable DOT requirements.

2.08 WARNING SIGNS AND LABELS

A. Caution Signs and Lead Warning Posters: To be minimum of 20 x 14 inches and includes phrase "Danger, Lead Work Area, May Damage Fertility or the Unborn Child, Causes Damage to the Central Nervous System, Do Not Eat Drink or Smoke in This Area" in minimum 2-inch high letters. These shall be posted at each approach to each lead Work Area.

B. Labels: Hazardous waste shall be labeled according to Federal, State and Local regulations including but not limited to the California Code of Regulations, Title 22, Chapter 30 and the U.S. Department of Transportation 49 CFR Parts 172, 173, 178 and 179.

C. Equipment/Clothing: Containers of contaminated protective clothing and equipment are labeled as follows “Danger: Clothing and equipment contaminated with lead, may damage fertility or the unborn child. Causes damage to the central nervous system. Do not eat, drink or smoke when handling. Do not remove dust by blowing or shaking. Dispose of lead contaminated wash water in accordance with applicable local, state, or federal regulations.”

2.09 PERSONAL PROTECTIVE EQUIPMENT

A. Personal protective equipment shall comply with the requirements of 8 CCR 1532.1 Lead.

B. Minimum protective clothing and equipment shall consist of fire-retardant, disposable, full-body coveralls, disposable boots, gloves, or equivalent in accordance with ANSI Z41. Sleeves at wrists and cuffs at ankles shall be secure.

C. Eye protection and hard hats shall be available and worn as required by applicable safety regulations and shall conform to ANSI 87.1 and ANSI 89.1. Eye protection shall be worn during demolition and paint removal work. Hard hats shall be worn during all exterior demolition work.

D. The Contractor shall provide Authorized Visitors with suitable disposable protective clothing, headgear, respirators, and footwear whenever authorized visitors are required to enter the Work Area. Up to an average of ten sets per day of suitable personal protective equipment shall be made available for authorized visitors.

E. All disposable clothing worn during each work shift shall be removed prior to exiting the Work Area and shall be properly segregated and placed in containers for proper waste characterization. The Contractor shall bear full responsibility for additional costs associated with waste profiling and...
disposal if wastes are not properly segregated.

2.10 RESPIRATORS

A. Provide workers with personally-issued respiratory equipment approved by NIOSH and suitable for the lead exposure level in the Work Area. Where respirators with disposable filters are employed, provide sufficient filters for replacement as required by the worker or applicable regulation. HEPA Type P100 cartridges shall be used with respirators. Each respirator shall be washed whenever the worker wearing it showers or at least daily prior to storage. The following general conditions shall apply to respirator use:

1. All respirators used must be certified by NIOSH and a respirator program shall be established and implemented.

2. The minimum respiratory protection required for this project, unless otherwise specified in writing by the Environmental Consultant shall be a half-face negative pressure air purifying respirator. Otherwise, the respirators worn shall be selected based on measured or reasonably expected airborne concentrations of lead as follows:

   a. Half-face negative pressure air purifying respirator: up to 0.5 mg/m³
   b. Powered air purifying respirator: up to 2.5 mg/m³
   c. Type C supplied air respirator full face piece pressure demand mode: up to 100 mg/m³.

   Note: Disposable respirators are not acceptable at any time. It is always permissible to upgrade to a more protective type of respirator.

3. During all segments of lead removal and clean-up activities, respirator usage shall be required of all persons within the designated Work Areas at all times regardless of airborne lead concentrations.

B. The Contractor is responsible for determination of airborne lead concentration levels for the Contractor's personnel and for providing and enforcing use of appropriate personnel respirator protection based upon airborne lead concentrations and this specification.

C. Respirators shall not be removed inside the Work Area. Workers shall proceed to the designated washing area and clean the external surface of the respirator body before removing the respirator.

2.11 TOOLS AND EQUIPMENT

A. Provide suitable tools for the removal of Lead containing materials and contamination including required HEPA negative pressure units, HEPA vacuums, ground fault interrupters (GFI), ladders, scaffold, garden sprayers and airless sprayers. All tools and equipment brought onsite shall be clean and free of lead and other hazardous material contaminants. HEPA vacuums shall be labeled with a lead warning label and dedicated to Lead-related construction work to prevent commingling of lead wastes with asbestos and other wastes.

B. Provide enough support equipment, including but not limited to, lumber, nails, hardware, shower stalls, hoses, plumbing, drain pans, sump pumps, and waste water storage drums to construct and
operate the Decontamination Enclosure System(s) with showers. The number of showers shall be sufficient for the number of workmen scheduled on the job. The water hose used to connect the drain to the showers will not be used for any other purpose. The supply side water hose shall have a check valve to prevent backflow under any circumstance.

PART 3 - EXECUTION

3.01 GENERAL

A. All designated lead related work shall be conducted in accordance with this specification section, section 011110 and the project drawings. In addition, refer to Section 003127 and coordinate lead-related work with requirement for other hazardous material as applicable. The Contractor shall utilize the requirements as set forth for the method chosen and approved. In all cases, should the work performed include materials that cannot be removed substantially intact or that produce visible dust emissions upon disturbance, Contractor shall construct a negative pressure enclosure to perform all work.

B. Public Warning and Safety Information to be Posted:

1. Post signs at all approaches to the Work Area entrance to read "Caution Lead Hazard - Keep Out Unless Authorized." In addition, post the CAL-OSHA Lead Hazard Warning Poster at the immediate Work Area entrance.

2. A list of phone numbers for the local hospital and for emergency squad, the local fire department, a representative of the Contractor who may be reached 24 hours a day, the Contractor's main office, the District's Representative and Environmental Consultant and any other professional consultants directly involved in the project.

3.02 PREPARATION FOR INTERIOR REMOVAL/ABATEMENT WORK

A. Move all non-fixed objects out of the Work Area(s). Such items shall be moved at least five (5) feet from Work Area(s).

B. Pre-clean entire floor area and all horizontal surfaces inside and within five (5) feet of the Work Area using HEPA vacuums and wet methods.

C. Cover all non-moveable objects within five (5) feet of the Work Area with six (6) mil polyethylene sheeting and seal with duct tape.

D. Cover all floors within the Work Area with two layers of six (6) mil polyethylene sheeting and seal with duct tape. All heater vents and registers shall be sealed with six (6) mil plastic sheeting and duct tape.

E. Install air lock flaps on all doorways into Work Area with plastic sheeting to form curtained doorways. Doors secured from the inside need not be sealed.

F. Provide, at minimum, 30-foot candle illumination lighting to the Work Area.
G. Install lead caution signage at each approach to the Work Area and lead warning signage just outside each Work Area entry/exit point.

H. Complete any additional preparation work required by the specific component abatement/lead-related construction work requirements specified elsewhere in this section.

I. When Work Area preparation is complete, notify the Environmental Consultant and request an inspection. No abatement/lead-related construction work is to proceed in any Work Area until that Work Area preparation has been inspected and approved by the Environmental Consultant.

### 3.03 PREPARATION FOR EXTERIOR REMOVAL/ABATEMENT WORK

A. Cordon off the Work Area extending at a minimum of 10 feet horizontally beyond the area of work with barrier tape and warning signs as specified herein.

B. Pre-clean visible suspect lead-based paint dust and debris around and under areas where lead-based paint or LBP components will be removed. Use HEPA vacuums and wet methods to perform this cleaning which shall include, at minimum, the designated Work Area.

C. Cover ground and horizontal surfaces of Work Area (area within barrier tape) with a minimum of one layer of six (6) mil polyethylene sheeting. Secure the plastic on the building foundation as possible. Horizontal surfaces include scaffolding and/or other work platforms. Extend the plastic from the foundation to 10 feet beyond the Work Area. Seal all seams with tape and secure plastic to prevent undesired movement.

D. Where elevated Lead-containing components are likely to generate airborne dust or paint chips, devise a suitable negative pressure containment to control such dust and prevent dispersal by wind. Exterior removal which generates Lead dust and debris shall not be attempted when winds or air currents (i.e., greater than 15 mph) prevent containment of such waste material within the designated Work Area. To conduct exterior removal under windy conditions, the Contractor shall implement special, safe and effective countermeasures to ensure containment of Lead dust and debris. These countermeasures include but are not limited to protective shrouds, mini-containments on work platforms, or full shrink-wrapping methods to ensure work area enclosure stability.

E. Provide a designated entry/exit point to exterior Work Areas suitable for workers to properly decontaminate and exit from the Work Area as specified herein. Install lead caution and warning signage as specified above.

F. Complete any additional preparation work required for the specific abatement method to be used.

G. Notify the Environmental Consultant when the Work Area is ready for inspection. Abatement and lead-related work shall not proceed until the Environmental Consultant has checked and approved Work Area preparations.

### 3.04 WORKER PROTECTION AND DECONTAMINATION PROCEDURES

A. The Contractor shall use only workers medically qualified and trained for lead work and respirator
usage.

1. Medically-qualified shall mean that the worker has had an occupational medical exam for lead exposure and respirator usage within 12 months of abatement start-up and at any time during abatement or lead-related construction work. The contents of the medical exam must be in conformance with 8 CCR 1532.1 and must include a blood-lead test within 30 days of starting work on the project. At no time shall the abatement worker exceed six months between each blood-lead testing.

2. Each lead abatement worker shall have successfully completed at least 24 hours of formal documented training in lead hazards and lead abatement methods and be a current CDPH Certified Lead Worker. Non-abatement workers performing lead-related construction work shall have documented lead hazard communication training in accordance with 8 CCR 1532.1.

3. The Contractor's Competent Person shall have received at least 40 hours of formal training in lead hazards and lead abatement.

4. The Contractor's Supervisor(s) and workers shall be certified through the CDPH lead accreditation program for lead-related construction. Copies of each employee's certification shall be provided.

5. The Contractor shall ensure that no worker is allowed onsite to perform lead-related work until the Environmental Consultant has received and approved all of that worker's medical, training and fit testing certifications.

B. Each worker and Authorized Visitor shall, upon entering the job site, enter the designated clean change room and remove street clothes, put on an inner reusable or disposable coverall and work shoes and then put on an outer set of full body disposable coveralls, booties or shoe covers, respirator with HEPA filters, and gloves before entering the Work Area.

C. Each worker and Authorized Visitor shall HEPA vacuum contamination from protective clothing, and then remove shoe covers before leaving one Work Area for another Work Area inside the same Work Area unless the Work Areas have been interconnected with a secured plastic sheet at least three feet wide.

D. When exiting an interior or exterior Work Area and leaving the specific building worked on, proceed to the designated area for unsuiting and remove outer protective clothing and equipment. Dispose of outer protective clothing as suspect Lead waste. Proceed to a designated shower area, remove and clean the respirator and store in a clean container. Wash hands and face and proceed to clean change area to re-suit for the next area.

E. At the end of the work day, all workers are to do the following in addition to those procedures described above: Place disposable outer garments and shoe covers in separate labeled waste containers dedicated to PPE for proper waste characterization; place reusable clothing for laundering in a closed container, clean protective gear including respirator, shower or wash hands and face at minimum, and put on clean street clothes in the clean room area.

F. All tools and equipment shall be decontaminated by HEPA vacuuming and wet wiping prior to
being taken out of the Work Area. Tools and equipment with inaccessible internals shall be externally wet-wiped, bagged and sealed prior to being removed from the Work Area.

G. Workers shall not eat, drink, smoke, or chew gum or tobacco at the work site within 20 feet of any Work Area as specified by the Environmental Consultant.

H. Provide and post the decontamination and work procedures to be followed by workers in the equipment area and in the clean area.

I. Each worker shall have a final medical blood-lead laboratory test within one week of job completion and before engaging in other lead related work.

3.05 REMOVAL OF LEAD CONTAINING COMPONENTS

A. Remove any associated non-Lead containing hardware or construction interference (electrical and telephone utilities, conduit, piping, etc.) as required and store in construction area until final disposition is determined by the District’s Representative.

B. Remove Lead containing components as specified herein and by the Contract Drawings. Scrape painted seam at edge of each component with utility knife or blade tool and remove any exposed accessible fasteners. Spray the affected surfaces of the Lead containing component being removed lightly with a fine mist of amended water.

C. Special precautionary controls shall be used as necessary to prevent Lead dust or debris from being carried or blown out of the controlled area by wind or air currents.

D. Using appropriate tools, begin to remove the lead containing component by prying first behind nailing locations and/or removing accessible fasteners. Continue prying up the Lead containing component being careful not to break or create chipping until the Lead containing component is completely removed. Take necessary precautions to avoid damage to adjoining walls and/or associated surfaces.

E. Each component shall be carefully lowered to the ground, not dropped or thrown. Clean up dust and debris as removal proceeds.

F. Once removed, remove or flatten any remaining fasteners and wrap the Lead containing component in six (6) mil polyethylene sheeting, seal with duct tape, wet-wipe and transfer to secure waste storage for waste characterization.

G. HEPA vacuums and wet-wiping shall be used to ensure any resulting Lead dust, paint chips or debris have been cleaned up from horizontal surfaces and polyethylene sheeting prior to moving ladders, scaffolding, man-lifts or other working platforms to the next Work Area to be abated.

3.06 REMOVAL OF LEAD CONTAINING CERAMIC TILE

A. Method or work practice not used
3.07 REMOVAL OF WALL PLASTERS WITH LEAD-BASED/CONTAINING PAINT
   A. Method or work practice not used

3.08 REMOVAL OF LEAD CONTAINING COATINGS TO BE ABATED BY THE ENCLOSURE METHOD
   A. Method or work practice not used.

3.09 ABATEMENT BY ENCLOSURE
   C. Method or work practice not used

3.10 ENCAPSULATION OF LEAD CONTAINING SURFACES
   A. Method or work practice not used

3.11 REMOVAL OF LEAD CONTAINING SURFACES BY CHEMICAL REMOVAL
   A. Removal of Lead containing surfaces shall be by a Chemical Removal System approved for use by the Environmental Consultant.

   B. The Contractor shall provide additional security measures as necessary to ensure non-abatement workers cannot gain access to chemicals and chemically-treated surfaces.

   C. Material safety data sheets for each chemical substance and product used shall be onsite at all times and available for review by workers and Environmental Consultant.

   D. The Competent Person shall review the contents of the material safety data sheets and the safe removal procedures with the workers prior to chemical removal.

   E. Workers shall wear chemical goggles, face shields, impervious gloves, aprons, and booties over the standard protective clothing prior to starting chemical removal.

   F. Stage or install a temporary emergency eyewash capable of providing a 15-minute flush within the immediate Work Area if corrosive organic or corrosive inorganic paint removal (stripping) products are used. In addition, a shower shall be available onsite within 50 feet of the removal operation.

   G. Chemical stripping agents (and neutralizers) shall be applied in accordance with the recommendations of the manufacturer. Remove all paint and/or glazing compounds down to the bare substrate. Ensure that the chemicals used and the associated removal methods leave a clean and smooth surface capable of accepting a suitable primer/sealer coating after final cleaning.

   H. Containerize all paint and chemical waste in impervious containers labeled as hazardous waste.

   I. Package all contaminated rags and protective equipment, and disposable cleaning items and plastic sheets in labeled impervious containers and transfer waste containers to secure waste storage units.
The Contractor shall assume all such waste to be hazardous unless proven otherwise by objective waste characterization data.

J. Clean and decontaminate the Work Area in accordance with the procedures outlined herein.

K. Decontaminate all tools and equipment before removing them from the Work Area. Seal or bag up such equipment for transfer to the next Work Area or operation.

3.12 REMOVAL OF LEAD CONTAINING SURFACES BY MECHANICAL REMOVAL

A. Removal of lead containing surfaces by mechanical removal shall be performed within negative pressure enclosures.

B. All mechanical removal equipment and systems shall be approved by the Environmental Consultant. Such equipment includes but is not limited to needle guns, abrasive wheels, and roto-peen equipment.

C. All power tools shall be designed and equipped with HEPA-filtered exhaust systems.

D. The Contractor shall submit a separate workplan for containment of fugitive dust and debris emissions.

E. Work Area preparation and Lead coating removal shall be in accordance with approved work plan.

3.13 REMOVAL OF LEAD CONTAINING COATINGS BY ABRASIVE BLASTING METHODS

A. All abrasive blasting equipment shall be of the vacublast type with effective capture and control of dust and debris using a built-in local HEPA Exhaust System. Alternative abrasive blasting systems are subject to approval by the Owner's Consultant.

B. The Contractor shall submit a separate workplan for containment of fugitive dust and debris emissions. The plan shall include all equipment and products to be used.

C. The Contractor shall be responsible for all permits and notices required for full compliance with local air pollution control district rules and regulations.

D. No work shall proceed until an approved abrasive blasting containment plan is approved and in place.

E. Upon approval of a work plan and Work Area preparation, the Contractor shall conduct a pilot test to demonstrate the effectiveness of the hazardous control measures and the acceptability of the final product.

F. The Owner's Architect and Owner's Consultant shall review the results of the pilot test prior to approving this method for remaining abatement work.

3.14 DRILLING/ANCHORING/CUTTING/ABRADING LEAD CONTAINING SURFACES
A. Prepare the Work Area as specified herein for lead abatement.

B. Remove all interfering structures (security bars, etc.) and store for replacement when work is complete.

C. Where installation of materials requires drilling, cutting, anchoring or abrading the Lead containing surfaces, the Contractor shall take additional appropriate precautions including, but not limited to, use of protective drop cloths, clean-up and decontamination of Lead dust and debris as specified herein.

D. Place plastic drop sheet below area of impaction.

E. Lightly moisten lead containing surface to be impacted.

F. Conduct impaction operations (i.e. drilling, anchoring, abrading, etc.)

G. Continue misting lead containing surface during impaction to control airborne dust.

H. HEPA vacuum and wet-wipe frequently to prevent accumulation and spread of lead-containing dust and debris.

3.15 LBP AND LEAD GLAZING STABILIZATION

A. Prepare the Work Area as specified herein for lead abatement.

B. Remove all interfering structures (security bars, etc.) and store for replacement when stabilization work is complete.

C. Surface Preparation - Remove all loose, flaking, peeling and/or deteriorated paint and/or glazing compounds using wet methods and prepare the surface within the work area as follows:

1. Lightly moisten exposed Lead containing surfaces to be prepared;

2. Wet-scrape and/or wet-sand surfaces as necessary to remove all loose and deteriorated paint or glazing compounds to obtain a like new surface with any remaining coating soundly bonded to the substrate;

3. Periodically re-moisten as necessary to control airborne dust;

4. HEPA vacuum and wet-wipe frequently to prevent accumulation and spread of lead-containing dust and debris;

5. Promptly dispose of all spent cleaning materials in labeled impervious containers;

6. Surface preparation is complete when the surface is sound, smooth, clean and can be painted to provide a like new surface.

D. Surface Preparation Clean-up
1. Upon completion of surface preparation, wet-scraping, and/or wet sanding, clean and decontaminate the entire Work Area using procedures outlined herein;

2. Decontaminate all tools and equipment before removing them from the Work Area. Seal or bag up such equipment for transfer to the next Work Area or operation;

3. Visually inspect prepared surfaces and the cleaned Work Area prior to applying any paints or coatings to ensure all loose paint, dust and debris has been cleaned up and the surface is properly prepared for painting.

E. Painting - Apply primer and finish coats of paint to obtain a like new surface in accordance with the manufacturer's specifications and requirements of the contract.

F. Conduct preliminary cleaning and decontamination of the entire Work Area and notify the Environmental Consultant to arrange for a preliminary visual clearance inspection. The Work Area containments shall not be removed until the Contractor has been notified by the Environmental Consultant of a satisfactory preliminary visual inspection result.

G. Remove containments and conduct final cleaning and decontamination of entire Work Area. Notify Consultant at least 24 hours in advance to arrange for final clearance inspection and testing. A mutually agreeable date and time shall be established by the Environmental Consultant, District and the Contractor for clearance inspections.

3.16 CLEANING AND DECONTAMINATION OF WORK AREAS

A. Daily Clean-up: Perform the following clean-up procedures daily.

1. Clean Work Areas until they are free of loose dust and debris to the satisfaction of the Environmental Consultant and/or District using HEPA and/or wet-wiping after pick-up of large debris.

2. Wet debris with a fine mist of water and collect material. All material to be properly segregated, bagged in 6-mil plastic bags, sealed, and moved to a designated, secure, waste storage area for waste characterization.

3. At the end of each work day the Environmental Consultant and/or District and the Contractor's Competent Person shall inspect work performed that day to ensure the work has been completed and no dust or residue remains on the areas removed and/or in the Work Area.

B. Final Clean-up and Decontamination: At completion of abatement perform cleaning as follows:

1. Remove all visible dust and debris as specified above.

2. Clean all Work Areas where abatement was performed by vacuuming all surfaces with a HEPA vacuum followed by wet-wiping with a high phosphate (tri-sodium phosphate) wash. The Contractor shall spray surfaces with a 5-10 percent tri-sodium phosphate (or approved
equivalent) cleaning solution applied with a garden sprayer and wipe or mop surfaces with frequently changed clean towels, rags or mops.

3. Disassemble and remove containment barriers at each Work Area location after cleaning as specified above. Place polyethylene sheeting and tape into waste bags and remove to the temporary waste storage area.

4. Remove six (6) mil polyethylene sheeting on immovable objects and floors (where present) after misting with a high phosphate wash and wet-wiping. Place polyethylene sheeting and waste rags in segregated six (6) mil plastic bags, seal and store in a designated, secure, waste storage area for waste characterization.

5. Detergent solutions shall be replaced after each individual room is washed unless the spray application is used. If the wet vacuuming method is used, waste water shall be contained and disposed of properly after waste characterization testing.

6. The cleaning procedure used shall prevent spread of contamination and effectively clean surfaces while producing minimal waste.

7. All tools and equipment shall be sealed in six (6) mil plastic bags after being decontaminated using a high phosphate wash and wet-wiping prior exiting the Work Area.

8. Liquid cleaning wastes shall be filtered prior to containerizing for temporary storage pending hazardous waste characterization. Filter systems shall be able to remove particulate two microns and larger in diameter. Permits, if required, are the responsibility of the Contractor.

9. At least eight hours prior to completion and again upon completion of final clean-up and decontamination, notify the Environmental Consultant to obtain a final clearance inspection and testing.

3.17 FINAL CLEARANCE INSPECTION AND TESTING

A. Interior Clearance Inspection and Testing.

1. After the final clean-up, the Contractor shall perform a complete visual inspection of the Work Area under adequate lighting to ensure the Work Area is free from visible debris, dust, waste bags, containers, and unnecessary equipment. The Contractor shall ensure that additional cleaning is completed if the area is not acceptably clean. The Contractor's request for inspection will be recognized upon receipt of a completed and signed copy of the Lead Final Visual and Clearance Certification Form (Section 011110 – Appendix I). No inspections will be conducted without a completed and signed copy of the Lead Final Visual and Clearance Certification Form (Section 011110 – Appendix I).

2. Upon receipt of the Lead Final Visual and Clearance Certification Form (Section 011110 – Appendix I), the Environmental Consultant will perform the final visual clearance inspection. The clearance inspection will at minimum consist of the requirements as described in Chapter 15: Clearance, Sections II-VI, “Guidelines for the Evaluation and Control of Lead-based Paint Hazards in Housing,” dated June 1995.
3. If the Work Area is not visibly clean, as determined by the Environmental Consultant, the Contractor shall re-clean and decontaminate as described herein at his own cost until the work area passes inspection.

4. A minimum of two hours is required between cessation of clean-up procedures and clearance dust wipe testing.

5. All clearance dust wipe samples will be taken using the HUD sampling protocol by the Environmental Consultant.

6. Dust wipe samples will be collected using commercial wipes moistened with a non-alcohol wetting agent. When possible, areas of approximately one square foot will be selected from horizontal surfaces below or adjacent to where LBP components were removed.

7. One dust wipe sample will be collected per abated area (doorway, utility room) and sent under proper chain of custody protocol to an accredited AIHA or EPA-CPL laboratory or equivalent as specified by the Environmental Consultant.

8. All dust wipe samples will be analyzed for lead using either AAS or ICP-AES for lead and results will be provided to the Contractor within two days of receipt of sample results.

9. The Contractor shall be released from each Work Area when all dust wipe samples from the area are below the following levels of lead:

   a. Floors: 10 micrograms per square foot (µg/ft²)
   b. Window Sills: 100 µg/ft²
   c. Window Troughs and Bare Concrete Surfaces: 400 µg/ft²
   d. Exterior Horizontal Surfaces: 400 µg/ft²

10. A Work Area shall be considered completed and cleared only after all areas within the Work Area have met the above criteria.

11. If any of the dust wipe samples exceed the clearance criteria, the entire Work Area must be cleaned and retested until the clearance criteria are met. As the building may be occupied, the Contractor shall coordinate with the District and Environmental Consultant to gain access for cleaning and re-inspection and clearance testing by the Environmental Consultant at the earliest time possible.

12. If a Work Area fails the clearance criteria specified above, the Contractor shall clean the entire Work Area at no additional cost nor increase to the contract sum and shall be responsible for associated additional Environmental Consultant fees. The Contractor shall pay all laboratory and delivery charges for additional dust wipe samples taken in each Work Area upon clearance failure.

B. Exterior Clearance Inspection. After the final clean-up by the Contractor, the Environmental Consultant shall conduct a visual inspection to ensure that all visible dust and debris has been properly removed. The Contractor must provide the Environmental Consultant at least 8 hours notice prior to scheduling final inspections. If the results of the final visual inspection are
satisfactory to the Environmental Consultant, clearance dust wipe samples may be collected from horizontal surfaces. Upon obtaining acceptable clearance sample results, the exterior Work Area shall be released for unrestricted access. If the results of the inspection are unsatisfactory the contractor shall re-clean and decontaminate the Work Area prior to requesting another inspection by the Environmental Consultant.

C. Upon acceptance of the final results for clearance dust wipe sampling, the Environmental Consultant shall complete the Lead Final Visual and Clearance Certification Form (Section 011110 – Appendix I) and submit this information to the District and retain the original.

3.18 RE-INSTALLATION ON INTERFERENCE COMPONENTS

A. Upon completion of abatement and lead-related construction work, re-install fixtures, electrical utilities, telephone utilities and other components removed as construction interferences except for components scheduled for removal and disposal.

3.19 LEAD CONTAMINATION OF BUILDING OR ENVIRONMENT

A. In the event that removed paint dust or debris is not properly contained within the Work Area and thereby escapes, bypasses or penetrates established barriers, the Contractor shall stop work immediately, notify the Environmental Consultant immediately, and commence clean-up and decontamination procedures as described herein or directed by the Environmental Consultant.

B. For soil contamination, the Contractor shall remove all visible signs of paint dust and debris and, at minimum, the upper one-half inch of soil in the area contaminated and at least five feet beyond in each direction. Successful completion of soil decontamination shall be subject to evaluation by sampling at the discretion of the District and Environmental Consultant. Soil sample(s) with lead concentrations below pre-abatement composite soil sample results shall be the criteria for completion of soil clean-up and decontamination. The Contractor shall be responsible for all costs associated with disposal of any debris and contaminated soil, including waste characterization testing.

3.20 WASTE STORAGE, SEGREGATION, AND CHARACTERIZATION

A. The Contractor shall provide for secure onsite temporary storage of Lead related waste. Waste storage location, equipment, containers and methods are subject to prior approval by the District and Environmental Consultant.

B. Construction materials removed from lead abatement and overall site demolition must be evaluated to determine waste characteristics prior to disposal. Except intact non-lead containing components, all waste streams and waste categories shall be considered hazardous until proven otherwise. The Contractor shall be responsible for segregating waste into the following categories and conducting appropriate waste testing for lead:

1. Paint (LBP & non-LBP) and glazing, chips, dust and debris, HEPA vacuum waste, and used cleaning materials. The Contractor shall handle, store and dispose of these items as a hazardous lead waste without further characterization.
2. **Plastic sheeting and tape.** Except for plastic sheeting from chemical removal areas, these used items, if properly cleaned, should be non-hazardous. However, they shall be considered hazardous unless proven otherwise by lead waste testing.

3. **Disposable Protective Clothing and Equipment (PPE).** Disposable work clothes and other items potentially contaminated with LBP or lead, if properly cleaned, should be non-hazardous. However, they shall be considered hazardous unless proven otherwise by lead waste testing.

4. **Intact Lead containing components.** Architectural debris with intact Lead coatings still undergo waste characterization to evaluate total and soluble lead concentrations pursuant to 40 CFR and 22 CCR regulatory requirements.

5. **Plaster debris.** Plaster debris with lead-based paint shall undergo waste characterization to evaluate total and soluble lead concentrations pursuant to 40 CFR and 22 CCR regulatory requirements.

6. **Ceramic tile debris.** Ceramic tile debris with lead levels greater than 1.0 mg/cm² shall undergo waste characterization to evaluate total and soluble lead concentrations pursuant to 40 CFR and 22 CCR regulatory requirements.

7. **Chemically Removed Paint/Glazing -** shall undergo waste characterization to evaluate total and soluble lead concentrations pursuant to 40 CFR and 22 CCR regulatory requirements.

8. **Excess Subsurface Soils-** Northeast areas of the upper play yard have historically been known to contain elevated concentrations of lead that exceeded the STLC value of 5 mg/L. All soils scheduled for disposal shall be assumed to be disposed of as Non-RCRA Hazardous Waste pending further analysis and stockpile sampling, method of disposal, and landfill criteria.

C. Each Lead-related waste produced shall be placed in properly segregated, labeled and sealed, impervious containers.

D. Removed intact Lead containing components shall be properly segregated, wrapped in six-mil polyethylene sheeting, labeled and securely sealed with duct tape.

E. All waste containers, bags, and packaged waste shall be stored in a designated, secure, locked waste storage area and be labeled "PENDING ANALYSIS" with the following information:

   1. Waste Category
   2. Date Accumulated
   3. Name, address, District
   4. Origin of waste

F. HEPA vacuum and wet-wipe the exterior of all waste containers prior to removing them from the Work Area to the designated storage area.
G. All Lead-related waste, shall be considered hazardous until waste characterization has been performed under the California Code of Regulations, Title 22.

H. Each category of waste will be tested and characterized by the Contractor using one or more of the following testing protocols:

1. Cal-EPA testing protocol:
   a. Total Threshold Limit Concentration (TTLC): 1,000 ppm
   b. Soluble Threshold Limit Concentration (STLC): 5 mg/L

2. Federal-EPA testing protocol:
   a. Toxicity Characteristic Leaching Procedure (TCLP): 5 mg/L

I. All testing by the Contractor shall be subject to direct observation and review by the Environmental Consultant. At minimum, a TTLC shall be performed on each suspect waste stream. Based on the testing protocols, any waste greater than or equal to five (5) ppm lead using STLC or TCLP tests or any waste greater than or equal to 1,000 ppm lead using the TTLC test shall be considered a hazardous waste.

J. When the TTLC is less than 50 ppm lead, no further testing is required for that waste category sampled. A minimum of four samples will be taken to represent each category of waste reasonably generated. It will be the responsibility of the Contractor to ensure representative samples are taken from each category of segregated waste.

K. The Contractor shall package, store, handle, transport and dispose of each category of waste generated based on the testing results obtained by the Contractor and reviewed by Environmental Consultant. Where landfills have more stringent requirements, the Contractor shall be responsible for all additional disposal costs.

L. Upon verbal request by the Environmental Consultant, the Contractor shall collect samples of Lead-related waste. The Contractor shall collect samples within full view and presence of the Environmental Consultant. Samples taken may entail cutting and removing sections of a component and clean-up of any resulting dust or debris.

M. The cost of all waste characterization or waste profiling required by the landfill will be the responsibility of the Contractor.

N. In the event that the Environmental Consultant has determined that waste is not properly segregated, additional waste testing may be conducted of the mixed waste stream. The Contractor shall be responsible for the costs associated with this additional testing.

O. The Contractor shall bear full responsibility for additional costs associated with waste disposal and characterization if waste is not properly segregated as required herein.

3.21 HAZARDOUS WASTE DISPOSAL:
A. Site Storage and Handling: The Contractor shall pay strict attention to the requirements of 40 CFR 262 and 265 and Title 22, Chapter 30 for the onsite handling of debris, with special attention given to the time of storage, amount of material stored at any one time, use of proper containers, and personnel training. All waste shall be stored in secure, locked, labeled, sealed impervious containers and not placed on the unprotected ground. All containers shall be shielded adequately to prevent dispersion of the debris by wind or rain and shall be labeled as hazardous waste. Any evidence of improper storage shall be cause for immediate shutdown of the project until a corrective action is taken.

B. Transportation and Disposal of Waste:

1. The Contractor shall arrange to have the Lead-related waste and debris transported from the site in accordance with the requirements of 40 CFR 263 and 264, and disposed of properly in accordance with 40 CFR 268, GISO 8 CCR Articles 40 and 41, 49 CFR Parts 172, 173, 178, and 179 and Title 22, Chapter 30, Articles 5, 6, 6.5 and 8.

2. The Contractor shall submit to the District and Environmental Consultant the Name, Class, and EPA I.D. Number of the waste disposal site(s) to be used for each waste category which has been determined by testing to exceed the hazardous waste thresholds provided in Article 3.14, Paragraph H and Paragraph I and any Intact LBP component waste.

3. Where Lead related construction debris is to be disposed of as a non-hazardous waste, a waste shipping manifest is still required and a copy shall be provided to the District and Environmental Consultant.

4. The Contractor shall prepare waste shipping manifests for review by the District. Upon waste or material pickup by the selected waste transporter, manifests shall be signed by the District or District's Representative and copies retained to verify that all steps of the handling and disposal process have been completed properly.

5. Copies of the landfill weight tickets shall be provided to the District and Environmental Consultant to verify the amount of waste disposed of at that site. The Contractor shall be responsible for all costs associated with transportation and disposal of all wastes generated at the result of this work.

C. No waste characterized as hazardous waste shall be stored onsite for more than 90 days prior to being properly transported for disposal.

D. All equipment, materials, and waste generated on this project must be removed offsite to their proper locations by the Contractor within seven (7) calendar days from successful abatement completion and receipt of final clearance wipe testing results for lead related work.

E. Containers to be loaded for transportation from the storage area must be removed by workers who have entered from uncontaminated areas, dressed in clean coveralls.

3.22 STOP WORK ORDERS
A. The Environmental Consultant has the authority to stop work in accordance with Section 011110 Article 1.15. Examples of such conditions that might result in a work stoppage include but are not limited to:

1. Uncontrolled visible emissions which escape the established Work Area or breach physical protective barriers within the Work Area; and/or,

2. Ambient airborne levels of lead measured outside the construction area at more than 4.5 micrograms per cubic meters of air (mg/m$^3$) of lead averaged over an eight-work period or the equivalent of 1.5 (mg/m$^3$) for any 24-hour period.

3. Unsecured Waste Storage Area and/or improper containment of abatement waste or LBP contamination.

3.23 SOIL IMPORT- ENVIRONMENTAL REQUIREMENTS AND TESTING

A. Once all lead-related and/or site demolition is complete, all import fill materials to be used for general fill, structural backfill or trench backfill will require documentation regarding the source of the import prior to approval for import. In particular, prior to delivery, all import soils (including aggregate base) must show documentation showing that the soils do not contain total lead concentrations in excess of 80 parts per million (80 ppm). Import fill from sources other than a commercial quarry will require additional laboratory testing prior to approval. The additional laboratory testing will be determined by the District based on source documentation provided by the Contractor. All laboratory testing costs for the first import fill source (non-commercial quarry site or privately-owned site) will be paid for by the District. If the first fill source is not approved, testing of other import fill sources (non-commercial or privately owned) will be performed by the Contractor at the Contractor’s expense.

3.24 PROJECT CLOSEOUT

A. Prior to approval of final payment request, the Contractor must provide the following information:

1. Copies of hazardous waste manifests, profile sheets and weight tickets for all hazardous wastes and manifests and weight tickets for non-hazardous wastes or recyclables consisting of architectural debris with intact paint.

B. All surfaces damaged during this work must be restored to their original condition except those surfaces scheduled for demolition as part of the renovation project.

END OF SECTION